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Working time and workload of nurses: The experience of a burn center in a high income country

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ABSTRACT

We conducted a one-month study of the working time and workload of nurses in a 15 beds burn center (including 8 intensive care beds). Nurses' tasks were categorized according to their nature (medical care, local treatments, post anesthetic monitoring, administrative time related to health care, administrative time unrelated to health care, cleaning, rest). The time taken to complete a given task was measured for each task. The time devoted to walk and unavailable for patients care was also measured.

Our study revealed that work distribution was far from optimal since administrative tasks occupy more than 30% of workload. This represents inefficiency and the literature shows that when time is saved from administrative work it is reinvested in health care. One third of the administrative tasks are unrelated to care and thus could be performed by non-specialized clerks. The other two third of the administrative workload are closely linked to care. An answer to reduce administrative time lost to care activities is the implementation of dedicated ICU software which carries several other advantages such as reducing the use of paper, improving the safety of prescriptions, automating repetitive and unrewarding tasks and saving physician time. This expensive solution can be quickly repaid through costs containment due to the time saved. A significant part of the working time is spent walking but reducing the ambulatory time may be considered only through structural improvements.

1. Introduction

Workload is defined as the total amount of work to be performed by a worker (or a group of workers) in a period of time [1]. Working time is the time that each worker (or a group of workers) can dedicate to work in a period of time; working time includes work and time dedicated to rest. The nursing process in a burn center is complex and requires specific tool to assess (see below). Workload in a burn center mainly concern care (balance between care demand and care supply) and administrative tasks. Care demand is the patient needs for care; it depends of individual patient and the amount of patients in the burn center. Care supply is the actual quality

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(educational level of nurses) and quantity (number of full time equivalents) of available staff [1]. Care supply should match care demand in order to avoid care deficiencies.

Care supply specificity implies high educational level for nurses: each nurse is able to provide extensive surgical dressings, to take care of ICU patients and to monitor specific techniques (artificial ventilation, hemodialysis), sometimes providing analgesia at the bedside using synthetic opiates (educational level). In some centers nurses must be capable of taking care of both children and adults regardless of the severity of their disease. However, supervisory authorities and the administration introduce considerable constraints motivated by economic considerations. Salaries represent approximately 70% of hospital expenditures. Payroll is the first economical item to which hospital authorities are looking to reduce health care costs. As it is difficult to find skilled professionals in the particular area of burn care and as hospital authorities are reluctant to job creation, it seemed useful to analyze the working time of nurses to provide a more efficient organization without additional hiring.

2. Objectives

The main objective was to determine the time spent by nurses in care tasks and repetitive tasks and to assess the distribution of these different spots during the day.

A secondary objective was to try to quantify the time dedicated to physical activity. For this purpose we measured distances in the hallways and the time taken for walking through and we correlated the results with workload.

3. Methods

3.1. *The burn center and its organization*

The unit on which the analysis focused is a 15 beds burn center for children and adults, including 8 intensive care unit (ICU) beds. More than 300 patients are cared for each year at this center (one third are children under 5 years). The department is designed as a compact entity with a dedicated operating room, an ICU area with 8 beds for the most severe patients, a 7 beds continuing care unit (CCU) for the reception of less severe patients and an administrative sector with the secretariat, medical offices and part of logistics (Fig. 1).

The ICU comprises 2 large rooms for patients burned over 50% of their body surface. All the rooms of the ICU are equipped with an airlock where the logistics of the room are stored. This airlock allows the dressing and undressing of staff. All the rooms in the CCU are arranged for children hospitalized with their parents and are equipped with a local monitoring connected to a central station to provide the greatest versatility for the reception of patients. Indeed, the mission of the center is to accept all burned emergencies as long as there is a bed available. The center does not control its recruitment in number or quality. It must be able to

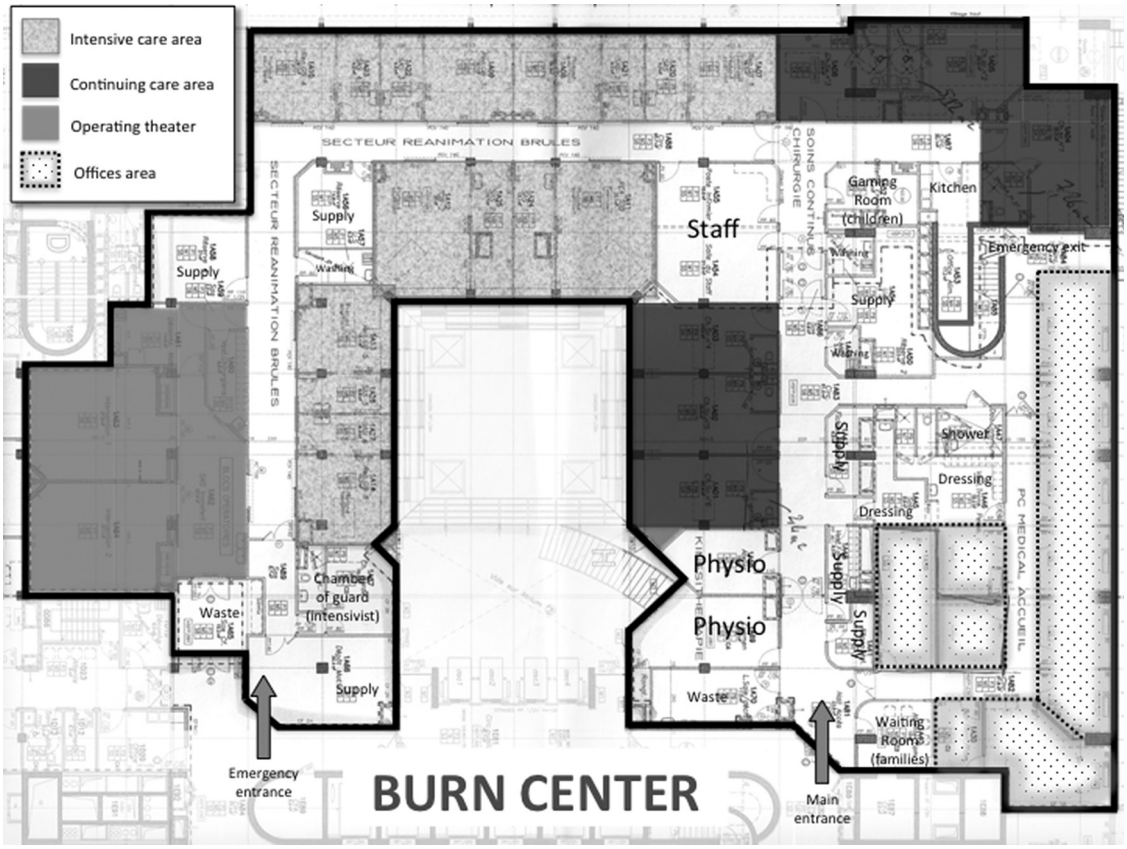

Fig. 1 – Map of the burn center.