

PROCESS MAPPING OF THE SURGICAL CENTER UNIT OF A UNIVERSITY HOSPITAL

Naiara Dantas Damasceno Najar

<http://lattes.cnpq.br/6998006569641102>

Alfredo Fernandes de Jesus

<http://lattes.cnpq.br/9155361368811465>

Larissa Lima dos Santos

<http://lattes.cnpq.br/5828433592138241>

Patrizia Allegro Ribeiro

<http://lattes.cnpq.br/7724328611253403>

Juliana dos Reis Neponuceno de Oliveira

<http://lattes.cnpq.br/6842727929660039>

Ithana Queila Borges Pizzani Ferreira

<http://lattes.cnpq.br/8923006148129199>

Carla Tatiane Oliveira Silva

<http://lattes.cnpq.br/5618049028932489>

Bruna Costa Leal

Deise Alves Caires

<http://lattes.cnpq.br/7331857493101075>

Jeferson Xavier Pinheiro Santos

<http://lattes.cnpq.br/8834785811861242>

All content in this magazine is licensed under a Creative Commons Attribution License. Attribution-Non-Commercial-Non-Derivatives 4.0 International (CC BY-NC-ND 4.0).



Abstract: GOAL: To report on the construction of the process mapping of a highly complex Surgical Center Unit, as well as to know the suppliers and customers of this unit, listing possibilities for improvement. **METHOD:** This is an experience report from the elaboration of the Process Map of the studied Unit. For the construction of this mapping, systematic meetings were held with professionals from this study scenario (18 meetings, in a period of time corresponding to 05 months), using the flowchart tool for the construction of the process map. After this step, opportunities for improvement were listed, which were classified for further appropriate treatment, considering the Institution's Strategic Master Plan (PDE). Due to the autonomy inherent to this methodology, the researchers have the support of local management, and the study, at this stage, was not submitted to the Ethics and Research Committee (CEP). **RESULTS:** The processes of the Surgical Center Unit were mapped, making it possible, at the end, to know the Unit's main suppliers and customers, as well as the actors involved in each process. The process documents, list of regulations and list of improvements were listed. From the latter, a work schedule emerged covering all the proposals for improvements and their respective people in charge. **CONCLUSION:** The process mapping methodology, as it was applied in the documentation of the activities developed in the Surgical Center Unit, allowed the work group to objectively visualize the dynamics and the interrelationship that exists between them, which allowed an evaluation, even if of a preliminary nature, of the points that would need further studies with a view to their improvement. These analyzes resulted in a list of improvement opportunities to be addressed by management in due course.

Keywords: Surgical Center; Health Management; Process Mapping.

INTRODUCTION

The Hospital Complex that was the scene of the study is composed of a large Hospital Unit, a Pediatric Center and an Outpatient Clinic. It has the important mission of providing assistance to the population's health; train human resources focused on teaching, research and assistance practices and produce knowledge for the benefit of the community. For this, at the time of the study, it had 42 thousand m² of built area, 277 beds, 116 offices, 17 classrooms, 03 auditoriums, 12 research laboratories and 16 hospitalization units.

During the studied period, the Surgical Center Unit (UCC) had 05 (five) active operating rooms to attend procedures of 17 (seventeen) surgical specialties, most of which have medical residency. It operates electively from 7:00 am to 10:00 pm from Monday to Thursday, from 7:00 am to 7:00 pm on Fridays and from 7:00 am to 1:00 pm on Saturdays. Other schedules attend to urgent and emergency procedures. The hospital complex does not have an "open door" emergency, and urgencies and emergencies are treated related to patients already hospitalized.

According to Lamb's definition (2000), the Surgical Center Unit is the set of environments, properly located, dimensioned, interrelated and equipped with facilities and equipment, with qualified and trained personnel to perform surgical procedures, in order to offer maximum safety to patients and the best working conditions for the technical team".

