Connecting Health and Humans
K. Saranto et al. (Eds.)
IOS Press, 2009

doi:10.3233/978-1-60750-024-7-478

RAFAELA™ Patient Classification System as a Tool for Management

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Abstract. The RAFAELA™ Patient Classification System offers tools for the managers to follow the adequacy of resourcing through the Nursing Care Intensity per Nurse (NCI/N). The basic idea of the RAFAELA™ system is that the workload expressed as NCI/N is compared with the optimal NCI level for the ward. By creating systematic reporting on this indicator, managers can follow the workload level on different wards. The measurement tool is available to all nurses as well as to managers. Thus the staff can follow the results of the daily use of patient classification. Managers can use the data for staff allocation between different wards. As a result, the workload can be discussed and analyzed, and the consequences of challenging situations can be resolved. Together with the staff the managers can look for different solutions for the problems. The overall workload can be too high or too low or the variations of the workload can be too large. The overall aim is a workload on an optimal level. RAFAELA™ offers a multitude of solutions finding new ways to allocate working hours, networking with different wards, discussions with the persons who guide patient flow in the hospital or changing the number of nurses in the ward.

Keywords. Patient classification, RAFAELA™ system, management, nursing resources, staffing, nursing care intensity

Introduction

One of the major challenges in hospital management is the allocation of the staff; how many nurses is a sufficient amount for patients? Can the workload be measured, when individual human needs and demands of the patients are concerned? How can the managers be fair when making decisions regarding staff allocation? Is it possible to find tools that support transparent measurement of workload? Can the productivity of human work be measured? What does human resource management mean in the context of health care?

Patient classification system is one solution to the abovementioned problems. RAFAELA™ patient classifications system is a fairly complex measurement tool. However, nurses have been committed to it. In dependency-driven patient classification systems, the individual caring needs of the patients are measured. Thus, the staff allocation will be based on more valid information than e.g. the traditional patient-to-nurse ratio can offer.

1. RAFAELA™ Patient Classification System as a measurement tool

The RAFAELA™ Patient Classification System consists of three measurement tools: 1) Oulu Patient Classification (OPC) to indicate the individual caring needs of the patients

on a daily bases, 2) daily data of nursing resources, and 3) value of the optimal nursing care intensity level of the ward.

The following phases are needed for the key indicator of the system; Nursing Care Intensity per Nurse (NCI/N): First, the OPC tool is used daily to determine the individual caring needs of the patients. Each patient can receive 1 – 4 points from each of the six subsections of the tool: 1) Planning and co-ordination of nursing care; 2) Breathing, blood circulation and symptoms of disease; 3) Nutrition and medication; 4) Personal hygiene and secretion; 5) Activity, sleep and rest, and 6) Teaching, guidance in care and follow-up care, emotional support. In total the score can vary between 6 – 24 points per patient. The total nursing care intensity of the ward is calculated by summing up the points of all the patients.
Secondly, the nursing resources are determined. The number of nurses during the calendar day is recorded (one nurse = 8 hours/day).
Next, the daily nursing care intensity per nurse is calculated by dividing the nursing care intensity of the ward by the number of nursing resources on that calendar day.

The optimal nursing care intensity level of the ward is defined periodically, mainly once in every two years. In the PAONCIL (Professional Assessment of the Optimal Nursing Care Intensity Level) measurement, each nurse in every shift assesses on a scale of -3 - +3 as to whether they consider their patient associated workload as optimal (=0), above optimal (>0), or below optimal (<0). The data collection lasts for four weeks. In analysis, the daily NCI/N values are compared with the average PAONCIL values of the same day. Then, by using linear regression analysis, the value of the optimal nursing care intensity per nurse of the ward is finally determined.

Finally, when the value of the optimal nursing care intensity of the ward is known, the optimal nursing care intensity area can be defined (+/- 15 %). The daily NCI/N values can then be compared with the optimal values. [1]
The patients' daily nursing care intensity (points 6-24) can be categorized into five groups (Figure 1). Also, the information can be combined with traditional hospital indicators, e.g. length of stay, diagnoses, and diagnosis related groups (DRG).
Every nurse participates in the data collection process. Thus, the RAFAELA system leans on the nurses' own evaluation of the work done on the ward. [2]

2. The systematic reporting of the results

The whole idea of using such a complex data collection is in the utilization of the information that the system provides. A regular reporting system is recommended, and the indicators based on the RAFAELA™ are included in the hospital management information systems.
As an example, in the Hospital District of Helsinki and Uusimaa, a systematic, unified reporting of RAFAELA™ based indicators has been established. The reports are produced in the same format from every ward. There are five monthly and four tertiary reports that the nurse managers are instructed to analyze in a unified scheme. In this paper, we present three examples of the reports that each head nurse delivers to the nurse manager monthly. The reports include written analysis the nursing director has defined in agreement with the staff. The conclusions, however, are always on the managers´ responsibility.

The first example gives information of the patients' caring needs measured by OPC on five different categories. The report also includes information about the quality of documentation (not classified) and patient flow during the month.

