

IMPLEMENTATION OF THE EMERGENCY TROLLEY AND CRASH CART STANDARDIZATION IN A LARGE GENERAL PUBLIC HOSPITAL IN RIO DE JANEIRO

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Introduction

The Brazilian Ministry of Health defines an emergency as a serious health condition that causes intense suffering or imminent risk of death, thus requiring immediate treatment. It also defines that urgency is an unexpected occurrence of a health problem that can create a possible life risk to the patient, whom requires immediate assistance.¹ Some studies have shown that emergency equipment is not always readily available during an emergency. Due to this problem, it is questionable whether they can guarantee an effective treatment. The biggest problems identified by the Pennsylvania Patient Safety Authority indicated the most commonly problems are: missing items, expired items and a few others.² These reported problems allow the occurrence of potential serious adverse events, which will impact patient survival, and health professionals may even be penalized by the councils.³ Urgencies and emergencies can occur at any time, and to be ready to respond to them requires time and resources to provide a good assistance. By having standardized crash cart, emergencies can be better managed.⁴

Material and Methods

The project was developed in a large federal hospital in Brazil. The project covered all sectors of the hospital, as the emergency trolley and crash cart are spread throughout the facility. Initially, meetings were held with the pharmacy, medical and nursing teams to define which items were essential to be included in the emergency trolley and crash cart car. After the initial discussion, it was decided during the meetings that the emergency trolley and crash cart would be combined in a single cart (CUE) which would contain medicines for both urgency and emergencies situations. In total, 18 carts were standardized. The team developed how would be the standards procedures of use and replacement of it content. It was determined that any non-standardized medication cannot be in the car, and if found, would need to be immediately removed from the CUE. There were created new forms to check how the implantation was evolving and which points it would be necessary changes to optimize the project. The project was not submitted to the ethics committee as it did not involve any data from employees and patients, being a project carried out to optimize hospital flows and optimize patient safety.

Results and Discussion

Before implementing the project, the crash cars were visually evaluated and it was found an excess of medication, this hinders the speed of finding a medication in an emergency (Figure 1A) and furthermore to have a good control of the stock. In addition, data were collected on the contents of the CUEs for a comparison between the actual state and after the project complete implantation. After the team defined which medicines are essential and their correct quantities, the amount of non-compliance was calculated retroactive in relation to the standard created after the inspection. The first step was to organize the cart (Figure 1B) making sure that the high-alert medications were identified with red durex tape, naming the spaces for the medications and setting the correct amount of them. Regarding the updated standard number of the essential medicaments, it can be seen that a lot of the critical medicaments were in an inferior quantity and the non-critical were in excess.



Figure 1A: medicines stored in the cart before standardization. 1B: medicines stored in the cart after the standardization. Source: Author, 2023.

A new inspection was carried out 3 months after the start of the project; however, it is not possible to directly compare the data from the new inspection with the initial analysis as the standardization only exists during a second inspection. The only thing that can be directly analyzed is the amount of expired medicines found, as this is considered an error in any case. This means that the quantity of expired medicines was reduced by 79.5%. As the objective is to have zero expired medications, new improvements are being implemented which in the next analysis are expected to be better; in addition to that, it's going to be able to compare the non-conformities from the 3rd month of implementation with the future new analysis.

Table 1: Comparison of the data before and after the CUE standardization.

Non-compliance	Before Standartion	After Standartion
Number of expired medications	39	8
Non-standard medicines	68	1
Excess quantity of medicines	106	6
Quantity of medicines missing	251	3

Conclusion

It is concluded that the implementation of the CUE standardization had a positive result. The team of pharmacists and nurses are being successfully carrying out the protocols established by hospital regulations. It is noteworthy that although the improvement is relevant, there are still points for others improvements, as the aim of the project is to eliminate all errors related to the use of the CUE. This project has already ensured that in emergency and urgent situations, the team has ready-to-use medications and equipment available, without shortages and in adequate quantities and quality, allowing faster care for the situations mentioned above.

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