

## **Clinical Governance and Effective Quality & Risk Management in Greek Hospitals**

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### **Abstract**

At the heart of clinical governance's strategies, is a strong commitment to the principles of quality and safety. Proactive risk management is an essential tool to enhance patient safety. The present study aims to map the existing organizational climate-in terms of clinical governance in the hospital sector in Greece. The factor "A planned and integrated Quality Insurance (QI) programme and proactive risk management" is analysed in detail. It is a cross-sectional study using factor and correlation analysis, conducted for all categories of employees working in a public and a private hospital. The Clinical Governance Climate Questionnaire (CGCQ) was used with a sample size of 459 employees. The response rate was 72%. The collection of survey data held within a period of four months (May 2012 to August 2012). The study population was not supportive to the climate associated with the research topic. Statistically significant relationships between gender, age, years of experience, legal status of the hospital and the above factor were found.

Management may utilize the views of the aforementioned categories of employees, in order to improve the climate of quality and develop a culture of patient safety.

**Keywords:** Clinical Governance, Quality Insurance, Risk management, patient safety, Organizational Climate.

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## 1 Introduction

In 1983 the World Health Organization first introduced the term 'clinical governance', (CG) attempting to capture the essence of continuous improvement in health care [1]. The term included four important dimensions: i) the professional performance, ii) resource allocation, iii) risk management and iv) patient satisfaction [2]. The Bristol scandal in the United Kingdom was the driving force behind the implementation of clinical governance, with the active involvement of health professionals. Right after the scandal, the Labor government in 1997 introduced (CG) as a comprehensive approach to addressing risks and improve quality [3]. Since then, the term received a variety of definitions from different organizations and by academics and health professionals [3] [4] [5]. The most widely cited formal definition of CG describes it as: “A framework through which NHS organizations are accountable for continually improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish” [6].

Risk has been described as the incidence of adverse outcomes in a person [7]. The concept of risk is relative, not absolute and so it depends on the observer. Consequently, estimates of risk are not entirely objective but always include a subjective element and therefore subject to judgmental errors. It is only theoretical concept (probability) and does not refer to observable feature [8]. Risk is associated with the concept safety in the following equation:

$\text{Risk} = \text{risk factor} / \text{safety}$ .

This means that the risks result from risk factors (hazards) and can be significantly reduced by increasing safety, but never can be reduced to zero [9]. The continuous identification, analysis and management of risks related to the patients are the context of patient safety, which aims to make health care safer and reduce harms to the patients [10]. Quality and risk management are interrelated and together, are essential components of clinical governance. Effective risk management forms the basis of healthcare quality management activity. In the past, quality improvement and risk management were considered as separate functions in healthcare organizations. Today, they are “rallying together behind patient safety” [11] in order to reduce the risk and ensure safe and of high quality health care.

## 2 Methods

### 2.1 The Aim of the Study

The aim of the study is to map the existing organizational climate-in terms of clinical governance' factor «A planned and integrated QI programme and proactive risk management» - in the hospital sector in Greece.

### 2.2 Research Questions

How employees perceive the climate of the organization in terms of the factor of our study; What are the differences in perceptions of the above factor among:

- employees in the private and public hospital
- men and women
- employees with different skills and educational levels

### **2.3 Sampling- Data Collection**

The population of the study were employees in Nursing, Medical, Administrative and Technical services of a public and a private hospital in Attica with similar production function.

Proportionate stratified sampling method was used to draw a sample of 459 health professionals. The questionnaire was administered personally by the principal investigator through liaison people of the study in each hospital. 635 questionnaires were distributed (415 offprints to the Public and 220 to the private hospital). Of those questionnaires, 459 fully completed, were returned. Response rate was 72% (70% for the private, 73% for the public).

The questionnaire was accompanied by a description of the purpose of research and additional clarifications in some cases were provided. The completed questionnaires were collected on a weekly basis. The collection of survey data held within a period of four months (May 2012 to August 2012).

### **2.4 The Tool**

For the purpose of the study Clinical Governance Climate Questionnaire (Clinical Governance Climate Questionnaire, CGCQ) was used. CQCQ was developed by Freeman [12] specifically to explore the connection between organisational culture, climate and performance in clinical governance. Permission was granted by T. Freeman to use his tool in our research.

