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Health Care Human Resources' Planning and Programming Act as a Necessary Tool for the Effectiveness and Strengthening of the Health Care Sector

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Abstract

The efficient planning and programming of human resources has a number of benefits for the organization, such as improved workforce management policies. Indeed, maintaining a healthy population has a positive impact on the productivity and competitiveness of a country but it very much depends on the sustainability of the health care system and hence on the efficiency and effectiveness of its health care units. Health workforce planning and programming is a challenge for health care decisions makers as they aim to satisfy the needs of the system and secure a sufficiently sizeable health care workforce (medical doctors and nurses) in every geographical area and type of hospital. In the last five years, due to the severe economic crisis, the public health care sector in Greece has experienced a number of negative implications such as a freeze on the recruitment of health care employees, workforce imbalances, a reduction in health care expenditures and the merging of health care units. Based on the above, this study investigates the level of satisfaction of the health care workforce regarding human resource planning and programming in Greek health care units. Moreover, this study examines whether or not the personal characteristics (such as age, etc.) of medical doctors and nurses have any impact on their attitude. Based on the

findings, recommendations are made to policy makers for possible improvements to the system.

Keywords: health care sector; workforce; human resources planning; personal characteristics

Introduction and Aims of the Study

It is true that in recent decades there have been tremendous changes in the standard of living as well as developments in technology and in the fields of politics and the economy. Together with globalization, they have impacted significantly upon modern public management. But it is also true that any improvements and progress in the organizations are likely to occur only when management successfully adapts to the environmental changes (Bloor & Maynard, 2003; Bouradas, 2002; Dussault & Dubois, 2003; Polyzos, 2014).

Management in the health sector is a relatively new global scientific issue. The first major steps towards international cooperation in health care began with the establishment of the World Health Organisation in 1948 and gathered momentum during the latter half of the 20th century. Such developments were a response to severe problems in health care.

The implementation of modern management in the health care sector may be considered as crucial since the priority in this particular sector is the achievement of ongoing effectiveness. According to Polyzos (2014, p. 39) all the actions linked with health care units focused on: a) *strategic planning* b) *total quality management* and c) *e-governance*.

The main aim of health care organizations is the satisfaction of all user groups and health care employees while the target of every hospital is the maximisation of the qualitative health care services through the effective use of the available resources (Bloor & Maynard, 2003; Carignani, 2000; Dussault & Dubois, 2003; Liaropoulos, 2007;).

Management in health care deals with a unique good with a form of its own. Its specific characteristics determine the organization and functioning of the health care unit, the coordination of many complicated activities, the continuous readiness for confronting urgent matters and crises, as well as the continuous demands and expectations of society (Buchan, 2000; Carignani, 2000; Dussault & Dubois, 2003; Lanara, 2003; Niakas, 2004)

As open systems hospitals consist of different sub-systems such as departments, human resources, substructure, etc., that are interrelated and interdependent not only between themselves but also with the external environment. Moreover, the inputs of the health care system (i.e. human and material resources) are elaborated

through a process and produce outputs (health care services) for society. The feedback mechanism gives the hospital the opportunity to monitor its outputs, its aims and its adjustment to the environmental conditions.

Clearly, any change in the subsystem affects the functioning of the remaining subsystems and the health care system in general. Hence, it is necessary for the management in health care units to find solutions that achieve a balance between the subsystems. (Bouradas 2002; Chen & Stroup, 1993; Chen, et.al., 2004; Dussault & Dubois, 2003; Kast & Rosenzweig, 1972).

The planning of human resources, as a major management tool and shaper of the system, requires targeted determination and future planning actions in relation to environmental changes (Bloor & Maynard, 2003; Buchan, 2000; Parry & Tyson, 2008; Walker, 1976; Zurn, Dal Roz, Stilwell & Adams, 2004). It is a continuously flexible managerial process that interacts between the system and the staff, whose numbers are adjusted to the organization's needs and possible environmental changes (Bloor & Maynard 2003; Dussault & Dubois, 2003; Hitiris, 2006; Walker, 1976)

Any plan should be adjusted based on the current and future needs that can result in new specializations in the medical and the nursing staff (Eitzen-Strassel et al, 2014; Dussault & Dubois, 2003).

