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## Evaluation of training programs by medical employees in a chosen hospital in Poland

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### 1. Introduction

Commitment in the professional role is undoubtedly a factor that influences professional success. A person who is well-equipped to perform their organizing role accepts the aims and duties set by the employees, acknowledges social norms of performance, and has the ability of satisfactory discharge of the duties, in aspect of their aims as well as the team's aims (the team it cooperates with).

Monitoring the degree of involvement and satisfaction with the tasks performed in the hospital should be one of the manager's tasks. The systematic assessment of work quality, according to the authors, can become a source of knowledge about the employee's needs. This, in turn, gives a chance to adjust motivational stimulus. One of them is purposeful training offer, accepted by the employees. It has a great importance in medical care facilities, where the health and lives of patients depend on the knowledge and skills of medical workers.

A hospital that intends to manage quality effectively should create appropriate working conditions for its employees and properly manage personal relations. The quality of medical services is in the interest of all organization members. If the employees are not convinced about the significance of management quality and do not support the hospital's mission of implementing improvement quality systems, then it will not make any sense. This is due to the fact that employees realize the quality policy and care about the enhancement of quality of work and service provision processes (Karniej, 2010). The managing staff is responsible for

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initiating and coordinating actions, as well as motivating the employees to be more resourceful for the sake of the patients and the hospital. Each employee should feel that they are an integral part of a chain of values, which is created as a result of the cooperation of all people employed in an organization.

A frequent cause of external customer (patient) dissatisfaction is the employee. The medical equipment and modern technologies make the medical staff concentrate on technical aspects of medical care, forgetting that a patient is a living human, full of fear for his life and health. A patient is a person who expects an individual approach. When analyzing the quality of medical services, it would be worth the managing staff to consider negative opinions. Could the impersonal treatment of a patient by an employee be caused by professional burnout triggered by long-term fatigue and stress? Perhaps a cause of such behavior could be not adjusting the manager's requirements to the employee's abilities. In relation to the considerations above, a hospital should develop a staffing strategy that would meet its mission and would be based on the following aspects:

- proper selection of employees (recruitment criteria are significant),
- aimed training and development of employees (investing in knowledge and skills that will increase the organization's competitiveness),
- regular assessment of employees,
- development of individual career plans,
- proper (effective) motivation system,
- creating meaningful culture of organization.

Continuous professional development requires the preparation of an annual training schedule as well as hiring professional and competent training staff (Lee et al., 2012; Skiba et al., 2008). Training offered by the hospital should be evaluated by the participants and the organizers. Work results (improvements) and employee evaluation should measure the effectiveness of a training program (Aggarwal et al., 2010; Moyer-Childress et al., 2007). It is important to remember that the best way to involve the staff in the process of improving quality and triggering development is to create a special team (e.g., quality team). Not all training for employees to satisfy their needs will bring the expected results (Elbadri, 2001). Regular monitoring of employee stress level can produce much better results. (see Williams and Cooper, 2002; Jeffcott et al., 2008). According to B. Gilbreath and M.U. Montesino, a stress audit can significantly help eliminate barriers that limit employees performance (see Gilbreath et al., 2006).

Employee satisfaction (from the tasks they are performing) and customer satisfaction (patient satisfaction) are crucial for the hospital's high quality that can be measured (Green and Skinner, 2005). One of the tools of such measurement will be presented in this article (a map of training program quality).

## 2. Research methodology

In this article, an assessment of the training programs addressed to medical employees of the selected Polish specialist hospital has been presented. The hospital has an accreditation certificate issued by the Center for Monitoring HealthCare Quality (CMJ Krakow). The hospital obtained ISO 9001:2000 certificate in 2009 for hospital treatment, in the areas of hospital treatment, ambulatory specialist healthcare services, medical rehabilitation, dialysis therapy, image and laboratory diagnostics, as well as prophylactic health programs.

The analysis was carried out among doctors and nurses working in 24 wards. The survey resulted in a “quality map” on which vital aspects (requirements) concerning the training programs offered by the hospital were presented (see Detyna and Detyna, 2011; Detyna and Detyna, 2012). The location of points on “quality maps” indicates the critical elements that managers should improve on in the first place.

In order to evaluate the training program of a chosen specialist hospital, a survey was prepared. Up to 300 surveys were distributed in hospital wards. Up to 131 surveys were collected, which constitutes 43.7% of all questionnaires. Unfortunately, many participants (mainly doctors) refused to complete the survey. The reasons were:

- lack of time,
- fear of disciplinary consequences from employers (although the survey was anonymous),
- lack of interest in such analysis,
- lack of knowledge about the authors of the publication.