Given the complexity of the UCC, there is great difficulty in determining the main processes to be monitored, as well as their actors. The UCC works as a "cogwheel", as a care station, therefore, knowing who the main customers and suppliers are, as well as working the processes in an integrated way, is essential to achieve the Unit's goals.

In this sense, this article aims to report the

experience in the construction of the Process Map of the Surgical Center Unit, as well as to know the suppliers and customers of this unit, listing possibilities for improvement.

MATERIALS AND METHODS

This is an experience report from the elaboration of the Process Map of the Surgical Center Unit of a Federal University Hospital, located in Salvador-Ba.

Initial meetings were held with professionals from this study scenario. The first meeting was attended by a medical surgeon representative, nursing technicians from the UCC, nurses from the UCC, an anesthesiologist, a representative from the Nursing Division and representatives from the Sterilized Materials Processing Unit (UPME), when concepts that reached the mission, vision and values of the Surgical Center Unit, according to the Institution's vocation.

The second meeting was attended by a representative of the surgeons, an anesthesiologist representative, representatives of the UPME, the Surgical Center Unit and a pedagogue, when the main suppliers and customers of the UCC were elected and listed, according to the group's perception.

Next, the documents, flowcharts, routines and normative documents that existed were presented to the Hospital Management and related areas, at which time new meetings were agreed for the development of the Process Map. The tool used to build the process map it was the flowchart, as it is, according to Fryman (2002), a simple diagram to document algorithms or processes in a formal, graphical way.

In the flowchart, the process steps were displayed in boxes, which are connected by directional arrows, containing different representative elements. The Process Modeler used to build the flowchart was *Bizagi*, in its free configuration.

For the construction of the flowchart contemplating the process map, 18 meetings were held, in a period of time corresponding to 05 months. The then coordinator of the Surgical Center Unit, the Chief Auditor of the Hospital Complex and Health Care Manager participated in the elaboration, with the collaboration of the Chief of General Surgery, representative of the Nursing Division, nurses from the UCC and representative of the satellite pharmacy of the UCC.

Once the first documentation of the process was completed, 21 (twenty-one) opportunities for improvement were listed, which became part of a proposed work agenda, designed to enable the appropriate treatment of such opportunities.

Firstly, the actions foreseen in the Strategic Master Plan (PDE) of the Hospital Complex were listed on the agenda, in order to segregate the opportunities for improvement that relate to them, giving them the necessary precedence of treatment, from those that do not maintain this relationship.

In addition, all opportunities for improvement were classified according to the breadth of possible discussions, that is, those that require a multidisciplinary group, identified with the acronym "GT", and the others to be worked on by one or more people within the domain itself. from UCC. The last ones identified by the letter "A".

The "GT" and "A" classification aimed to provide greater speed in the elaboration of improvement proposals, as it will allow concomitant, but coordinated works. of construction of the schedule, namely and according to figure 1:

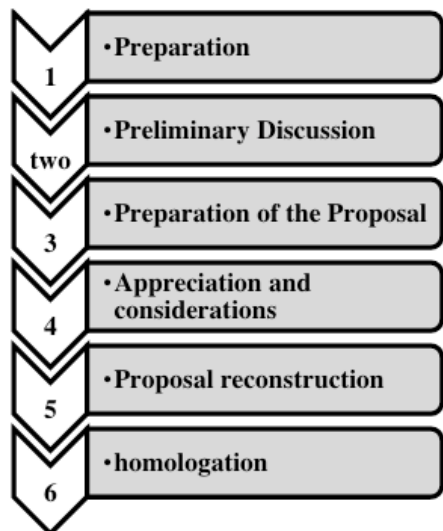


Figure 1 - Process reengineering for schedule execution

Preparation (PR): Actions aimed at scheduling meetings and inviting professionals interested in the stage of the UCC process, which refers to the opportunity for improvement to be worked on;

Preliminary Discussion (DP): Preliminary Discussion Meeting, by recording in minutes, in which all professionals interested in the UCC process stage, which refers to the improvement opportunity to be worked on, participate. At this meeting, professionals present their respective proposals for change, which, in turn, are discussed by the group in order to form a preliminary idea of the flow of activities, actors and communication channels.

