The Influence of Quality Management on the Excellence of Slovenian Physicians' Practice in Public Healthcare

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Abstract: - The purpose of the article is to define the influence of quality management on Slovenian physicians’ practice excellence in public healthcare, and to provide research-based conclusions and recommendations to improve quality management and excellence in healthcare. When it comes to designing a new quality management paradigm in public healthcare and public healthcare management, we found that it makes sense to search for new approaches that proved to be effective and innovative in the last decade, and which therefore can be considered a part of postmodern period of development. Successful management depends on a good organisation and well-designed policy and strategy in public healthcare, needed knowledge, skills, values, ethics and morals of physicians, on organisation’s knowledge-oriented culture, reasonable economy and interpersonal relations among employees in the internal environment, and with partners in the external environment. Quality is the basis for excellence, and excellence leads to the effectiveness of an individual or public institute. At this point, there is also a scientific challenge to gain new knowledge, information and data about healthcare institutes already awarded with a quality certificate or an acknowledgement of business excellence (EFQM and CAF), and to link such information with the effectiveness of public healthcare operation and practice of physicians employed in these public institutes.

Key words:- quality management, excellence, Slovenian physicians, public healthcare, research.

1 Introduction
During its period of growth, quality management has been changing with the development of technology and the necessary managerial knowledge about organisation and social relations.
Management and managing include all work and tasks that are a part of the responsibility of managers in the role of executive personnel in an organisation. Each organisation as a system is, in general, a whole of subsystems and processes. The variety among organisations also reflects in different environments, objectives, and resources that influence them. Objectives of an organisation are organisational, operational, managerial, financial and human resource.

Each mentioned objective plays an important role in the quality control of an organisation’s operation, regardless if it is a company (production, trade and service organisation) as a profit organisation or public institute. Operational objectives or processes are defined as human resources processes, technology and production-related processes, market processes, planning and development processes, and information processes. On the other side, the management-related processes include decision-making processes, management as operational planning process, orientation and supervision of decision implementation, and last but not least, the responsibility of managers.

Managers have to deal with an organisation’s or institute’s policy, since the management and leadership are very demanding human resource tasks, and their influence on an organisation or institute as an operational system is undoubted. Influential ability and knowledge are the two factors, which are expected from manager and which influence co-workers’ confidence. In addition, it is required that manager leads the organisation or the institute professionally, to not cause problems nor conflicts, to maintain good communication, and should have moral and ethical values. Such a manager has mutually overlapping influence, authority and power, and his or her work in cooperation with co-workers is always professional.

Quality is becoming a part of business policy – basic, developmental and current policy and strategy of an organisation and other institutes. Managers who implement defined policies of an organisation or institute, based on the objectives set, lead and direct employees at different levels, while mentioned policies indicate the following elements of operational quality: efficiency, effectiveness, neatness and the reputation of an organisation.

Managers' effectiveness and efficiency are important factors of their personal characteristics. Managers have to be globally trained for strategic management. Efficiency and effectiveness of every system, be it large, medium-sized or small, profit or non-profit, further linked into other more or less wide-ranging systems, depend on an organisation’s well-defined policy and strategy. Above all, it is important for large systems to design the human resources policy that will enable the cooperation between managers from different fields, who build a team that must be coordinated in order to achieve the objectives set.

2 Literature review
Managers and experts in organisations and institutes must define plans for operation activities in order to achieve the objectives of an organisation or institute in the most effective and efficient way. In order to achieve excellence in an organisation, the organisational change of culture is required. The following factors are important when it comes to the achievement of objectives [1]: cooperation in the top management, full support to the executive management, dedication and activity of each stakeholder in an organisation, a change in the mind-set; however, the ability to define the mission, as well as to set and achieve objectives are the most typical personal characteristics.

Total Quality Management or TQM [2] implies that there is not one ‘correct’ way or model of its concept and implementation in an organisation. Therefore, the most efficient way to improve the quality of a product is to improve the process.

Among others, awards and prizes for business excellence motivate companies and other organisations to achieve the total quality. Business excellence can be defined as the highest level of quality companies should strive for.

The ability of managers implies the obligatory expert knowledge in the field of management (including economics, marketing and other), knowledge in the field of psychology and human behaviour, adaptation, assertion, motivation, decision-taking, teamwork skills, creativity, conflict resolution abilities, responsibility assumption, and communication skills. However, it cannot be affirmed that all managers are positively oriented, charismatic and inventive personalities, who are able to lead an organisation; therefore, the leading depends on the efficient implementation of human resource processes.