The questionnaire was prepared with reference to creating a “quality map” of the training program. In the first part of the survey, the respondents were asked to indicate (from 1 to 5) the significance and evaluation of a given aspect (requirement). The table includes eight factors that determine the level of satisfaction with the course or training:

- subject area,
- length of training,
- time of training,
- price of training,
- competencies of trainers,
- obtaining a certificate/diploma of completing the training,
- gaining new knowledge,
- gaining new skills.

The second part of the study contained 12 questions, which included 6 alternative questions, 2 open questions, 2 questions in which respondents could give only one answer, and 2 partly open questions.

After gathering and processing the data, a statistical analysis was carried out. The numerical data from the table allowed us to calculate a **Training Offer Assessment Index (TOAI)**. Two “quality maps” of the specialist hospital’s training program have been drawn, on which all of the studied aspects (requirements) evaluated by doctors and nurses were marked with points. Responses from the medical employees to the questions in the second part of the survey led to a graphic presentation, in the form of tables and diagrams. C

A complementary part of the statistical description includes results that apply separately to doctors and nurses.

Data concerning the satisfaction level of medical employees can be obtained from a variety of surveys. In Tables 1 and 2, the authors have placed the results of surveys that helped to calculate the **Indexes of Training Offer Assessment – TOAI (Training Offer Assessment Index)**.

Following the calculation of averages significance  $w_k$  (on a scale of 1–5, the staff evaluated the validity of various aspects of the assessment of the training offer) and assessment  $c_k$  (assessment of the degree of satisfaction of employees from eight mentioned aspects) of particular aspects regarding the training offered by the hospital, indicators for training assessment *TOAI* for nurses and doctors have been calculated according to the formula (Detyna and Detyna, 2012):

$$TOAI = \sum_{k=1}^k w_k \cdot c_k$$

It is beneficial to gain a higher and higher *TOAI*. It would be a good idea to carry out such an analysis periodically. This way, unfavorable tendencies can be quickly identified and prevented (see book Detyna and Detyna, 2011).

The average weights of particular aspects of training offer and average assessment of these aspects as coordinates formed points, which were placed on the quality map (see Figs. 1 and 2). A simplified interpretation of the location of points put on the map is as follows:

- Points that are located in the bottom left quarter of a map should be improved in the last instance – their significance and evaluations are relatively slight.
- Points that are located in bottom right quarter should be improved on in the first instance.
- Points that are located in top left quarter indicate that it is possible to relocate financial resources to other fields that need more urgent action.
- Points that are located in top right quarter of a map show that both the significance and evaluation of the aspects are on a high level, and it would be appropriate to maintain this position in the future.

The “quality map” tool is universal and can be effectively used in different studies. Its fundamental advantages are its simplicity and short time of data processing. The value is a two-dimensional representation of the issue (problem). The graphic presentation is easy to interpret, and in a convincing way appeals to managing staff who can see the critical points that should be improved on in the first place. The sequence of improvements should be related to the significance of a particular aspect (requirement) for respondents (employees, patients). If a particular factor is very important, then it is undoubtedly the reason for taking immediate improvement actions.

### **3. Short description of a chosen specialist hospital**

The hospital’s mission is to “Rescue, treat and always give hope.” The hospital is a multidisciplinary institution providing medical services in compliance with European standards. The quality of services was acknowledged by an ISO certificate and national accreditation. Thanks to European Union funds, the hospital is developing continuously through investments in medical equipment and new wards. The managing staff attempts to adjust their services to the needs of the patient. The hospital also supports innovative solutions in medical research.

The main aim of the specialist hospital is to provide healthcare services in the following areas: inpatient healthcare and ambulatory specialist healthcare services provided by specialist outpatient clinics and other organisational units. The range of healthcare services provided by the hospital is determined by contracts with health insurance institutions, with individuals, body corporate, and other organisational units. The operating range of the hospital in 2014 can be shown by the following numbers:

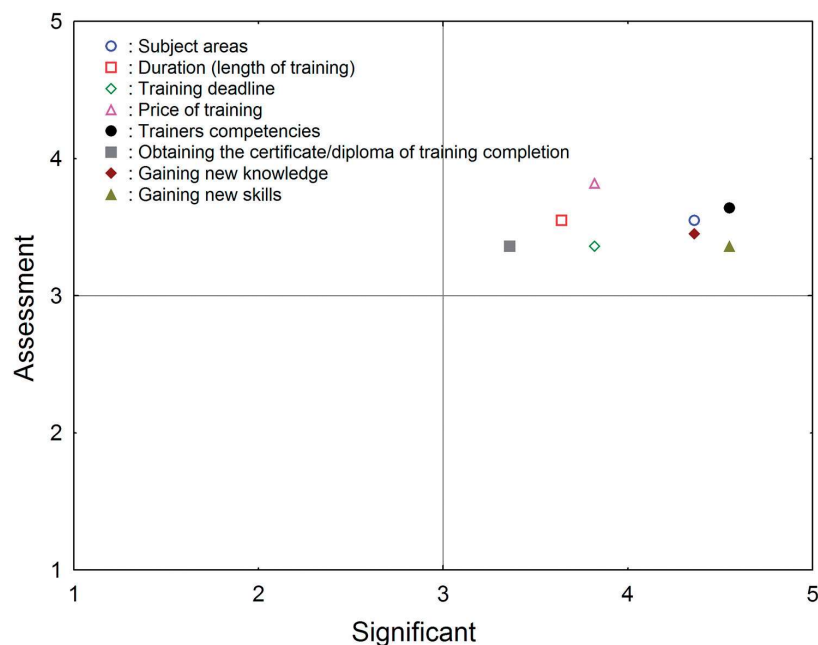
- medical staff (doctors and nurses) – 1293,
- planned hospitalization – 35,627,
- emergency hospitalization – 8086,
- deaths – 1001,
- autopsies – 143,
- total number of admitted and treated patients – 5871,
- ambulatory advice – 3730,
- approximate length of patient staying at a ward – 2.5 nights,
- hospital wards – 24,
- specialist outpatient clinic – 18,
- specialist unit – 7,
- laboratories – 1,
- therapeutic healthcare programs – 8.

At present, the hospital employs 1415 people, out of which 91.4% (1293 people) are “white coat” employees (doctors and nurses). The hospital runs educational specialist programs in 23 specializations. It cooperates with universities, and has a vision of strengthening its position as a medical research center.

#### 4. Results of surveys – case study

The analysis of surveys was divided into two parts. The interpretation of the data for doctors and nurses was analyzed separately. In Table 1, the authors placed the collective results of significance and assessment of particular training options that were addressed by the hospitals to doctors.

Average significances and assessments were presented on a quality map (see Fig. 1). All the points were located in the part of the diagram that indicates that the condition should be maintained.



**Figure 1.** Quality map of the training offer – assessment of doctors

Source: own work

The evaluation is satisfactory, yet the managing staff can try to improve the obtained results. None of the aspects of the training offer were evaluated above 4.0 by doctors. The highest was the price of training (approx. 3.82). A relatively high note was given for the trainer competencies (approx. 3.64). The lowest

**Table 1**  
Summary poll research results of doctors

Significance						Assessment											
						Average significance of aspect	Very important	Important	Neither important nor	Unimportant	Not at all important	Very poor	Poor	Satisfactory	Good	Very good	Average assessment of aspect
Aspects (requirements) of the training offer						5	4	3	2	1	1	2	3	4	5		
4.36	18	12		3							15	18			3.55		
3.64	3	18	9	3						3	15	9			3.55		
3.82	3	24	3	3						6	9	18			3.36		
3.82	9	15	6		3						12	15	6		3.82		
4.55	18	15									12	21			3.64		
3.36		18	9	6						6	12	12	3		3.36		
4.36	15	15	3								18	15			3.45		
4.55	18	15									21	12			3.36		