Preparation of the Proposal (EP): Based on the preliminary idea of the flow of activities, actors and communication channels formulated in the “Preliminary Discussion” stage, a proposal for the new flow of activities will be modeled, including its forms/documents and actors to be involved.

Appreciation and Considerations (AC): corresponds to the new flow of activities, containing standards of forms/documents and indication of the actors involved, originated

from the “Proposal Preparation” stage and will be forwarded to all professionals who participated in the “Preliminary Discussion”. These will have 05 (five) business days to present their considerations and/or modification proposals.

Proposal Restructuring (RP): After the deadline established for the previous stage, the necessary adjustments are made, according to the considerations and/or modification proposals of those involved.

Approval (H): Moment in which the competent authority will consider the proposal for the purpose of composing the new “Surgical Center” Process.

RESULTS

The Surgical Center Unit presents itself as one of the essential areas for the Institution, with a high potential for generating resources, as well as contributing to the community in which it is inserted, with emphasis on the users of the Unified Health System (SUS), students from the undergraduate, residency, graduate and researchers’ courses.

As a product of the work, the Central Warehouse, the UCC Satellite Pharmacy, the Central Laboratory (Clinical Analysis), Responsible Physician (specialized clinic), Pre-anesthetic evaluation team, Sterilized Materials Processing Unit – UPME, Bed Management and Regulation Unit (UGRL), Pathological Anatomy/Laboratory, Adult Intensive and Semi-Intensive Care Unit/ Inpatient Units.

Of course, other suppliers linked to support processes could be mentioned, such as: Clinical Engineering, Infrastructure, Medical Archive and Statistics Service, among others. However, it was chosen to disregard the suppliers that work in parallel to the “Surgical Center” process, due to their indirect participation, but no less important.

In a similar way, the clients of the process

in question were enlightened, namely: the patient, the doctor in charge (specialized clinic), Intensive and Semi-Intensive Care Units Adult/Inpatient Units.

Besides, under this tuning fork, there are interested actors, the so-called *stakeholders*, who deserve to be highlighted for the purpose of feeding data/information for the decision-making process. They are: Health Care Management, Teaching and Research Management, Administrative Management, responsible physician (specialized clinic), Bed

Management and Regulation Unit (UGRL).

As the meetings progressed, 22 (twenty-two) documents essential to the process and 3 (three) normative documents were identified. greater clarity in the process.

It is observed that, with the process map, it was possible to observe how the Unit is structured, to know who its main suppliers and customers are, as well as their main successes and adjustment needs, classified as opportunities for improvement and which can be observed in the figure 2:

LISTS OF IMPROVEMENT OPPORTUNITIES
DESCRIPTION
1. Deadline for making/delivery of the Surgery Notice.
2. Formalize Consultation on the existence of Orthos, Prosthesis and Special Materials (OPME)
3. Establish flow, including contingencies for transport/assistance to patients in cases of elevator failures or delay in receiving them by the Inpatient Units, for various reasons.
4. Formalize the physician's decision to perform surgery in view of the unavailability of the Orthosis, Prosthesis and Special Materials (OPME), when previously requested.
5. Performance of the Surgical Map Preparation Committee.
6. Anticipate the preparation of the Daily Surgical Schedule (PCD).
7. Need for complementary material for surgery (Sterile Material Processing Unit).
8. Review of the activities inherent to the Satellite Pharmacy: <ul style="list-style-type: none"> a) Medication kit supply; b) Supply of Specific Material (surgical thread, drains, surgical clips, among others).
9. Include in the Safe Surgery Check-List the OPME confirmation available in the room, before anesthesia.
10. Preparation of Standard Operating Procedure (SOP) for Checking the Anesthesia Device (Car).
11. Review of request flow and forwarding of culture requests.
12. Review and expansion of the use of the Checklist for operating rooms.
13. Print sketches in the Surgical Description.
14. Implement Protocol Sheet for Venous Thrombosis Prophylaxis.
15. Create/standardize procedures for the delivery of test samples to family members and/or strangers to the University Hospital.
16. Implement a shift change routine from the UCC Surgical Center Unit to the Inpatient Units.
17. Redesign the flow of intensive care needs of patients from other inpatient units and without prior reservation in therapy and semi-intensive beds.
18. Medical prescription at the UCC for patients who will undergo the postoperative period in Intensive and Semi-Intensive Care Units
19. Design/Redesign the process of URGENCY AND EMERGENCY surgeries.
20. Redesign the procedure, including formalization, of the surgeon's request for specific materials.
21. Formalize the receipt of materials by the Room Circulator.