Further, the following question arises: How to choose teams that will work in coordination, or competent individuals for the role of manager in both large and small systems of organisations or
Efficiency and effectiveness depend on well-defined programmes in an organisation, on the type of an organisation (production, service), a well-defined vision, mission, policy and strategy of an organisation, research, technology and the availability of technological resources, the quality of products and services provided. However, it is impossible to imagine the accomplishment of the set objectives and the achievement of good business results without people – employees in an organisation, professionally trained managers, and the team of professionally trained co-workers.

The integration of organisational, business and quality control objectives is put into practice through the excellence of particular organisations, institutes, or individuals working in the organisation or institute. It frequently happens that ‘experts’ without knowledge about public healthcare deal with the organisation of public institutes in a wrong, non-organisational way, since they did not work in the system. On the other hand, there are also experts with a too narrow perspective of the situation, and without global insight, from the centralisation towards the decentralisation of particular units, sectors and departments.

When it comes to change management, it is very important to identify the approach for the introduction of feedback, which the stakeholders in the process would consider as a necessary input for process management. According to the Business Process Reengineering (BPR) model, there are rules set to direct activities [4], in the first place regarding the implementation of transformational change by orientation. The customer or user is not interested in internal issues of an organisation, but only in the value or quality of a product or service. Effectiveness and efficiency of change management in an organisation can be achieved only with a consistent approach, which implies equilibrated radical (transformational) and gradual (transactional) changes.

Development stages of quality management have been changing in accordance with the development of technology, organisational knowledge, social relations and economic principles. The process approach principle has influenced the concept and demand for a unique standard regulating quality management system. The approaches are different [5], yet by upgrading the approaches and methodology, they help in the achievement of a company’s effectiveness. Consequently, the nowadays manager has to be able—relying on his or
her competency and knowledge—to set the strategy that is the long-term way for the achievement of objectives, which includes the ability to adapt to constant changes and to manage risks.

Technological errors [6] in a production company, Service Company, or an institute appear unexpectedly. Therefore, the causes should be identified in order to solve the errors by applying different technologies and procedures.

Lean manufacturing and a lean institution imply cost reduction, the achievement and improvement of quality management, as well as the achievement of the best performance, irrespectively of the field of operation. The relation between personal needs, interests, values, convictions of every individual in the society in which he or she operates is defined as social responsibility [7]. The way towards excellence leads via social responsibility. Social responsibility does not imply a cost for an organisation, but has positive effects on economy and sustainable development.

Organisational cultures and elements of an organisational culture influence organisation managing and thereby the achievement of business excellence. A well-accepted, affirmed and knowledge-oriented organisational culture [8] and relations between employees, including the observance of ethical principles and norms [9] in the internal environment and partners in the external environment, enable organisational performance based on quality management and management excellence in organisations and public institutes.

The process of influencing with different factors in management [10], in organisation, is largely important when defining the guidelines in quality management for successful achievement of objectives, and thereby the achievement reflected in successful management of an organisation and fulfilment of set objectives.

The importance of motivation in general, and motivation at work, as well as work experience provide the possibility of the application of an individual’s abilities when working with the systems of promotion and training, and indirectly, as far as organisational affiliation is concerned [11]. The way an organisation is managed, the determination of the scope of work, and interpersonal relations all contribute to an increased satisfaction of employees at work.

Effectiveness ensures management quality by identifying factors to achieve management excellence as a system process [12]. Factors and criteria for achieving management excellence are complex, but they should enable obtaining data about measured quantities from the existing information and communication system regularly, and without significant resource consumption.

There are obstacles appearing at quality management improvement and at total quality assurance [13]. In order to achieve better results, it is required to change the system that indicates a general cause of the variability and human behaviour in it; therefore, when a system provides good results, it means that its concept is excellent [14]. Obstacles should be identified continuously, and actions should be taken in order to enable a quick and efficient process of improvement. The leaders must know, understand and assume the responsibility for the process executed in the system, they must set an example to follow, and take care of constant quality improvement of it.

Healthcare service must be based on the values of healthcare and care for quality assurance of public healthcare, generality, fairness and accessibility.