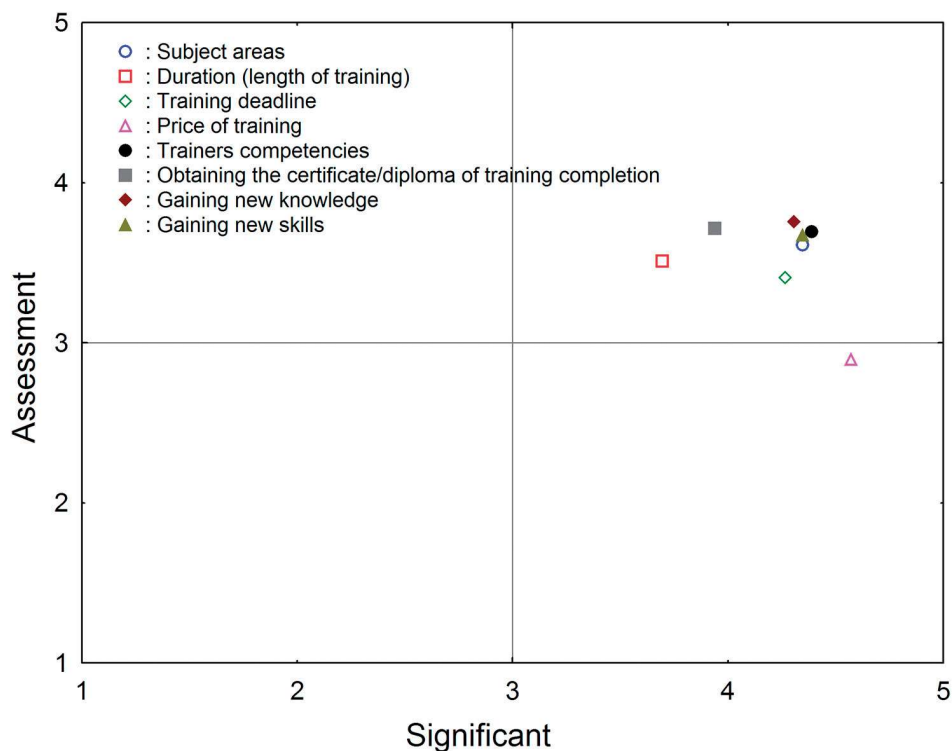
Source: own work

scores (approx. 3.36) were given for two aspects: the certificates/diplomas and the skills gained. The subject area of the training and its length received the same score (approx. 3.55).

What distinguishes doctors from nurses, among others, is the significance of some aspects. For the surveyed doctors, the most important elements of the mentioned aspects were trainer competencies and gaining new skills (approx. 4.55). For nurses, the price of the training was the most important (approx. 4.57). The lowest value (significance) assigned by doctors was for certificates/diplomas (approx. 3.36). The Training Offer Assessment Index (TOAI) for the occupational group of doctors amounted to 113.99.

Results of the surveys for nurses are presented in Table 2.

Similar to doctors, all average assessments were below 4.0. A significant difference is the evaluation of the price of the offered training. Surveyed nurses are not as willing as doctors to pay for development courses. Since this aspect is the most important for nurses (and at the same time its score was the lowest), the managers of the hospital should do their best to improve the situation. The location of this critical aspect is presented on the quality map (see Fig. 2).



**Figure 2.** Quality map of the training offer – assessment of nurses

Source: own work



**Table 2**  
Summary poll research results of nurses

Significance						Assessment						
						Average significance of aspect	Very important	Important	Neither important nor unimportant	Unimportant	Not at all important	Very poor
	5	4	3	2	1		1	2	3	4	5	
4.35	42	50	4	2	0	Subject areas	0	0	38	60	0	3.61
3.69	6	68	18	0	6	Duration (length of training)	0	2	44	52	0	3.51
4.27	58	16	18	4	2	Training deadline	0	8	42	48	0	3.41
4.57	58	38	2	0	0	Price of training	6	38	14	40	0	2.90
4.39	42	52	4	0	0	Trainer competencies	0	2	28	66	2	3.69
3.94	24	56	10	4	4	Obtaining the certificate/diploma of training completion	2	0	26	66	4	3.71
4.31	46	42	4	6	0	Gaining new knowledge	0	2	22	72	2	3.76
4.35	42	50	4	2	0	Gaining new skills	2	0	26	70	0	3.67

Source: own work

For nurses, the least significant requirements regarding the training offer are the length of the training (approx. 3.69) and the obtained certificates/diplomas (approx. 3.94). The most important, apart from the cost of the training (approx. 4.57), were the following elements: trainer competencies (approx. 4.39), subject areas (approx. 4.35), and new skills gained (approx. 4.35). The aspect that regarded gaining new knowledge was scored the highest by nurses (approx. 3.76). A relatively good score was given for gaining new skills (approx. 3.67) and subject areas (approx. 3.61). The location of points on the quality map indicates, as in the case of doctors, that the evaluation of the training offer of the hospital is relatively good and worth maintaining at a similar level – although assessment could be higher (it is worth trying to improve it). The Training Offer Assessment Index (TOAI) for the occupational group of nurses amounted to 119.43 and is a little higher than the TOAI for physicians.

To illustrate the similarities and differences in the evaluations of the training offer and to present characteristic features of medical employees of the described hospital, we have presented the respondents' answers to alternative questions in Table 3.