Thus, the main aim of healthcare staff planning is the achievement and the sustenance of the required number of capable health care staff so that the unit is in a position to deliver health care services in the best possible way - an aim that is adjusted over the years. Moreover, planning aims to attain and sustain the improved development of the employees' skills and have the ability to predict all the administrative problems that stem either from an over-supply or a shortage of staff (Armstrong, 1984). However, health workforce planning and programming is a challenge for health care decision-makers due to great employee diversity and the complicated functioning of the health care sector. For this reason, the planning of human resources in this sector cannot follow the same process. In particular, regarding the estimation of human resources in the health care sector, there appears to be an interrelation between demand and supply. Due to this relationship, the challenge is to achieve a balance between supply and demand (Buchan, 1994, 2000).

The demand for health care staff stems from the user groups in terms of size, expectations and income distribution while supply stems from income, the status of the professionals and the relationship between different healthcare professions (Bloor & Maynard, 2003).

Another obstacle in health care sector planning is the analysis of the current situation and its assessment. Planning is assessed continually so that the necessary adjustments can be made in a rapid response to environmental changes. Hence the aims can be fulfilled only by determining sufficient targets and by monitoring the process (Dussault & Dubois, 2003; Merode, Groothuis & Hasman, 2002).

In the last five years, due to the severe economic crisis, the public health care sector in Greece has experienced a number of negative implications such as a freeze on the recruitment of health care employees, workforce imbalances, a reduction in health care expenditures and the merging of health care units. And if one adds employees' diversity, technological development, the continuous progress of therapies, the increased demand of civilians for improved health care services and the heavy bureaucratic culture of the system, then clearly Greek public health care units face many problems and difficulties (Halkos & Tzeremes, 2011; Liaropoulos, 2007; Mossialos, Allin, S. & Davaki, 2005; Notara, et.al., 2010; Polyzos, 2014).

Based on the above, this study investigates the level of satisfaction of the health care workforce regarding human resource planning and programming in Greek health care units. Moreover, this study examines whether or not the personal characteristics (such as age, etc.) of medical doctors and nurses have any impact on their attitude. Based on the findings, recommendations are made to policy makers for possible improvements to the system.

The Greek health care workforce: planning and programming

The central responsibility for the planning of health care staff in Greece lies with the Ministry of Health and Social Security. However, health care staff planning in the lower administrative levels of the system, such as hospitals and medical departments, is effectively limited to details in strategic planning. It appears that the decisions made about the planning of health care staff merely addresses the current needs of the system without any long term plan (Mossialos, Allin & Davaki 2005; Notara, et.al., 2010; Plati, et.al. 1998; Polyzos, 2014).

In recent years an attempt has been made by the Greek State to update the health care information system. Indeed, after many years of a time-consuming manual system, a computer database was created that now allows the process of monitoring the health care workforce to be managed electronically. More specifically, statistical data is recorded monthly in the information system of Ministry of Health Care and Social Security (www.esy.net) in order to maintain an up-to-date record of the health care staff in each hospital (Polyzos, 2014). In fact, each hospital updates the system monthly with quantitative data not only about the health care staff, such as the number of medical doctors and nurses, but also other information regarding the functioning of the hospital, such as the number of beds in the intensive care unit.

Quantitative statistical data is submitted by the senior management of hospitals once a year (which is compulsory) together with the recommendations of the upper hierarchical management of their services or departments (medical, nursing, administration, etc.). Also, according to the Greek Law 3580 / 2007, staff unions should be consulted for staffing requirements i.e. how many nurses and medical doctors the hospital plans to hire for the year, either on a permanent basis or fixed contracts.

When the above process is completed then, within the framework of a wider government policy, the Ministry of Health Care (in cooperation with the Ministry of Internal Affairs and according to their financial budget for health care staff) may coordinate the planning of future needs for all public Greek hospitals. In this way, if the policy makers decide to recruit health care staff, an announcement is made by the Minister of Health Care and Social Security for the recruitment of staff in specific specialised areas. This invitation is usually for permanent staff and published in a special issue of the Official Government Newspaper (Greek Law 3580 / 2007).