Figure 2 – List of improvement opportunities

Thus, it is possible to infer that from the clear representation of the activities that are part of the process in the constructed diagram, and once the necessary improvements in the process are chosen, their treatment may become more effective and add considerable value to the institution's results.

DISCUSSION

According to Gonçalves (2000), a process is any activity or set of activities that takes an *input*, adds value to it and provides an *output* to a specific customer. This *output* is the product, the result of carrying out the process, which can be tangible or intangible.

More broadly, Oliveira (2007) defines process as a set of sequential activities that present a logical relationship with each other, with the purpose of meeting and, preferably, surpassing the needs and expectations of the company's external and internal customers. In short, a process is a set of activities with a specific beginning and end.

The Process Map shown in Appendix A is a product of the work reported in the present study and provides a visualization of the beginning and end of the processes carried out within the Surgical Center Unit, with the process output being the procedure performed safely, or that is, the patient operated under satisfactory safety conditions.

Brazilian studies, when mapping different processes (admission process of nursing technicians, training program in cardiopulmonary resuscitation and disinfection and sterilization processing of hospital medical articles) showed, as a common denominator, that through the mapping it becomes possible to visualize the resources consumed and, consequently, their optimization (FOLLADOR and CASTILHO 2007; JERICO and CASTILHO 2010).

When we agreed with the statement by Krajewski et al. (2009), who says that most

processes can be improved, if someone thinks of a way to do it and implement it effectively, we will therefore conclude that the possibilities for improvements raised, the result of the work of this work developed, if applied in an integrated manner, may bring favorable results to the process.

In this sense, the analysis of the processes will start from the opportunities for improvements found and the integrated solutions, so that the conclusion can be given by implementing the revised process, creating a new flowchart.