**Table 3**  
Responses to alternative questions from doctors and nurses of the general hospital

Survey questions	Doctors		Nurses	
	% response rate		% response rate	
	yes	no	yes	no
Have you ever participated in a training/course organized by the hospital?	90,9	9,1	91,8	8,2
Do you think health professionals should take part in training?	100	–	100	–
Would you be interested in attending training for which the employer would pay only part of the fee?	100	–	26,5	73,5
Are all of the training courses free?	45,5	54,5	14,3	85,7
Do you expect to receive a broader training offer by the hospital for health professionals?	90,9	9,1	91,8	8,2
Would you be willing to take part in consultations concerning the training needs of health professionals? If there were any?	63,6	36,4	89,8	10,2
Are the subject areas of the training offered by the hospital adjusted to staff expectations? (consulted before)?	9,1	90,9	24,5	75,5

Source: own work

As a result of the analysis, it is observed that all surveyed medical employees think that professional development is necessary in their profession. More than 90% of the respondents participated in one or more training courses organized by the employer. The same number of people expect that the hospital's offer in this matter will improve and will be broader. All surveyed doctors are willing to cover a part of the cost of training, while only 26.5% of the nurses are willing to participate in the cost of training. The majority of the training offer addressed to nurses required covering the costs (85.7%). Only 14.3% of the surveyed nurses participated in free training. The research showed that there is a disproportion in the training offer for medical employees (45.5% of the doctors indicated that they participated in free training). Responses to alternative questions showed that the group that is more willing to take part in consultations regarding the training needs is the group of nurses (89.8%). As many as 36.4% of the doctors claimed that they were not interested in such arrangements. Surprisingly, the majority of them (90.9%) think that, when organizing the training, the hospital does not take into account their opinions. Different responses were given by nurses, who in a vast majority (75.5%) claimed that the training offer met their expectations

The basis for some findings (e.g., regarding the willingness of participating in covering the training costs) can be a comparison of the total number of workplaces for doctors and nurses. A vast majority of the surveyed nurses earn their livings working in the specialist hospital (85.7%). Only 12.2% of the nurses were employed in two places, a marginal group (2.1%) work in three places. Among doctors, as many as 18.2% provide medical services in four places, 18.2% in three, 45.4% in two, and only 18.2% work in one place.

Differences between the two professional groups can also be observed after the analysis of the age and length of professional activity in the specialist hospital. People of the ages of 20–40 (in the case of nurses) constitute only 20.4%; in the case of doctors, it is well over 63.7%. Nurses at the age of 51 and over constitute a numerous group (30.6%). Also, the number of young graduates of nursing schools can be worrying. In the age group of 20–30, it is only 4.1% of the surveyed nurses. Among doctors, the dominant group (54.5%) constitutes people who have worked in the hospital quite briefly (0–5 years). For nurses, 46.7% have a length of professional activity of longer than 26 years, and only 12.2% for 0–10 years.

Both doctors and nurses indicated many training subject areas in which they would be interested. The subject areas that the surveyed doctors hope to find in the training offer are:

- operating medical equipment,
- practical medical knowledge, compatible with the profile of the ward,
- work organization,
- interpersonal relations.

For nurses these would be:

- bullying and coping with stress,
- work ethics,
- professional burnout,
- practical knowledge related to the job characteristics,
- medical rescue.

## 5. Conclusion

The use of an assessment tool of the training program in the form of quality maps allows us to inform the managing staff about the aspects that should be dealt with in the first place. The fact that most points on the map are located in the same quarter of the chart indicating a good assessment of the training offer does not prove that there are no areas for improvement. In the case of the specialist hospital, it would be worth considering a training program for nurses who are not willing to cover extra expenses. This is probably due to low income and a lack of possibilities for employment in additional places. The training program should be adjusted to the needs of the employer and employees. Perhaps offering different routes for a professional development career could be a solution to the problem. For people with the lowest income, it is worth preparing a broader offer of cost-free courses. The training anticipated by nurses could be a vital element of a motivating system.

The hospital should take into account the age and length of professional activity when planning staffing strategy. Different offers are interesting for experienced nurses who have a longer period of professional activity and who are over 50 years old. Different topics will be suitable for graduates of nursing schools or residents. Training in coping with long-term stress and professional burnout would be suitable for employees with long professional activity. As far as less-experienced workers are concerned, more significant would be training related to hospital work organization, interpersonal communication, or operating medical equipment.

The authors think that, in 10-15 years' time, the hospital's managing staff will be dealing with the problem of a lack of nursing personnel. A worrying disproportion is observed as far as the age is observed. Nurses who are over 40 years old constitute 80% of nursing staffs. Could it be the key element that will decide the future development of the hospital?

The results of the survey interchangeably show that all medical employees expect a well-considered staffing strategy that is adjusted to their needs. Both doctors and nurses realize the necessity of professional development that will

trigger their well-being in their organizational roles. The hospital training program was assessed well, but many areas of improvement have been indicated in the questionnaires.

The authors hope that the research will help increase the awareness of managing staff in health-care-providing institutions. Although the staffing strategy was assessed well, it may have weaknesses; and it is worth using the knowledge of the employees.

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