In order to assure a satisfactory and fair working of healthcare system, it is important to establish the system the purpose of which is a constant supervision of the healthcare system and its quality. This implies the definition of public institute operational policy and strategy, planning and setting objectives, and the identification of the fulfilment of objectives set. Based on this, operators and timeframes, deadlines for the implementation and effective leading of a healthcare institution or public institute should be identified with regard to health regulations (constitution, sanitary laws, international conventions, as well as the ethical code of conduct for professionals in the field of safety and health at work).

Work overload and poor work quality occur in the public healthcare work environment (medical staff, physicians), which directly reflects in the services provided. The reason for this is disorganisation, non-planned guidelines, or guidelines that are only mentioned in the documentation, without constant monitoring of results.

Examples of good practices of excellent operation of clinical centres, clinical institutes and clinical departments are heads of particular departments at the tertiary level in a particular clinic. They know the overall situation in their public healthcare unit and are successful managers;
their co-workers are satisfied, achieve excellent results, and are fully committed to their duties and to the quality of services.

Tertiary healthcare providers should be top professionals in the country. They formulate the knowledge and provide human and technological resources for the application of worldwide knowledge and skills in other healthcare institutions, in order to enable the development in the local environment. The proposals set are only a reflection, as they are already being implemented in practice, yet are not defined enough in the financial structure. The differences between the system operational processes at the primary and tertiary level appear in the management quality, and therefore in physicians’ excellence. It often depends on the head of department whether if they have the “know-how” on how to provide the state-of-the-art technological equipment that is necessary and requires full consideration and funding. The quality of management in a particular institution significantly depends on the manager’s ability, education, matching skill sets, his or her level of commitment to the field they manage, and employees’ and collaborators’ satisfaction.

In some healthcare institutes, at both primary and tertiary level, physicians are not involved enough or lack knowledge; they are not included and not active in the development of mission and vision. Furthermore, motivating and supporting employees is poor, and tasks are not equally assigned among all physicians. There is no proper identification and consideration of physicians’ experience and competency, which otherwise could enable them to achieve excellence, considering the influence of quality management.

Physicians at the primary and tertiary level must take care of the improvement of quality management, as it is very important that quality work depends on employees’ equilibrated development and satisfaction, and that permanent education and training of employees significantly influence the excellence of operation.

Based on the exposed above, the verification of the following two hypotheses is of particular interest:

**H1: Excellence of operation in healthcare has a positive influence on quality management.**

**H2: There are differences between the primary and tertiary level of public healthcare as far as physicians’ practice is concerned.**

### 3 Methodology

There are many studies in the subject of useful tools for stress management and psychosocial risks in the work environment [11, 13]. Yet, in Slovenia, no research has been conducted about physicians and their experience of stress caused by everyday workload, about their working conditions, their workplace, technological equipment, what motivates them to work better to achieve excellence in their work and, consequently, to improve the system of public healthcare institutions’ operation (medical health centres, hospitals).

Public healthcare institutions are focused on health preservation of patients, prevention of disease progression, and health promotion. Physicians at different levels in public healthcare cover all these aspects.

The following question is the basis for the verification of whether ‘physicians’ can also be in the role of ‘patients’. How can a physician—who was not treated as a ‘patient’ and who has no possibility to take a sick leave exactly because of work overload, extremely busy schedule, and other working conditions (e.g. as those in the UKC Ljubljana, UKC Maribor and some healthcare centres in the Republic of Slovenia)—take care of his/her own health?

The conclusion is that physicians are also ‘patients’ who get ill because of work overload, busy schedules, large numbers of patients treated, the complexity of treatments, and other. There is a strong concern regarding the lack of data in the last five years concerning public health institutions’ capacities, the number of physicians per particular level, their health conditions, and the actions to be taken in this regard.

We have conducted a pilot study based on the sample of 40 physicians at the primary and tertiary level in public healthcare, surveyed in the period from 1 April 2016 to 30 April 2016. We have conducted this pilot study in cooperation with physicians on the territory of the entire Slovenia, in nine regions, including healthcare centres (Celje, Maribor, Koper, Ljubljana, Novo Mesto, Kranj, Murska Sobota, Brežice, Nova Gorica) (21), and with physicians from the UKC Ljubljana (11) and the UKC Maribor (15). The purpose of the pilot study is to test the questionnaire and, consequently, to approve it for further preparation and processing.

