

# Nursing Activities Score: Cloud Computerized Structure

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**Abstract.** This study objective to describe the cloud Nursing Activities Score implementation process in the Intensive Care Unit of the Post-Anesthesia Recovery Room. It is a case study. The tools used were the Google applications with high productivity interconnecting the topic knowledge on behalf of the nursing professionals and information technology professionals. As partial results, it was determined that the average nursing staff workload in the ICU/PARR during the first 24 hours, according to the score on the scale, was  $91.75 \pm 18.2$ . Each point of NAS is converted into 14.4 minutes, which is equivalent to an average of 22 working hours. Currently the instrument is implemented in the institution, reinforcing the need to update and raise awareness concerning the need to maintain the new routine.

**Keywords.** Nursing Informatics, Cloud, Patient safety, Workload, Nursing care, Intensive care units

## 1. Introduction

Given the increasing complexity that involves health care, the nurse has been occupying an indispensable role in the services management, in order to ensure the safety and quality of the provided care. The Nursing Activities Score (NAS) is an instrument developed by Miranda et al [1], which contributes in this respect to the classification of patients and evaluation of nursing staff workload in intensive care units [1,2]. The post-operative care to patients undergoing large surgeries that require intensive care is provided in the Intensive Care Unit (ICU) of the Post-Anesthesia Recovery Room (ICU/PARR). In this unit, the nurses began to use the NAS in 2011, with the purpose of improving the nursing care management regarding the existing nursing human resources. Therefore, this study aims to describe the cloud NAS implementation process in the ICU/PARR of Hospital de Clínicas de Porto Alegre (HCPA), teaching hospital of Federal University.

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## 2. Methods

It is a case study. This is the development of a computerized solution of NAS using Google Apps (Google Forms, Google Spreadsheets, Google Groups and Google sites). The NAS system is composed of two modules. The first module is managerial and is intended for NAS electronic form construction, which will be used in the data collection field in the intensive care units of HCPA. The second module is operational and will be used in mobiles, i.e. for handhelds or fixed computers that allow the module use on a wireless network. The access is done through the Wi-Fi (Wireless Fidelity) system that offers wireless access to the Internet of the HCPA through a broadband connection. This system was designed to run on the internet, through the site hosted on Google sites, with cloud storage, and access profile controls to information through the use of Google Groups with sharing rules. On line tabs present a panorama of that UTI situation, enabling actions in order to ensure the care quality and safety.

## 3. Partial Results and Discussion

The NAS implementation process started in 2010, after the disclosure of the Collegiate Board Resolution of the National Agency of Sanitary Surveillance (RDC 7), which defines the obligation of UTIs usage of an instrument that quantifies the need for the patients nursing care. The pilot project was implemented in the critical patients' areas (adult and pediatric UTIs, Post-Anesthesia Recovery Unit and Coronary Care Unit). In this process, some obstacles had to be overcome, such as the lack of knowledge regarding the instrument, the instrument's adequacy with the unit reality, the valorization trend according to the increased demand, time, and completion criteria standardization. As partial results, it was determined that the average nursing staff workload in the ICU/PARR during the first 24 hours, according to the score on the scale, was  $91.75 \pm 18.2$ . Each point of NAS is converted into 14.4 minutes, which is equivalent to an average of 22 working hours. Currently the instrument is implemented in the institution, reinforcing the need to update and raise awareness concerning the need to maintain the new routine.

## 4. Conclusion

The tool use on Google platform provided a high productivity in the development by interconnecting the topic knowledge on behalf of the nursing and information technology professionals. In addition to allowing the approximation of nurses with the results and as a care and administrative tool, targeting and qualifying the care to critical patients.

## References

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