However, due to severe economic problems, Greece has already signed two memorandums that have had a tremendous impact on recruitment in the health care sector. As such, according to health care staffing policy (Greek Laws 3845 / 2010 and 3833 / 2010), in order for one person to be hired in the sector there must be five retirements (or withdrawals). Furthermore, the sector has experienced serious reductions in the number of contracts for both temporary and permanent jobs (medical and nursing staff).

Although health care staffing is recorded yearly and the Greek State has an overview (in numbers) of the health care units, the health care sector is under huge demands and is vulnerable to seasonal fluctuations: there are times during the course of the year when an increased health care workforce is needed, for instance during the summer when many health care employees are on holiday, resulting in a shortage. It should be mentioned though that shortages can occur throughout the year and that this has been a frequent phenomenon over the last five years (due to the financial crisis) and may be attributed to: a reduction in hiring; a shortage of specific medical specialisations; retirement and long-term leave; detachments and staff mobility, etc.; with shortages affecting both medical and nursing staff.

With regard to the nursing staff, three times a year all the health care regions of the country call the hospitals under their supervision and responsibility so that the needs for supplementary nursing staff can be submitted. Such staff can be hired on temporary fixed-term contracts (usually six months) (Greek Law 3580 / 2007) by the health care regional authorities and the hospitals. Regarding medical staff, at least twice a year and after the proposal of the senior manager of the hospital and a ministerial decision, summary tables are prepared at the central services of the Ministry of Health Care Sector for the recruitment of supplementary medical staff. The employment contract of the supplementary medical workforce is again for a limited period, usually six to eight months and in case of extreme shortages there may be a further extension. Such medical staff can be hired by the Ministry of Health Care in cooperation with the health care regional authorities.

Finally, it is worth mentioning that when needs in health care staff cannot be fulfilled through the regular process of supplementary health care staff recruitment then the hospitals usually cover those needs with medical interns and nurses – students that are gaining practical experience in order to graduate.

The above findings seem to suggest that the priority of the Greek State is only to satisfy short-term needs, with absolutely no plan for a long-term strategy, which leaves the health care system lacking direction. Indeed, there does not appear to be any evidence of planning with regard to health care staff in order to ensure a balance between supply and demand. As a result, there is an over-supply in health care staff with a lack of absorption by the system that leads to unfulfilled needs, and yet balancing the supply and demand of health care staff is a necessary element for the effective delivery of the services.

The lack of systematic analysis and of a decision-making framework has blighted the health care system for years but now leaves the system facing complicated and difficult problems of a more acute nature (due to the economic crisis) that can only result in stagnation and lead the system to murky waters.

Methodology

In this study the primary source of the data used was gathered through anonymous questionnaires that were distributed to the health care workforce of the Greek public hospitals during the years 2012-2015, out of which 529 were sufficiently complete for the analysis. The present research analyses only a part of a broader study that took place during the same period using the same statistical tool, and concerns the planning and programming of health care staff. The statistical methods used in the study were: descriptive statistics, factor analysis and correlation tests. The health care staff in question were asked to rate their degree of agreement to a number of statements regarding the planning and programming of the health care workforce (including personal and professional characteristics) by using the following scale: 1 = disagree very much, 2 = disagree moderately, 3 = neither agree nor disagree, 4 = agree moderately, 5 = agree very much. In the statements that concerned the planning and programming of health care staff, the factor analysis was reduced to a number of factors that were rated by respondents.

Findings

Respondents were asked to reply to 7 statements that expressed their perceptions concerning the planning and programming of health care staff. With reference to the statement "The senior management of the hospital (where I work) plan the recruitment of health care staff" the most popular response (36.1%) was negative (little or not at all), 32.5% moderately agreed and 31.4% agreed moderately or very much. For the statement "The hospital's planning of health care staff adapts to current and future needs", 39.1% agreed moderately or very much, 34.8% agreed little or not at all and 26.1% moderately agreed. Three statements were noted for their negative responses, namely "Medical interns contribute to the smooth functioning of the hospital", "Nurses (students that are gaining practical experience in order to graduate) contribute to the smooth functioning of the hospital" and "Current medical staffing levels are sufficient for the smooth functioning of the hospital" - 43.3%, 44%

and 35.7% respectively. Two statements yielded mainly positive responses (agreeing moderately or very much): “Nurse levels are sufficient for the smooth functioning of the hospital” (48.4%) and “When the hospital experiences a greater need for health care staff (due to a reduction in hiring, a shortage of specific medical specialisations, retirement & long-term leave, detachments & staff mobility, etc.) then the senior management of the hospital reacts in a timely manner to cover those shortages with supplementary staff” (44.2%).