### 4 Results

#### 4.1 Sample description

The sample includes 40 physicians from the primary, secondary and tertiary level of public
healthcare. The sample is gender-equilibrated (48.7% of physicians in the sample are men), the age of 29.1% respondents is in the range between 26 and 35 years. The age of the majority of physicians – 46.4% is between 36 and 45 years, the age of 21.8% is between 46 and 55 years, and the age of 2.7% of respondents is between 56 and 61 years. They are mostly married (65.0%), 10.0% of respondents live in non-marital partnerships, while 25.0% of them are widowed, divorced or single individuals. The majority of respondents are specialised physicians (55.9%), followed by doctorate holders (30.1%), holders of Master’s degree (9.7%), and respondents with higher and university education (4.3%). As far as years of service are concerned, respondents included in the sample are mostly employees with 11 up to 20 years of service in healthcare (42.0%), followed by respondents employed from 21 up to 30 years (33.3%). Further, 14.8% are employed less than 10 years, and 9.9% more than 30 years. The sample included 52.5% specialists, followed by general practitioners (52.5%), trainee specialists (10.0%) and trainees (7.5%). Most of them are employed in hospitals (the tertiary level) (58.0%), and others work in healthcare centres (the primary level).

4.2 Management Quality in Healthcare and Physicians’ Excellence

Respondents evaluated the importance of particular statements referring to the improvement of management quality in healthcare on the 5-level scale, where 1 meant not important, and 5 very important (Fig 1.). Respondents considered that all the statements were important, as the majority answered with ‘important’ and ‘very important’.

Among particular statements, respondents considered that the most important was ‘Constant education and training of employees as a fundamental basis of an institution’s operation’ (the average rate 4.7), followed by ‘An institution or institute must follow the standards and rules when taking care about long-term meeting of employees’ needs when it comes to physicians’ practice’ (the average rate 4.63) and ‘Managers must build interpersonal relationship among all stakeholders, increasing the confidence of all employees’ (the average rate 4.55), while the statement ‘Managers create internal organisation and objectives of an institute’s operation.’ (the average rate 4.08) was evaluated as the least important.

Fig 2: Average rates – physician excellence in public health care

Respondents evaluated the excellence of approach in public healthcare on the 5-level scale, where 1 meant ‘We disregard this’ and 5 meant ‘Excellent care, constant improvement’. In general, respondents evaluated all statements as average or below average (Fig 2.).

First, in order to verify the first hypothesis, we verified the unidimensionality of concepts of excellence and quality management, using the factor analysis. We explained in both cases more than 50% of total variance with one factor, classifying all indicators in both cases within one factor. The internal consistency (reliability) of construct—measured with Cronbach’s Alfa—was high, in both
cases significantly over 0.7. In this way, we got two new derived variables as factor scores through Anderson-Rubin’s algorithm. First, by the use of simple linear regression analysis, we verified whether quality management positively influences operation excellence in healthcare, and the result was negative (Fig 3).

Fig 3: Regression analysis – the influence of quality management on physicians’ practice excellence

According to Fig 3 we can reject the first hypothesis and affirm that currently it is not possible to prove that physicians’ practice excellence would positively influence quality management.

Fig 4: Physicians’ excellence – the comparison of employees at primary and tertiary level

*statistically significant differences between the primary and tertiary level (t-test, comparison of averages).

As shown in Fig 4, physicians employed at the primary level are more prone to agree with all statements, yet statistically significant differences are evident only regarding the following statements: ‘The coordination of individuals’ and institutes’ objectives. The identification of physicians’ current knowledge, experience and ability’ and ‘The promotion of the culture of open communication and dialogue, as well as the promotion of team work. The inclusion of employees in the planning and providing feedback from employed physicians. Consultation with employees’ representatives (unions etc.)’, where the major gap can be observed between the opinions of physicians at the primary and tertiary level. In the first place, the improvement concerning the evaluation of the existing tasks—with regard to results and effects, and the quality of strategic and implementation plans (the cooperation of employed physicians at strategy shaping)—is possible, and physicians at both primary and tertiary level evaluated this with the lowest rate.

Based on variance analysis, we reject the second hypothesis, and to the contrary, we affirm that the preliminary data does not indicate that there would be any discrepancies about physicians’ practice excellence between the primary and tertiary level of public healthcare.

5 Conclusion

The fundamental basis of an institute’s operation is efficient management; an institute must follow ethical standards for the long-term meeting of needs, cost reduction, care for lean organisational structure, and achievement of physicians’ practice efficiency and excellence. Physicians must have enough authority and power to apply practical experience in everyday life; therefore, they need the support of management and strive for it. It is significant that the primary and tertiary level physicians are aware of the importance of quality management improvement, and that the quality of work depends on employees’ equilibrated development and satisfaction [15-16]. They are also aware that the education and training of employees should be permanent, which is the fundamental basis of institutes’ operation. Further, the institute must follow ethical standards and rules for the long-term meeting of needs and for physicians’ practice.

