Chapter 5

Improve Center of Sterilized Material Performance: A Discrete Event Simulation Model

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ABSTRACT

The health sector in Brazil faces difficulties related mainly to financial, administrative, and organizational structure. Center of Sterilized Material (CSM) provide material for the other components of the hospital, and is essential for the proper working of medical care. This work investigates CSM strategy operation in a public hospital. There is an expectation that it needs additional human resources to meet the current demand. During the research, we evaluated this increment and showed that the critical resource is not the human one. We went forward and presented an alternative that does not prescind of investment and increase the installed capacity. The contributions of this research, brings, in the midst of the financial crisis experienced, the possibility of meeting more and better the internal demand, without any financial contribution. It’s about showing the potentiality of bringing together professionals and academics, applying methods and management tools in the health sector.

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INTRODUCTION

Context: Management of Hospital Operations

In the last few decades, hospitals across the world have faced increased economic pressure (CAPKUN, et al., 2012). Modernization of hospital structures has a two-fold objective: Improving quality of care and reducing healthcare costs (REYMONDON et al., 2008). The increasing demand for productivity and quality in service production was recognized 20 years ago yet the issue remains current (SUNDBO, 1994; VAHATLO & KALLIO, 2015).

The health sector in Brazil faces difficulties related mainly to financial, administrative problems as well as the ones in the organizational structure (MALAGÓN-LONDOÑO et al., 2003); and it’s marked by the tendency of increasing costs in the assistance, enhanced by the increase aging of the population. The inefficiencies deriving from the waste in the health service management constitute a problem (ARAUJO, 2005). One searches, however, to obtain efficiency gains in health services, reconciling different dimensions, such as quality, reliability, speed, availability with efficiency in operations and cost compatibility (SPIEGEL & ASSAD, 2016).

Within the service operations strategy literature, there is a small but growing body of work that explores the links between operations strategy and healthcare performance (SILVA et al., 2015). As discussed above, with healthcare costs rising, the increasing importance of quality in healthcare, and current demographic patterns, this link is now even more important. Operations strategy has flourished as a field, yet there is still much to be learned regarding how this knowledge base can be effectively applied within the healthcare setting. Specifically, how transferable are these manufacturing-derived principles to a setting where quality and costs take on a very different meaning (SPIEGEL & CAMEIRA, 2016)?

CSM

Within health facilities, any medical supply that is foreseen to be in contact with a patient must be sterilized (PERKINS, 1983). Sterile supplies or instruments (i.e., sterile devices) are either designed for single use or for re-use. Hospital sterilization is now organized in order to implement a quality assurance system (PITTET et al., 2008). The hospital sterilization is responsible for supplying, preparing, distributing and managing the sterile medical devices. Centralizing these activities, allowing a grouping of means and competencies, leads to benefits in health security and economics in the short and medium-term (SEAVEY et al., 2007; AORN, 2012).
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