The CGCQ consists of 60 items, which are grouped into six dimensions of clinical governance: i) planned and integrated quality improvement, ii) pro-active risk management, iii) absence of unjust blame and punishment, iv) positive working relationships with colleagues, v) training and development opportunities and vi) organizational learning. The answers to the questionnaire's statements were scored by the participants in a Five (5) - point - Likert scale. A lower score signifies greater satisfaction in a particular concept. The lower rating reflects ideal climate clinical governance. Some of the statements are negatively stated.

#### *Reliability and validity*

The CGCQ was translated from English to Greek and vice versa. In order to assess face validity the questionnaire was administered to a convenience sample of health professionals (N = 18). After completing the questionnaire, the principal investigator conducted personal interviews with the respondents who were encouraged to make comments about clarity or difficulties in completion. The few comments made were embedded in the final version of the questionnaire.

The assessment of the internal consistency of the questionnaire was performed by calculating the Cronbach coefficient with acceptable values over 0.6. The Cronbach coefficient for the factor of our study was 0.94 which indicates high level of internal consistency.

### **2.5 Data Analysis**

This study is quantitative cross-sectional study. The analysis of the participants' responses initially was carried out using descriptive statistics. The degree of participants' agreement with each statement under the factor of our study presented as mean (standard deviation),

minimum value and maximum value. The lowest mean price reflects more supportive climate.

In order to identify the main factors (distinct groups consisting of questions related to each other) which influences the climate of clinical governance in the hospitals under study, Factor Analysis (FA) was conducted. Varimax rotation was applied and the loadings of the questionnaire data were  $> 0.30$  considered as acceptable, as well as the eigenvalues of the scales which was  $> 1$ .

In order to investigate the presence of relation between the factor of our study (dependent variable) with each of the demographic and job characteristics of participants (independent variables) bivariate analyses were performed.

Furthermore, a multivariate linear regression was carried out including in the model, many of the independent variables found in the bivariate analyses that correlated significantly with the dependent variable, the factor of "A planned and integrated QI programme and proactive risk management."

The two-tailed significance level was set equal to 0.05. Data analysis was performed with the SPSS 19.0 (Statistical Package for Social Sciences).

### **3 Main Results**

#### **3.1 The Results of Descriptive Statistics**

##### *Demographic characteristics of the studied population*

The population consisted of 459 employees. Tables 1 and 2 present the demographic and professional characteristics of employees. The average age of employees was approximately 40 years, the average number of years of employment approaching 13 years, the two thirds of the study population were working in a public hospital. Women predominate (men) and exceeded 60% of the studied population, the proportion of university and college graduates were about 80% and a significant proportion of them (about 24%) had completed postgraduate studies. Employees in Nursing Services exceeded 55% of the study population.

The majority of participants, about 85% were employees and 15% were managers. Respectively, was the proportion of medical directors (13% approximately). Finally, the majority of participants (92%) had permanent or long term working relationship with the organization.

Table 1: Demographic characteristics of the study population

Characteristic	N (%)
Gender (n=459)	
Males	170 (37)
Females	289 (63)
Age (years) (N=356)	39.8 (9.1) <sup>a</sup>
Hospital (N=459)	
Public	304 (66.2)
Private	155 (33.8)
Educational level (n=459)	
Secondary school graduates	71 (15.5)
College (2 years) graduates	46 (10)
College (3.5 years) graduates	157 (34.2)
University graduates	106 (23.1)
MSc/ Phd graduates	79 (23.8)

<sup>a</sup> mean (standard deviation)

Table 2: Professional Characteristics of the population under study.

