

Price for nursing

Defining the Nursing Cost per Patient's Care
Day Price

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Nursing cost accounting

- There is not much information available on nursing costs
- Nursing costs often remain invisible in the calculation of total treatment costs per patient
- Currently used indicators (load percentage, number of vacancies and beds, days of treatment, and treatment periods) do not adequately describe the need for nursing or patient-specific nursing time
- The RAFAELA® System produces information about patient's need for care, the resources used for nursing and the content of nursing. The system is used in more than 750 units in 28 organizations
- Nursing intensity data recorded for each patient have been taken into account in the cost accounting of treatment days in three Finnish hospital districts
- The cost accounting model uses a price calculated either for each nursing intensity point or nursing intensity category. The calculation utilises work time monitoring and data on the salaries of nursing staff

Background and Targets

- The aim of the study was to establish a calculation model supporting management in counting the nursing costs by using personnel time recording method. Also, the aim was to provide information of the nursing costs, and describe the actual ratio of the nursing intensity, that is nursing intensity class, use of time and costs
- The project answers the following questions:
 - How does nursing intensity affect the real costs of nursing in different units or for each patient?
 - How do nursing costs vary by unit or region?
 - How does the nursing intensity of patients affect the cost of care in situations where differences in the nursing intensity of patients in the same diagnosis group result in varying costs?

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Material and Method

The material

- Time recording in the measurement period
 - Remote tracking devices in use
 - Fortnight measurement period / ward
 - During their workshift, nurses were recording a) direct or indirect time allocated to single patient or b) other non-patient related work
- Costs
 - In cost accounting, unit-specific payroll costs per year were used

The Method

- Nurses salaries were allocated according to nursing intensity class data and time spent
- Based on the remote tracking of working hour measurement, the average of direct and indirect work per nursing intensity class were used in cost allocation
- Distribution of nursing intensity class during the measurement period were compared to units data per year. It was verified that the data was consistent with the whole year data of the units



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Results and Observations

Operative environment (special health care)				
	C / day	n	time (min)	index
Class 1	199,64	84	98,35	1,00
Class 2	271,81	318	133,77	1,36
Class 3	346,72	356	171,57	1,74
Class 4	429,67	244	229,91	2,34
Class 5	635,01	27	325,12	3,31

Conservative environment (special health care)				
	C / day	n	time (min)	index
Class 1	151,59	12	77,53	1,00
Class 2	291,68	213	116,87	1,51
Class 3	375,02	294	155,83	2,01
Class 4	466,76	209	228,61	2,95
Class 5	607,52	35	367,23	4,74

Basic health care ward				
	C / day	n	time (min)	index
Class 1	173,71	27	101,77	1,00
Class 2	215,04	235	126,68	1,24
Class 3	325,69	384	182,66	1,79
Class 4	542,40	132	240,31	2,36
Class 5	730,56	9	367,65	3,61

- The price of nursing varies in different environments
- The index varies in different environments
- The price of nursing varies per nursing intensity class increasing along with the nursing intensity
- The number of environments include different units from several organizations

Results and Observations

Benefits

- According to the calculation of the index in the study it's possible to count the nursing cost along with the total cost of the care day without separate time recording once the nursing intensity class is known
- Patient specific nursing intensity information allows the cost calculation and benchmarking per patient

Usability

- The price per nursing intensity class can be utilised also in patient classification in counting the overall price of specific disease groups
- The Model can be utilised in somatic special health care and basic health care adult wards in evaluating the patient specific costs

Reliable results

- The results are reliable. Distribution of nursing intensity class during the measurement period were compared to units data per year. The working hours collected during the measurement period were comparable to the resources calculated in the RAFAELA app. They were verified as uniform
- The reliability was decreased by some single units classification results (only few amount of class 1 and 5 patients). When all data was unified the reliability were increasing

Next steps

- In the future a similar type of time recording is needed e.g. in childrens' units, outpatient clinics and psychiatric care and operation theatre environment
- In patient specific cost calculation, is possible to utilize the price of nursing both regionally and in different level of organisations

The benefits of cost accounting project

- Information is obtained on how nursing costs in the various units of the organisation differ by nursing intensity point or category
- It makes it possible to monitor the development and changes in the organisation's own operations
- The information can be used for invoicing municipalities
- If an organisation carries out work time monitoring as part of a cost accounting project, the organisation will also gain information on the shares of indirect and direct nursing by unit, occupational group and nursing intensity category.
- The analysis reveals results about the organisation's operations that the organisation may not have been previously aware of

The availability and good quality of the data is a prerequisite for a successful outcome

Key Sources

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