Table1: Factor Loadings

| | Factors | |
|--|-----------------|-----------------|
| | 1 st | 2 nd |
| The hospital’s planning of health care staff adapts to current and future needs | .839 | |
| The senior management of the hospital (where I work) plan the recruitment of health care staff | .766 | |
| When the hospital experiences a greater need for health care staff (due to a reduction in hiring, a shortage of specific medical specialisations, retirement & long-term leave, detachments & staff mobility, etc.) then the senior management of the hospital reacts in a timely manner to cover those shortages with supplementary staff | .824 | |
| Nurse levels are sufficient for the smooth functioning of the hospital, | .760 | |
| Current medical staffing levels are sufficient for the smooth functioning of the hospital | .497 | |
| Medical interns contribute to the smooth functioning of the hospital | | .797 |
| Nurses (students that are gaining practical experience in order to graduate) contribute to the smooth functioning of the hospital | | .855 |

The application of factor analysis resulted in the extraction of two factors that have an Eigenvalue greater than 1. Of these, two factors were selected (see Table 1) which account for 62.23 per cent of the total sample. The Cronbach’s alpha reliability coefficient was 0.552. Based on the empirical findings, the following factors were extracted:

- The *first* set of factors concerned the long-term strategy planning of human resources. These were: The hospital’s planning of health care staff adapts to current and future needs, The senior management of the hospital (where I work) plan the recruitment of health care staff, When the hospital experiences

a greater need for health care staff (due to a reduction in hiring, a shortage of specific medical specialisations, retirement & long-term leave, detachments & staff mobility, etc.) then the senior management of the hospital reacts in a timely manner to cover those shortages with supplementary staff, Nurse levels are sufficient for the smooth functioning of the hospital, Current medical staffing levels are sufficient for the smooth functioning of the hospital

- The *second* set of factors concerned the short term planning of human resources. These were: Medical interns contribute to the smooth functioning of the hospital”, Nurses (students that are gaining practical experience in order to graduate) contribute to the smooth functioning of the hospital

The correlation t-Test between the first factor and the total years of service in public health care of the respondents namely the range 5 – 15 years, indicated a statistically significant positive relation ($t = 2.430$, $df = 71$, 2-tailed $p = 0.018 < 0.05$), suggesting that as the years in public health care are getting increased, then respondents are more satisfied with the long term planning and programming of human resources. Moreover, the correlation T-Test between the gender of the respondents and the second factor indicated a strong positive relation ($t = 3.428$, $df = 527$, 2-tailed $p = 0.001 < 0.05$), suggesting that women are more satisfied with the short term planning of health care staff.

Discussion

Based on the above analysis, the managerial tool of planning and programming is absolutely necessary for every social organisation but is of particular importance in health care where “imbalances in the staff are a major challenge” (Zurn, et.al. 2004, p. 1). The sooner that the aims are determined, the problems and opportunities identified and strategic actions developed, then the more fortified the health care system will be to secure the qualitative and quantitative delivery of services.

According to the results, respondents identified long-term planning as the factor that significantly affects their satisfaction levels. This stems from the fact that all statements included in the first extracted factor, as Table 1 shows, have high loadings for 44.42 per cent of the total sample. This result is consistent with the view of the World Health Organisation (WHO), which believes that planning and human resource policies in health care contribute to the development of vision and to the determination of a series of processes that need to be implemented in order to achieve both short- and long-term aims (WHO, 2001). In fact, a number of researchers (Buchan, 1994; Dussault & Dubois, 2003; Eitzen-Strassel et al, 2014; Parry & Tyson, 2008; Skroubelos et.al. 2012) have suggested this important process is the only way that hospitals can be manned with the right combination of capable staff, both qualitatively and quantitatively, and hence constitutes the investment in human resources necessary to satisfy the system’s needs.