CONCLUSION

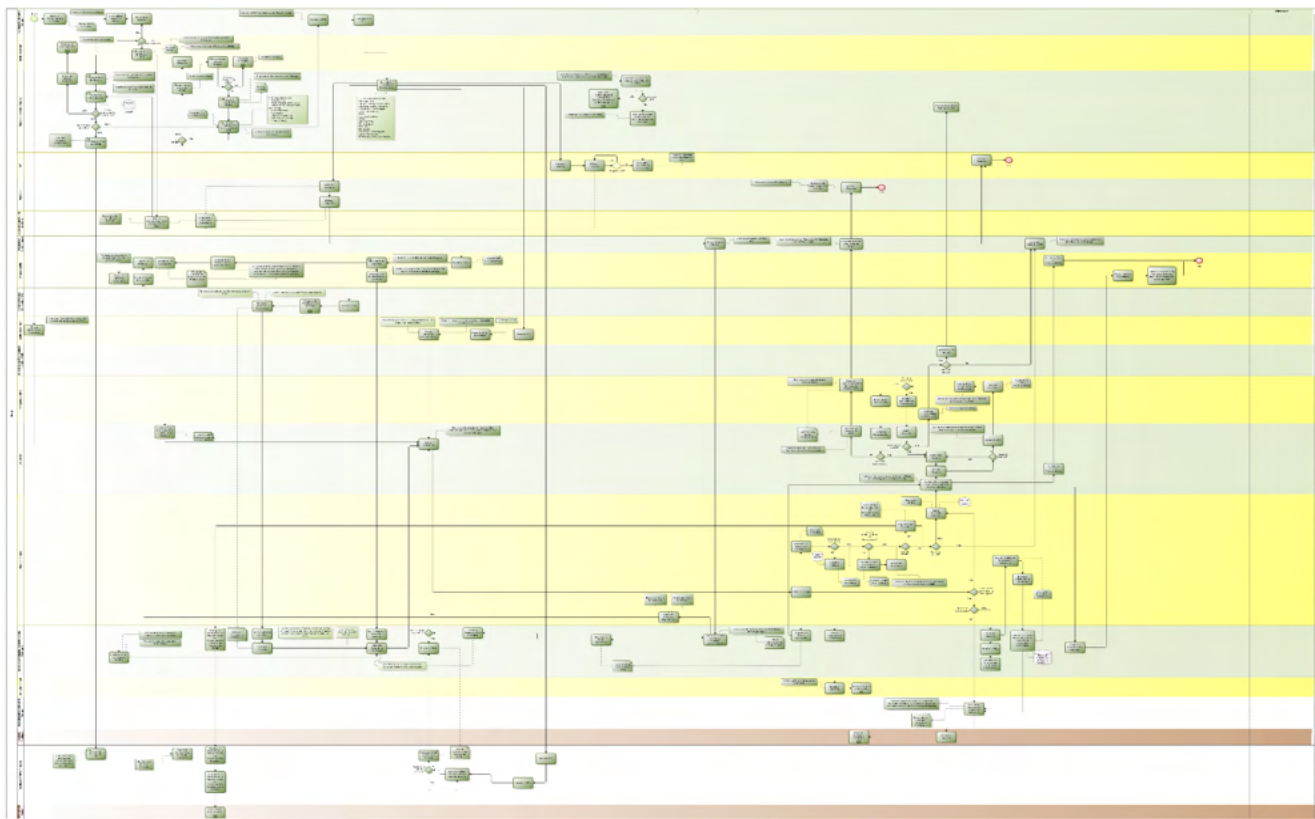
The mapping of the stages and activities that constitute the process of the Surgical Center Unit became an important subsidy for the planning and application of essential improvements for the proper functioning of the Unit.

The process mapping methodology, which can be reproduced in other public and private hospital settings, as it was applied in the documentation of the activities developed in the Surgical Center Unit, allowed the working group to objectively visualize the dynamics of the interrelationship that exists among them, which allowed an evaluation, even if of a preliminary nature, of the points that would need more in-depth studies with a view to their improvement. These analyzes originated a list of opportunities for improvement to be opportunely addressed by the management.

REFERENCES

1. FOLLADOR NN, CASTILHO V. **The direct cost of the cardiopulmonary resuscitation training program in a university hospital.** Rev Esc Enferm USP. 2007;41(1):90-6.
2. FRYMAN, MA **Quality and Process Improvement.** Delmar Thompson Learning. New York: 2002.
3. GONÇALVES, JEL **Process, what process?** Journal of Business Administration, v. 40, no. 4, p. 8-19, 2000.
4. JERICO MC, CASTILHO V. **Cost management: the implementation of the activity-based costing method in central sterilizing services.** Rev Esc Enferm USP. 2010;44(3):745-52.
5. KRAJEWSKI, L.; RITZMAN, L; MALHOTRA, M. **Production and operations management.** Sao Paulo: Prentice Hall, 2009.
6. LAMB, PL **Surgical center and post anesthetic recovery: planning.** Porto Alegre: Graficaplub, 2000. 135 p.

APPENDIX A PROCESS MAP - SURGERIES



Complementary caption:UGRL-Bed Management and Regulation Unit; SOP- Standard Operating Procedure; PCD- Daily Surgical Schedule; OPME-Orthoses, Prostheses and Special Materials; ICU- Intensive Care Unit; PACU- Post Anesthetic Recovery Room; CME- Material and Sterilization Center.