We have concluded that disorganisation, non-planned guidelines, or guidelines that are only mentioned in the documentation, without constant monitoring of results and penalisation of irregularities in the public healthcare work environment (medical staff, physicians) cause work overload, stressful situations and, last but not least, physicians’ burnout. Examples of good practices of clinical centres, and institutes’ and departments’ excellent operation are heads of particular departments at the tertiary level in a particular clinic. They are familiar with the overall situation in
their public healthcare unit and are successful managers; moreover, their co-workers are satisfied, and they achieve excellent results, care for patients, and are fully committed to their duties and to the quality of services.

Tertiary healthcare providers should be top professionals in the country, who formulate knowledge and provide human and technological resources for the application of worldwide knowledge and skills to other healthcare institutions in order to enable the development in local environment. The proposals set are only a reflection, as they are already being implemented in practice, yet are not defined enough in the financial structure. Because of this, differences between system operational processes at the primary and tertiary level appear.

We conclude that physicians at the primary level are more overloaded than physicians at the tertiary level, regarding working norms and the number of patients treated daily. The difference consists of different approaches to work at the tertiary level, including the way stressful situations are experienced and, consequently, the need for stress management and health preservation. At both the primary and the tertiary level, the following stressors are evident: work overload, excessive working hours, the way of approach, and patients’ treatment, taking into account the number and complexity of the latter. Physicians are left to their own devices, as there are no criteria set, or work motivation and good work stimulations are not put into practice; indeed, few people actively cooperate at healthcare policy implementation in their fields. Based on the research, we conclude that physicians—considering stress management and health preservation, in spite of the quality of work performance and excellence at work—are not adequately rewarded.

They are treated equally as physicians who do not achieve quality and excellence, and therefore work overload is more stressful for them, which, in the long term, leads to deterioration in their state of health and to the solving of stressful situations in an unhealthy way.

Based on the research, we conclude that, in some healthcare institutes, at both primary and tertiary level, physicians are not involved enough or lack knowledge; they are neither included nor active in the development of mission and vision. Moreover, motivation of employees and support given to them is poor, and the tasks are not equally assigned among all physicians. There is no proper identification, and physicians’ experience and competency are not taken into account. Because of this, it is necessary to introduce changes urgently, so that they could achieve excellence with regard to the influence of quality management.

It is urgent to apply an immediate approach to improve quality management in healthcare, as it influences physicians’ excellence. In order to improve quality management, physicians at both primary and tertiary level affirm that it is important to take into account the quality of work that depends on employees’ equilibrated development and satisfaction. They are also aware that the education and training of employees should be permanent, which is the fundamental basis of institutes’ operation. Furthermore, the institute must follow ethical standards and rules for the long-term meeting of needs and for physicians’ practice.

Based on the results, we conclude that physicians, at both primary and tertiary level, are overloaded, while the sources of stress are work overloads, bad relations in the working environment, as well as working conditions. They try to suppress them with recreation (relaxation in nature, sports) and social activities. Health of physicians who participated in the survey is good. The most frequent among health problems are back and neck pain—which are more likely to be consequences of a sitting position, driving and insomnia. The problems mentioned are mostly treated with the use of food supplements (vitamins and minerals), sometimes also with headache tablets and painkillers, as well as with herbs and alcohol (30%). Evaluations of management quality in healthcare are mostly over average.

Based on the conclusions above, we suggest managers to apply new approaches for health preservation and stress management. The purpose of such approaches should be to contribute to toughness at work and to decrease overload caused by non-planned workload schedules, on-call time, and other working conditions.

In the pilot survey, we obtained important results that enable further development of the research and the preparation of actions with regard to management quality and public healthcare excellence, including long-term improvement of physicians’ situation in public healthcare.

Despite the public healthcare has the necessary documentation for quality management and excellence, the latter is not being implemented; e.g., the last job classification was carried out 10 years ago. Resolutions for the improvement of the situation in public health are adopted for a 5-years period. Yet, there is no real control and monitoring of these issues. Therefore, we also conclude that there is still a lot to be done with regard to quality
management and excellence in public healthcare, which is also our recommendation based on our research findings and conclusions.

References:


