Medication errors are considered public health problems worldwide. Up to 98 thousand Americans die in hospitals every year as a consequence of medical errors (LESAR, 2008). The medication error may occur in all stages – acquisition, prescription, transcription, distribution, administration and monitoring of the patient’s response (ASPDEN et al., 2007; MELLER et al., 2010). Anacleto et al. (2010) reinforce the need of researches on the patient’s safety and medication errors. It is believed that new products may help settle this issue; thus, this article aims at identifying, from the Design and Ergonomics perspective, products in the medication room of a hospital in the city of Florianopolis that may be contributing for the occurrence of medication errors. This research may be classified as applied and investigative. The technical procedure used was the bibliographical survey, field visits, interviews and non-systematic observation of the activities. Regarding the problem approach, this study is classified as qualitative (LAKATOS; MARCONI, 1993; GIL, 2010). Also, audio and photo records were used for later analysis. The study is composed by a multi-disciplinary team and was approved by the Ethics Committee on Human Research at UFSC under the number 20248813.8.0000.0121.

As a result, was observed a scenario characterized by the existence of several factors that favor the occurrence of error. Among them: the professionals’ training, the technological appliances used, the urgency or emergency degree with which the decisions must be taken and the verifications must be made for the fulfillment of each stage of the tasks that must be executed.

In the medication room, the potential products that may lead to errors are: the medication stowage compartments, the medication tray and the pieces of paper where the prescription information is transcribed (Figure 1).

The compartment (Figure 2) corresponds to a cabinet with 30 divisions (one for each bed) where the medication is stowed for preparation and administration. There is also illegibility in the bed identification, which may lead to error when stowing and preparing the medication. For each bed there are medications to be administered by different ways and, in the compartment,
there is no division or different identification; this added to the similarity of names, colors and shapes of the packages and labels may generate cognitive overload and induce to error.

![Figure 2: Compartments in the medication room. Source: The authors.](image)

The medication tray (Figure 3) is made of metal and has approximately 30 cm of width and 20 centimetres of length. There is no division for the medication to be distributed according to the bed. The medication is placed side by side and may be misplaced due to the movement of the nursing technician to patient’s room. The tray cannot be closed, so there are no barriers against contamination of medications that are previously prepared. Also, there is no handle for transportation causing the medication to be unstable.

![Figure 3: Medication tray in the medication room. Source: The authors.](image)

The pieces of paper for the prescription transcription (Figure 4) are improvised by the nursing technicians; there is no standardized size. Besides the lack of size pattern, the professional make use of their own abbreviations for dosages and schedules, decreasing the reliability of the patient regarding the medication and the hospital.

![Figure 4: Papers for the prescription's transcription. Source: The authors.](image)

From the design and ergonomics view point, it is notable that the work environment, along with the available tools, favors the occurrence of medication errors. Added to the fact they are
inserted in a complex context, the activities to be executed require extreme attention from professionals and the errors may have substantial impacts on the life and health of patients.

Besides the products, there must be modifications in the environment, especially regarding the organization of the spaces. Finally, for future studies, it is believed that the development of a products system – compartments, tray and paper – may become a viable alternative to improve the work flow of professionals in the medication room, and consequently reduce medication errors.

**Keywords:** Design, Ergonomics; Medication Errors, Nursing Station, Medication Room.

**References**