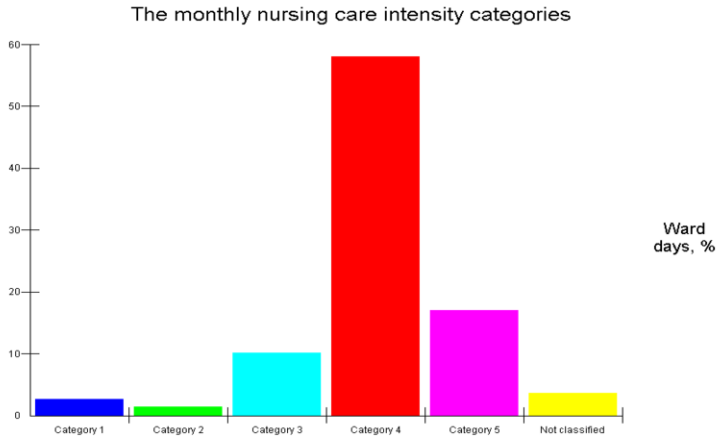

Figure 1. The monthly nursing care intensity categories

The second example is the daily NCI/N value compared with the optimal level of the ward. The optimal nursing care level is the green line and the red lines present the upper and lower limits +/- 15 %. Thus the optimal productivity level is between the red lines [3].

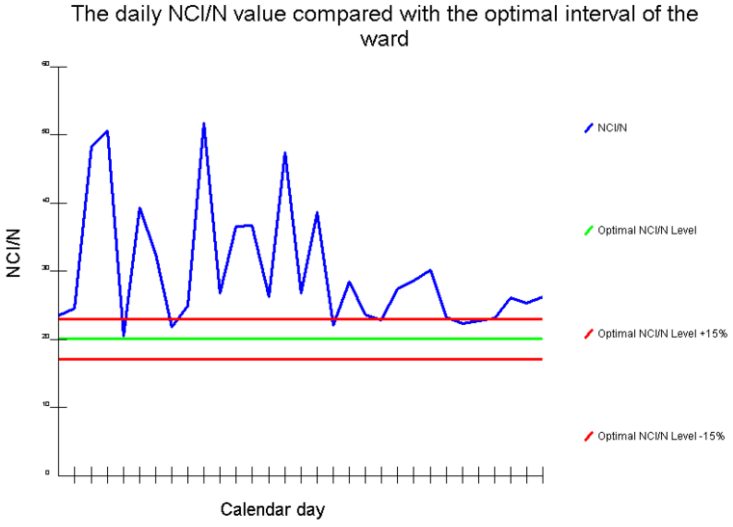

Figure 2. The daily NCI/N value compared with the optimal interval of the ward

The third example presenst the monthly nursing care intensity per ward stay of the ten most common groups in Finnish. The information can be utilized e.g. in planning patient flows and in defining hospital billing.

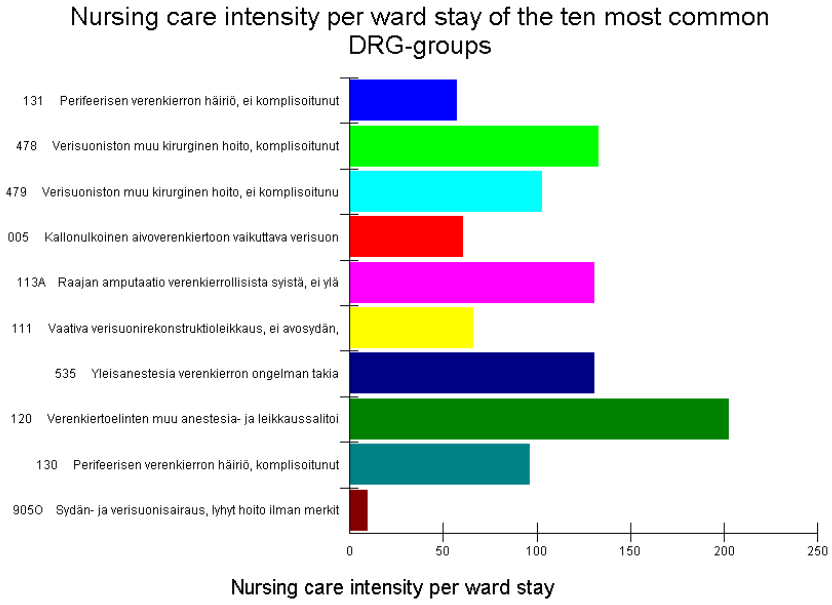

Figure 3. Nursing care intensity per ward stay of the ten most common DRG-groups

3. Utilization of the reports for decision making

Once the managers of the service processes have the nursing care intensity data for decision-making, it is easier to find new solutions for staff allocation. The staff is of great importance in finding the best results and benefits. There are some good examples of the major changes made in this way.

First, the manager has to make a synthesis of the results that the RAFAELA™ based indicators offer. Discussions with the staff offer valuable support but the decisions have to be made alone. The overall workload can be too high or too low or the variations too large. Service product line manager can compare the workload on each unit and allocate resources according to patients' caring needs. Changes in duty roster can offer another solution. Networking with different wards, discussions with the persons who guide patient flows in the hospital or changing the number of nurses in the ward are useful methods as well. It is shown in several studies that work satisfaction is in relation to employee's own impact for working conditions and practices. The RAFAELA™ system makes it possible for the changes to be accepted. [4]

4. Knowledge management

Knowledge management requires that decision-making is based on valid data. The RAFAELA™ system provides reliable information about the nursing care intensity of the ward. The staff is involved in the data collection and in the analysis of the

indicators. Thus, the decisions made on this knowledge base become accepted by the staff. The objectivity and the justness of the decisions become more visible for the working community.

5. The benefits of transparent measurement tool

The benefits of the RAFAELA™ system are many. Nursing productivity is made visible. It is important that head nurses, nursing directors, CEO and all decision makers know more about nursing. It is of equal importance that the staff feels safe and secure about the decision-making and the rationales of the changes. The mutual discussion, statistical approach and largely accepted results enable the whole organization to work towards its mission and strategic goals.

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