Research in the field (Bloor & Maynard, 2003; Cartmill et al, 2012; Chen, et.al., 2004; Kopanitsanou & Brokalaki, 2009; Sarafis, Malliarou. & Sotiriadou, 2010; Swansburg, 1999; Zurn, et.al., 2004) has converged on the conclusion that the best possible composition of appropriate health care staff - capable medical doctors and nurses - can give the hospital its best chance of a competitive advantage.

Moreover, the results showed that as the years of service in public health care increase then there is more likely to be greater satisfaction with the long-term staff planning. This result can be attributed to the fact that those with longer service in public health care are permanent employees so they enjoy job stability and relatively higher salaries than their younger counterparts. Indeed, there is no surprise in the fact that a younger health care workforce may feel high levels of insecurity in Greece, especially during the last five years as financial restrictions have increasingly tightened due to the country's mounting debts, resulting in tremendous reductions in the number of job contracts. As the Greek economy has struggled to find a way out of recession, the Greek State appears to be addressing only short-term needs as it hastily attempts to satisfy users' demands and expectations. While covering short-term needs may be a necessary step towards sustainability, the success of a system equally requires an emphasis on planning - a word that seems to be outside the vocabulary of the Greek health care system.

In addition, the results revealed that female health care staff are more likely to be satisfied with short-term planning. Given that the majority in the sample were women while the vast majority were nurses, the result cannot be considered surprising. According to Greek law 3580 / 2007, three times a year hospitals can hire nursing staff on temporary fixed-term contracts to cover any shortfall. Perhaps this could provide a better employment opportunity for women with experience of child and family care, as over half of the sample was married. Indeed, the role of supplementary nursing staff provides women with the flexibility "....to combine work and non-work commitments..." (Buchan, 2000, p. 204) and is a primary benefit for nurses in many countries.

Interestingly, there were mainly positive responses to the statement "when the hospital has an increased need for health care staff (due to a reduction in hiring, a shortage of specific medical specializations, retirement & long-term leave, detachments & staff mobility, etc.) then the senior management of the hospital reacts in a timely manner to cover those shortages with supplementary staff". This result indicates that hospitals do indeed take the necessary action to cover current needs or shortages. However, its role in this process is only functional since the final decision is taken by an upper administrative level, namely, the regional authorities. Subsequently, while hospitals may be reacting in a timely manner to shortages by initiating their administrative procedures for the recruitment of supplementary staff, any delay in the process may be attributed to inflexibilities in the system's human resources policy. Hence, a substantive element in staff planning must be the effective

use of time. Furthermore, as Bloor & Maynard (2003) indicated, unexpected variations are minimized for greater success only when the hospital establishes a means of modelling and estimating critical environmental changes.

Conclusions

It is true that it is not easy to establish a smooth link between the past and the future when making long-term plans for the future actions of a health care unit since an organization cannot predict all eventualities. On the other hand, in order for a hospital to accelerate any qualitative improvement in health care services, it should develop productive methods, models or practices for an improved anticipation of future needs. Certainly, the key to improving predictions is through data collection and information analysis.

The human resource planning process is a key indication of total quality in the system (Jabnoun & Chaker, 2003). However, Bloor & Maynard (2003) have indicated that, for many countries worldwide, a major obstacle to the development of integrated and systematic health care staff planning is the political environment. In the particular case of Greece, relevant studies such as Halkos & Tzeremes (2011) and Mossialos et.al. (2005) have emphasized that political forces and clientelistic relations inhibit the efficiency and the quality in the public health care system. This distracts the Greek healthcare system away from equipping itself with the tools necessary to foresee future changes and make estimations about the environmental changes. As a result, the healthcare system lacks the proper planning and programming of human resources that would facilitate a sustainable correction of imbalances in health care staff. The frequent imbalances in Greece's health care workforce show that the Greek system is failing to overcome this major difficulty in the sector. Certainly the attempt of a country to bring improvements to the health care sector demands respect but a one-sided focus either on short- or long-term needs does not bring the desired results. Therefore, for any country that wishes to put a strong emphasis on health care staff policies and establish quality in the system, there is one path to the solution: the planning and programming of staff. The implementation of all steps in human resource planning should be free of political pressures so as to allow the system to deliver higher quality services.

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