Characteristic	N (%)
Years of previous experience (n=321)	12.8 (9.1) <sup>a</sup>
Service (n=459)	
Nursing	261 (56.9)
Medical	82 (17.9)
Administrative	91 (19.8)
Technical	25 (5.4)
Post held Non-medical personnel (N=382)	
Head of division	3 (0.8)
Head of department	24 (6.3)
Head of section	32 (8.4)
Employee	323 (84.6)
Post held Medical personnel (N=77)	
Medical director	10 (13)
Consultant	15 (19.5)
Specialist	34 (44.2)
Trainee	18 (23.4)
Type of employment (N=459)	
Permanent contract	301 (65.6)
Open-ended long term contract	121 (26.4)
Short term contract	14 (3.1)
Associate (medical doctors in the private hospital)	23 (5)

*Employee’s responses regarding the factor “a planned and integrated QI programme and proactive risk management”*

To enhance comprehensibility, the factor “A planned and integrated QI programme and proactive risk management”, in the following part of this report will be described as Quality and Risk Management interchangeable.

In Table 3 are reported the responses of participants regarding the degree of their

agreement on the factor “A planned and integrated QI programme and proactive risk management” of clinical governance climate in their workplace. The ranking order, starts from the item with the smallest mean which reflects a more supportive climate.

Table 3: The responses of participants regarding the degree of their agreement on the factor “A planned and integrated QI programme and proactive risk management” of clinical governance climate in their workplace.

Item	Mean	Standard deviation	Median	Min. rate	Max rate
1.42 We don't address the accidents waiting to happen	2.35	1.2	2	1	5
1.54 When something fails, it is used as a learning opportunity	2.45	1.1	2	1	5
1.13 We work together across teams to make quality improvements	2.48	1.2	2	1	5
1.44 Clinical risk information is used routinely to inform decisions	2.51	1.1	2	1	5
1.22 Clinical risks are examined systematically	2.58	1.2	3	1	5
1.43 Clinical risk policies are shared throughout the organization	2.6	1	3	1	5
1.37 We systematically assess clinical risks	2.75	1.2	3	1	5
1.15 Technical help with Evidence Based Practice is available	2.76	1.2	3	1	5
1.40 There is mutual respect for everyone's contribution	2.76	1.2	3	1	5
1.39 People share a common vision of service delivery	2.78	1.2	3	1	5
1.9 We have protected time for quality improvement activity	2.84	1.2	3	1	5
1.49 Development needs are regularly assessed	2.93	1.2	3	1	5
1.55 Everyone has the same standing, regardless of professional background	2.95	1.4	3	1	5
1.57 People are motivated to improve quality	3.06	1.4	3	1	5
1.60 People are highly motivated to make changes to clinical practice	3.06	1.1	3	1	5

*The ranking order, starts from the item with the smallest mean which corresponds to a more supportive climate of clinical governance*

Considering the overall mean ( $2.72 > 2.5$ ) which tends to the negative score, we could argue that climate-related factor of our study is not supportive in the hospitals under study. However, we observed that the statements associated with proactive risk management show a slightly positive score. On the other hand, the statements associated with the mobilization of employees and quality management are scored slightly negatively.

### 3.2 The Results of the Factor Analysis and Correlations

One of the three factors that emerged from the factor analysis on the raw data from the present study concerns the factor “A planned and integrated QI programme and proactive risk management” and consists of 14 items as listed in Table 3.

Correlation analysis was conducted to investigate the relationship between demographic and occupational characteristics of the population under study and the above factor.

Tables 4 and 5 shows the relationships between demographic and occupational characteristics and the factor of our study.

Table 4: Relations between demographic characteristics and the factor “A planned and integrated QI programme and proactive risk management”

Characteristic	Mean (SD)	P value
Gender		<b>0.03<sup>a</sup></b>
Males	2.69 (1.21)	
Females	2.75 (1.21)	
Age (years)	0.03 <sup>b</sup>	<b>0.05</b>
Hospital		<b>&lt;0.001<sup>a</sup></b>
Public	2.94 (1.21)	
Private	2.30 (1.09)	
Educational level		<b>&lt;0.001<sup>γ</sup></b>
Secondary school graduates/ College (2 years) graduates	2.89 (1.21)	
University/ College (3,5 years) graduates	2.61 (1.18)	
MSc/ Phd graduates	2.85 (1.26)	

<sup>a</sup> t-test      <sup>b</sup> Pearson's correlation coefficient      <sup>γ</sup> Analysis of variance

Table 5: Relations between professional characteristics and factor “A planned and integrated QI programme and proactive risk management”.

Characteristic	Mean (SD)*	P value
Type of service		<b>&lt;0.001<sup>γ</sup></b>
Nursing	2.63 (1.23)	
Medical	2.52 (1.23)	
Administrative	3.08 (1.09)	
Technical	3.01 (1.04)	
Years of employment	0.15 <sup>a</sup>	<b>&lt;0.001</b>
Post held (Non medical personnel)		<b>&lt;0.001<sup>β</sup></b>
Head of Department / Division / Section	2.93 (1.25)	
Employee	2.73 (1.18)	
Post held (Medical personnel)		<b>&lt;0.001<sup>γ</sup></b>
Consultant / Medical director	2.25 (1.17)	
Specialist	2.49 (1.19)	
Trainee	3.05 (1.36)	
Type of employment		<b>&lt;0.001<sup>γ</sup></b>
Permanent contract	2.94 (1.18)	
Long term contract	2.33 (1.17)	
Short term contract	2.45 (1.35)	
Associate (medical doctors in the private hospital)	2.22 (1.09)	

<sup>a</sup> Pearson's correlation coefficient      <sup>β</sup> t test<sup>γ</sup> Analysis of variance \* Standard deviation

From the above bivariate analyzes statistically significant relationships resulted between gender, age, hospital, educational level, type of service, years of experience, post held, the working relationship and the factor “A planned and integrated QI programme and proactive risk management”.

For this reason, multivariate linear regression was carried out, with dependent variable the factor of our study (Table 6).

Table 6: Multivariate linear regression with dependent variable the factor “A planned and integrated QI programme and proactive risk management”.

	<b>b coefficient</b>	<b>95% confidence interval for b coefficient</b>	<b>P value</b>
Women in relation to men	0.29	0.21 to 0.37	<0.001
Public hospital in relation to private	0.68	0.60 to 0.76	<0.001
Years of employment	0.04	0.03 to 0.05	<0.001
Age	-0.03	-0.04 to -0.02	<0.001

According to the results shown in Table 6, women had higher mean scores by 0.29 points to factor “A planned and integrated QI programme and proactive risk management” compared with men ( $p < 0.001$ ). This means that men perceived the aspect of CG climate related to effective quality and clinical risks management, as more positive than women. Workers at a public hospital had higher mean scores by 0.68 points to factor of our study compared with employees in a private hospital ( $p < 0.001$ ). This means that workers in the private hospital perceived the aspect of CG climate related to effective quality and clinical risks management, as more positive than workers in public. Increase of the years of service associated with an increase in the factor score of our study ( $p < 0.001$ ). This means that senior employees perceive the aspect of CG climate related to effective quality and clinical risks management more negatively than new recruits. Finally, reduction of the age related to increase in factor score of our study ( $p < 0.001$ ). This means that older perceived the aspect of CG climate related to effective quality and clinical risks management, as more positive than the younger ones.

These four variables explain 11% of the variability factor "A planned and integrated QI programme and proactive risk management"

## 4 Discussion and Conclusion

The findings of our study suggest that the Hospital’s climate was found to be not supportive to successful quality and proactive risk management in the hospitals under study. It seems though, that some aspects of the climate related to proactive risk management are slightly positive, in contrast with aspects of the climate related to quality management and especially those concerning motivation and equal treatment of employees in order to engage in quality practices.

These findings are in agreement with the only corresponding Greek study of Karassavidou et al. [13]. In a similar study conducted in Irish hospitals Burca et al. [14], employees’ responses to the issues of the relative factor expressed: i) a stronger negative attitude about



the presence of a planned and integrated QI Framework (mean: 3.34) and, ii) similarly to this study slightly positive attitude about proactive risk management. The particular aspects that can be seen as problematic issues at hospitals' climate and consequently as blockages to CG success are related to (see Table 3) the need for: i) establishment of mutual respect for everyone's contribution (items 40, 55), ii) clear and effective communication of a shared vision of service delivery (item 39), iii) ensure protected time for quality improvement activity (item 9), iv) regular assessment of needs for development (item 49) and motivation (items 57,60). Those are critical points at which managers of Greek hospitals should focus. Men perceived the aspect of CG climate related to effective quality and clinical risks management, as more positive than women. During our search we did not find similar correlation either in Greek or in international similar studies. This finding can be attributed to the specific characteristics and behaviors of women compared to men. Where applicable, this finding should be subject to more thorough investigation and under the scope of other scientific fields, such as Social Psychology.

Senior employees perceive the aspect of CG climate related to effective quality and clinical risks management more negatively than employees with less years of experience. This finding could be connected with the low levels of motivation found, which affects employees' attitudes over time. This finding seems contradictory to the next finding according to which, older in age employees perceived the aspect of CG climate related to effective quality and clinical risks management, as more positive than the younger ones. Given that the age range of the sample was from 30 to 50 years (see Table 1.) and the range of the years of working experience was from 4 to 22 years, it is possible that younger employees could have, in some cases, more years of experience. In any case, the precedent finding is probably due to the psycho emotional, and ideological development of individuals, which is a progressive process that goes along with the passage of age and the acquisition developmental experiences.

Finally was found that workers in the private hospital perceived the aspect of CG climate related to effective quality and clinical risks management, as more positive than workers in the public one. From our literature research no studies including employees working in public and private hospitals was found. In the study of Karassavidou et al. [13] - conducted in three hospitals in Central Macedonia of which one was of special legal status (semi-public) - was found that the legal personality of the hospital affects positively the climate of Clinical Governance and quality of service, and proactive risk management. Specifically, employees of the semi-public hospital perceived the climate of the organization related to quality and proactive risk management, more positive than those working at the two public hospitals. In their conclusions the authors, raised issues such as the promotion of decentralization of hospitals, autonomy, flexibility, infrastructure and commitment of leadership.

A number of studies on attitudes and behaviors in the public and private sector come to the general conclusion that public sector employees have less positive attitudes and behaviors compared to private sector employees. The difference is attributed both to differences in the internal environment in the two sectors and, secondly, the differentiated nature of the pressures of the external environment. Similar conclusions were reached in Bourandas's [15] study which aimed to investigate and interpret differences in satisfaction, organizational and motivation in Greek public and private institutions. The key point of their study was that public services are lagging behind almost all of the variables that influence positively employee's attitudes for efficiency and "pioneer" to the variables that have negative impact on mood and performance. According to their survey results this lag

is due to a large number of factors that shape the "pathology" of the human recourse management in the public sector, which is dominated by problems regarding: autonomy, communication of the results, confusion and conflict in roles, policies and procedures, involvement of politics, unfairness in service, rewarding system and lack of vision.

In conclusion we could argue that planning for patient safety needs strengthening. Patient safety seems to be a sector which requires immediate action by all stakeholders in healthcare. Efforts at the Greek healthcare setting to improve safety culture are fragmentary. In general they are lagging behind, both at the application level, and at the level of research issue. So, it is necessary to orient the immediate action.

The importance of learning from others, and exchange ideas with various units and branches of the health care system is great. Therefore, Risk management should give priority to the empowerment of staff, providing suitable conditions within the organization and training of personnel based on simple tools for analyzing adverse events.

Additionally, the health sector needs to use after adjustment, risk management tools, which are already available, and to develop customized plans for the management of clinical risk. The opinion of health professionals on safety issues is a necessity, as they are the main and direct actors of care. The assessment of safety culture is a process, that can contribute positively to the change of culture and whose first results, if used properly, can mark the beginning of continuous improvement of patient safety.

Last, organizations need to develop a learning culture to gain "memory" which will develop and/or improve skills for revealing and monitoring of risks [16].

#### **4.1 Limitations of the Study**

The research tool used explored quality and risk management under as a single factor, under the umbrella of Clinical Governance, therefore, the information and correlations drawn regarding the subject were limited. Given the importance and sensitivity of the subject we are planning in the future more extensive investigation using qualitative research methods in order to attain a better and deeper understanding of the Greek hospital setting context, and to shape comprehensive, reliable and valid tools for quantitative measurement of climate in terms of Quality and Risk management, which will serve as tools for policy-making and administration.

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