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DEVELOPMENT

Reinventing primary health care in the Greece of austerity: the role of health-care workers

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Background: The Greek primary health-care system (PHC) seems to be suffering the most from the economic crisis because of understaffing and misdistribution of the health workforce and the shortage of medical supplies and diagnostic equipment. **Aims:** The objective of the paper is to present for the first time in public national health-care workforce census data for the first two years of the economic recession and the adopted bailout mechanism (2010 and 2011) (a) to evaluate the adequacy of the governmental effort in terms of organization and management of the health-care workforce in PHC; and (b) to identify constraints and opportunities for the development of an integrated PHC ensuring access to health-care services for all. **Methods:** Data were drawn from the national project 'Health Monitoring Indicators System: Health Map' coordinated scientifically by the National School of Public Health, Department of Epidemiology. They referred to the 202 PHCs and their regional surgeries (with 98% response rate). Descriptive statistics and frequency distributions were used for the analysis. **Findings:** The findings pointed that PHC absorbs a very limited part of the national health system's workforce. Important inequalities in the numerical and geographical allocation of the PHC health workforce specialties across the country in favor of the medical profession and to the detriment of rural areas and the islands were identified, raising concerns about the policymakers' ability to meet the emerging needs of the population, as the retrospective study of the health-care workforce, since 2010, reveals that the numerical and per type allocations remained almost unchanged. These results were in line with previous studies showcasing the lack of holistic approach for PHC questioning the restrictive spending policy (ie, salary and benefit cuts for the health-care professionals, important discharges and nonrenewal of the personnel) adopted in the public health-care sector.

Key words: economic crisis; Greece; health-care workforce; primary health care; public health

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Introduction

The cost of the financial crisis is recognized as an aggravating factor for the health of Europeans (Horton, 2009; Stuckler *et al*., 2010; McKee *et al*., 2012; Mladovsky *et al*., 2012; Walshe *et al*., 2013).

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The case of Greece, the country most affected by the economic recession, therefore raises important concerns about the future of the Greek population (Fahy, 2012; McKee *et al*., 2012).

Over the last three years, Greece implemented policies that involved serious cuts in the financial budget, utilized in the health sector, imposing in turn a growing pressure on the health-care system, and having direct quantitative and qualitative consequences in the way public health-care services are provided, (Kentikelenis and Papanicolas, 2012; Emmanouilidou and Burke, 2013) although the standards of health-care performance were in question (Dervenis *et al*., 2012). The overall deterioration of the health status of the population started to become apparent. Self-rated health is getting worse, people do not seek medical help even if they need it because of economic constraints, long-term forgotten illnesses are starting to reappear, and suicides and outbreaks of infectious diseases are becoming more frequent (Bonovas and Nikolopoulos, 2012; Zavras *et al*., 2013; ELSTAT, 2013; Anagnostopoulos and Soumaki, 2013). In the meantime, the rise of unemployment and the retrenchment of social protection have restricted access to health care even more (Kentikelenis, 2012).

In this context, the country's primary health-care (PHC) system seems to be suffering the most (Liaropoulos, 2012) mainly because of understaffing, misdistribution of the existing workforce, and shortage of medical supplies and diagnostic equipment. PHC in the public sector is delivered through a dual system, consisting of PHC units (health centers and regional surgeries) and hospital emergency (outpatient) units, all of which belong to a hospital-oriented national health-care system, with a strong emphasis on the provision of curative services, rather than health promotion, disease prevention, rehabilitation and home-care services.

Over the past few years, few endeavors were made aiming to modernize and improve the Greek National Health System [Ethniko Sistima Ygeias (ESY)], with a specific reference to PHC, by decentralizing its governance structure with a horizontal integration of regional health and welfare services, but they were followed up unanimously by all Health Ministers and administrators (Tountas *et al*., 2002; Economou 2010).

ESY's main structure remains vertical, with top–down functionality and one central point of decision making, resulting in patients having direct access mainly to secondary care, as a proper gatekeeping system is absent.

Persisting deficiencies of the ESY encompass: the professional qualification and training of the staff, which it is clearly mostly medically oriented and does not focus on community-based health promotion and prevention activities; the lack of a well-organized urban type of PHC that results in an overload of public secondary health care; ineffective and limited mechanisms of administering prescriptions and medical examinations; lack of quality control and accountability of health-care professionals' performance; and lack of adequate amount of funding for the PHC system. These deficiencies, combined with the long-standing problems in the continuity of the health-care service provision, have led to several problems and sometimes failure of the ESY to meet the increased demand for PHC health services, as the percentage of general practitioners (GPs) in Greece is much smaller than the percentage of specialists, and one of the lowest in Europe (Kentikelenis and Papanicolas, 2012; OECD, 2012).

At a theoretical level, PHC addresses the main health problems in the community by offering health promotion prevention, curative and rehabilitative services. As these services are evolved and reflect the economic conditions, and social values of each country and its communities, they exhibit variation, but they all meet the minimal standard criteria such as the promotion of proper nutrition and adequate supply of safe water, basic sanitation, maternal and child care, family planning, immunization against the major infectious diseases, prevention and control of locally endemic diseases, education concerning prevailing health problems and methods for their prevention and control, and appropriate treatment for common diseases and injuries (Bryant and Richmond, 2008).

As PHC is defined as a system that should deliver a wide range of basic services of health care, at individual, family and community level, and it constitutes the first contact point of the citizen with the health system, the Greek case of PHC highlights an archaic model of PHC because of the absence of integrative services, which are defined

as the actual provision of services one needs, at the time they are needed, and is considered the only way to face current challenges, such as the increasing rate of poverty, the aging population, cuts in health-care expenditures and limited human resources (Thomas and While, 2007).

This issue of integrated PHC seems to be missing from the Greek political agenda nowadays at a time when policymakers and academics in the international arena have been discussing extensively on PHC reform and on the potential implications of PHC integration for patients, health-care professionals and organizations as a remedy for the economic crisis (World Health Organization, 2009). On the basis of these discussions, the WHO has been making strong recommendations for at least 30 years – since the Declaration of Alma-Ata (WHO, 1978)[1] – urging health systems worldwide to place their priorities to PHC (Fragkoulis, 2012).

The objective of the proposed paper is to present national health-care workforce census data for the first two consecutive years of the current Greek economic recession (2010 and 2011) to: (a) evaluate the adequacy of the governmental reforms in terms of organization and management of the health-care workforce in PHC, and (b) identify constraints and opportunities for the development of an integrated PHC, which will ensure access to health-care services for all Greek population in times of fiscal austerity.

Methods

Data used in this study were drawn from the national health resource monitoring project 'Health Monitoring Indicators System: Health Map' (Ygeionomikos Chartis) coordinated scientifically by the National School of Public Health, Department of Epidemiology and Biostatistics. They refer to data collected by the 202 PHC units of ESY and their regional surgeries (with a 98% response rate).

The workforce used in the census study included the professionals according to the WHO definition of human resources for health as 'the stock of all individuals engaged in the promotion, protection or improvement of population health' and were divided into five main categories: medical personnel, nursing personnel, other health-care professionals, administrative personnel and technical personnel. The medical personnel consisted of physicians with a valid legal practice permit. Nursing personnel included nurses and supportive nursing personnel. Nurses included all personnel holding at least a degree or diploma in nursing science from an accredited educational organization of academic or technological orientation. The supportive nursing personnel included room assistants, bearers, patients' carriers, patients' guards and morgue attendants. 'Other health-care professionals' included health visitors, midwives,[2] social workers, physiotherapists, assistants of medical and biological laboratories, operators of medical equipment and others. Administrative personnel included those who had administrative or management positions, computerizing positions, IT supportive positions, secretaries, typists, telephone operators and so on. Technical personnel included the supportive personnel of general duties, mechanics–technical workers, vehicle drivers, security staff, doormen, cooks, gardeners and so on.

The analyses were performed with the use of descriptive statistics and frequency distributions.

[1] The Alma-Ata Declaration of 1978 emerged as a major milestone of the twentieth century identifying primary health care (PHC) as an inseparable part of health care system of a country, along with social justice and economic development, crucial for achieving the goal of Health for All (WHO and UNICEF, 1978; Moraitis *et al*., 1995).
The declaration reaffirmed that health, which is 'a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity' (WHO, 1946), is a fundamental human right and the attainment of the highest possible level of health is the most important worldwide social goal whose realization requires the cooperation of many other social and economic sectors in addition to the health sector.The people have a right and duty to participate individually and collectively in the planning and implementation of their health care (WHO, 1946).
Although strongly criticized by many government and scientists as unrealistic, idealistic and too broad, the declaration finds its value recognized, until today, and suggests a holistic approach toward PHC, which is recognized as the most efficient and cost-effective way to organize a health system nowadays. In 2008, the president of (WHO) stressed its updated character by underlining that health systems oriented toward PHC produce better outcomes at lower and with higher user satisfaction costs and with higher user satisfaction (Chan, 2008)

[2] Midwives and health visitors evaluated in the paper are considered as other medical staff entity and have not been included in the nursing personnel category since their job role in Greece mainly includes prevention and health promotion-based consultations and interventions at community level (such as breast cancer or PAP-test examination/screening).

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Population ratios, ratios of medical, nursing, midwives and health visitors per 1000 population and per Administrative Region were also calculated. Statistical analyses were performed using the SPSS version 19 for Windows.

Results

The breakdown of the health workforce in the ESY in 2010 and 2011 indicated that only 9.22% and 9.71%, respectively, offer their services in the PHC sector (Figure 1).

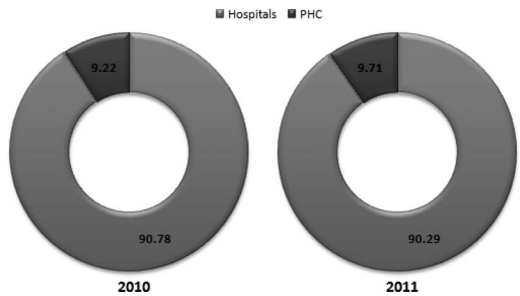

Figure 1 Health-care workforce (%) in the ESY, for 2010 and 2011.

As far as the repartition of physicians across the administrative regions is considered, the country's ratio of physicians per 1000 population remained stable between 2010 and 2011, being 0.32 (Figure 2). Major discrepancies in the numerical allocation of physicians between 2010 and 2011 were revealed in the cases of the Ionian Islands, the region presenting the highest density in the whole country (ratio increased from 0.52 to 1.01), and West Macedonia (ratio increased from 0.53 to 0.79). The density of physicians per 1000 inhabitants in 2011 decreased in the case of Thessaly, falling from 0.49 in 2010 to 0.35 in 2011 (Figure 2).

The ratio of GPs per 1000 population across the country remained at similar levels between 2010 (0.14) and 2011 (0.16) (Figure 3). It increased slightly in 2011 in the cases of North Aegean (from 0.17 in 2010 to 0.27 in 2011) and West Macedonia (from 0.20 in 2010 to 0.28 in 2011) (Figure 3).

The important cross-country variations identified in the distribution of nursing personnel in 2010 remained almost the same in 2011 (Figure 4). The country's ratio of nursing personnel per 1000 population was 0.18 in 2010 and 0.19 in 2011. The highest respective ratio was recorded in 2011 in Epirus (0.41).

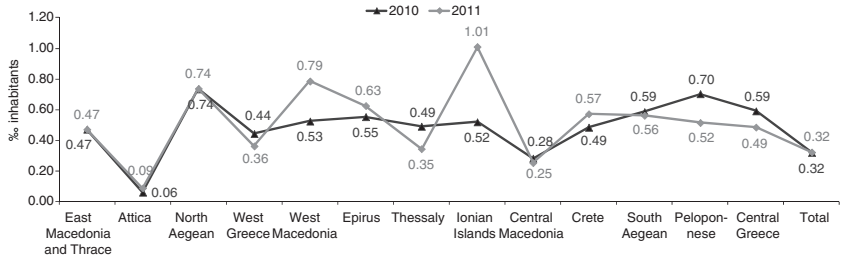

Figure 2 Distribution of the medical personnel per 1000 population across the Greek Administrative Regions

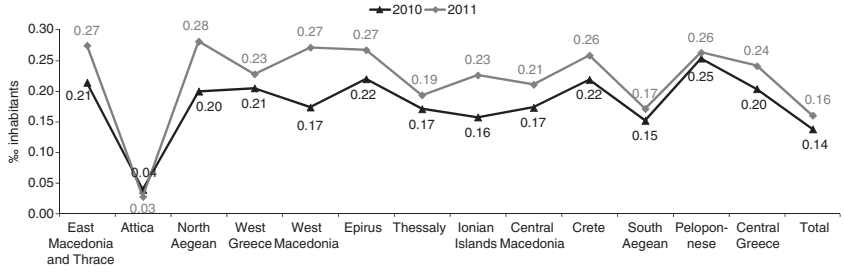

Figure 3 General practitioners per 1000 population across the Greek Administrative Regions.

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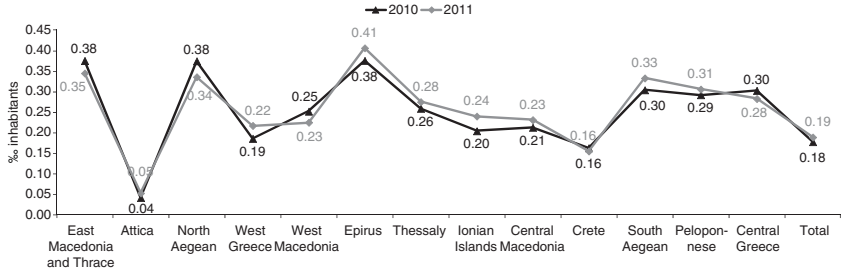

Figure 4 Nursing personnel per 1000 population across the Greek Administrative Regions.

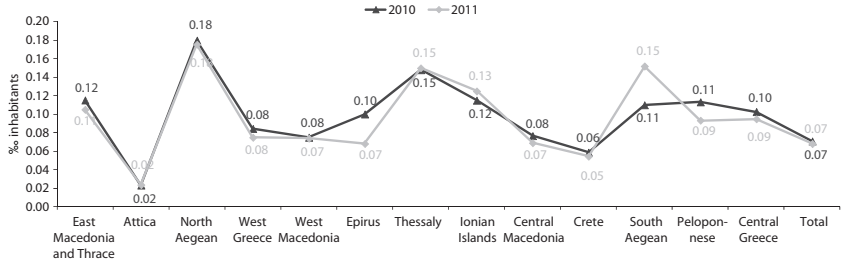

Figure 5 Midwives and Health Visitors per 1000 population across the Greek Administrative Regions.

Midwives and health visitors were unevenly distributed in the different administrative regions (Figure 5). The country's ratio of midwives and health visitors per 1000 population remained stable between 2010 and 2011 (0.07). The ratio of midwives and health visitors per 1000 population found to have increased the most from 2010 to 2011 was that of South Aegean (from 0.11 to 0.15), whereas the largest decrease was observed in Epirus where the respective ratio dropped from 1.0 to 0.07 (Figure 5).

Discussion

The findings of the current study highlight the hospital-centered character of ESY as PHC units appear to absorb a very limited part of the total of the ESY's human resources, with important inequalities in the numerical and geographical allocation of the available health workforce specialties in the PHC across the country in favor of the medical profession.

These facts confirm to some extent the aforementioned structural deficiencies of the current organization and structure of the ESY, in terms of system performance regarding specifically the distribution of the health personnel (shortage of staff, lack of various specialties), particularly in rural areas and the islands, and the lack of community-based health promotion and prevention activities, which constitute core elements of the integrated PHC worldwide. Our findings also raise concerns about the policymakers' ability to adapt to the country's demanding socioeconomic environment so as to meet the emerging needs of the population, especially as the 'Health Map' study of the health-care workforce since 2010 reveals that the numerical and per type of health-care establishment allocations remain almost unchanged. Evidently, these issues have not been efficiently tackled so far, and thus deprive a large portion of the population from two basic assets of the welfare state: the minimum standards of care for all parts of the population with a special emphasis to those most vulnerable (children, long-term illness, women, etc.); and the ability to receive public health-care services in one's place of residence and work (Benos, 1996; Lionis and Mercouris, 2000; Matsaganis, 2011).

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These results are also in line with the findings of previous studies and international bibliography, showcasing the lack of a holistic approach for Greek PHC via an integrated model of functioning that focuses on preventive action (Kalokerinou-Anagnostopoulou and Lamprou, 2000; Lionis and Markaki, 2006; Markaki *et al*., 2006; Vivilaki *et al*., 2006; Chronaki *et al*., 2007; Markaki and Lionis, 2008; Kentikelenis and Papanicolas, 2012). Moreover, the restrictive spending policy adopted by the Greek government for the public health-care sector (ie, salary and benefit cuts for health-care professionals, and important discharges and nonrenewal of the personnel) (Kentikelenis and Papanicolas, 2012) remains in question, with regard to its effectiveness.

Intersectoral action for health, at all levels of society, and in communities, in a local level, where people live and work, has become a critical component of a successfully implemented approach to public health that aims to improve health outcomes.

Recent studies in Europe claim that an investment in public health, aside from securing human lives, can also boost economic recovery and reduce poverty. Healthier people are more likely to be employed and be productive, to live longer, to invest in education (being an accelerator of economic growth) and to have suitable retirement plans, therefore providing money for capital investment (McKee *et al*., 2009; Stuckler, 2010). Although the delivery of essential health-care and cost-effective interventions is critical, the social effects of health systems play an equally – if not more – important role in sustaining accessible and affordable health services. Ultimately, it is the individual, the family and the community who make the most important decisions about their health. The degree to which individuals are able to respond to the health challenges they encounter contributes to their ability to maintain their health and to the effectiveness of the health and social services available to them, otherwise known as 'empowerment' of individuals over their own health. These are key aspects of PHC that remain relevant and need to be integrated in any effort to strengthen national health systems (Bryant and Richmond, 2008). For example, international experience shows that infectious diseases respond successfully to less-expensive preventive interventions, a fact that public authorities frequently neglect to exploit.

Furthermore, sufficient vaccination coverage in high-risk population groups and timely implementation of integrated vector-control programs can provide a cost-effective management of influenza and malaria or West Nile virus infection, respectively. Even in the field of HIV, the seemingly expensive preventive approach of expanding the coverage of antiretroviral treatment can induce significant cost gains in the long term (Granich *et al*., 2009).

Concerning the Greek case, the lack of a system of references in superior and of higher cost forms of care has resulted in unnecessary, uncontrollable and without limitations wandering of the service user-patient in the different departments of the health system. This has led in the fragmentation of continuity in care, in the misuse of resources and in the widespread inefficiency of the health sector.

The long-lasting serious shortage in technical–material support and the lack of computerization and development of information technology in health care has resulted in the limitation of health-care services and in the orientation of the users toward private sector. The limited availability of services in afternoon and evening hours promotes the use of the outpatients' department of public hospitals or the visits to private doctors. The lack of urban-type PHC overburdens the outpatient department of hospitals for PHC services. The nonexistence of effective and reliable control of the prescriptions and referrals to private medical centers causes unjustified financial burden for public insurances because of out-of-pocket contributions for medicines and examinations (Tountas *et al*., 2002; Liaropoulos, 2012).

In addition, the particularly low salaries of staff (up to 40% decrease in salaries and benefits since 2010) and the lack of motives for the staff of PHC have often resulted in the decrease in production, the arbitrary limitation of working hours, and the resort to illegal dealings and out-of-pocket payments (Adamakidou, 2010)

Therefore, it is essential for the whole framework of the organization and function of the PHC to be designed with respect to the user and his or her needs (easy access, fast service, system of appointments, right of choosing a doctor, suitable rooms and material or technical support and professional ethics) promoting a close cooperation between health-care services and the community. Consequently, specific activities (for health promotion

and prevention) in the local community need to be considered.

The key features of a modern decentralized PHC system, safeguarding the coverage of the population's needs, are: the direct access of the citizens, the system's ability to provide a continuous care (lasting 24 h annually), and the availability of all the necessary diagnostic and therapeutic means, so that a common health problem can be solved at a local level to avoid the unnecessary transportation to another central city hospital.

It requires a multidisciplinary team approach, assigning new roles to primary care providers, with emphasis on a broader training with new education curricula for health professionals and a collaboration with local administrative authorities. The scientific cooperation of health professionals in PHC is important for ensuring both quality of service and user satisfaction.

The development of new structures in the framework of the PHC, such as homecare, short-time treatment, physiotherapy, urgent treatment, dental care, psychiatric care, preschool and school education, can contribute to the relief of hospitals' overburden and to improvement in the quality of the services provided.

The administrative autonomy of health care and their independence from hospitals, in combination with the establishment of primary units, are considered imperative (Zilidis, 2005). Adequate staffing is of crucial importance for the improvement of services and their efficiency. The insurance of a wide spectrum of services from PHC sectors (laboratory examinations, specialties offered services, nursing, emergency, social care, mental health, etc.) is decisive for the development of the new model of PHC and the citizens' satisfaction (Moraitis *et al.*, 1995).

The role of GPs in the PHC system needs to be upgraded and have as basic responsibility to offer a sufficient level of care to everyone entitled to it. However, Greeks are not familiar with the institution of GPs as a primary feature of the PHC. The implementation of the new role of GP requires changes in various aspects such as educational programs, motivation for the selection of the respective specialty, motivation for the staffing of health-care services in the periphery and the frontier areas, and the recognition of their authority and strength for the achievement of the aims (Lionis and Mercouris, 2000).

The role of the nursing personnel needs to be strengthened as well. Modifications in the educational programs of nursing schools, specially focused on PHC and incentive-oriented policy, are some necessary interventions for the materialization of this new direction (Markaki and Lionis, 2008).

Together with the upgrading of the role of midwives and health visitors, they should both become actively involved in disease prevention programs, early intervention and effective use of limited resources. Possession of all necessary skills and knowledge, both from undergraduate and postgraduate education as well as continuous professional development, should become a high priority in the PHC agenda for all health-care workers.

At the same time, the offer of motives of an economic, social or a professional character to health-care workers to work in PHC is also essential.

Preventive health interventions and evidence-based medical practices play a crucial role in the present economic circumstances. Identifying vulnerable population groups at an early stage is an important step so as to limit the unnecessary use of financial resources. Aiming at the management of a disease before the manifestation of clinical symptoms or complications can save valuable resources, as prevention programs are less expensive than treatment procedures (Matsaganis, 2011).

Conclusion

Over the past few years, Greece has undergone several endeavors aiming at modernizing and improving national health-care services, with a focus on PHC. However, the extent to which integrated PHC has been ameliorated is still questioned.

Integrated PHC has been regarded as a solution to problems related to planning, funding, operation and effectiveness of the Greek health-care system, especially under the current negative impact of the strong economic recession and its effects on the Greek population, as well as on the provision of public health-care services. The establishment of an integrated PHC in Greece is still at its infancy, requiring major restructuring of the current national health system, as well as

organizational and cultural changes. Particularly, the absence of adequate prevention and health promotion services in the community, and the shortage of PHC staff and equipment in rural primary care centers, seem to contribute to the low level of integrated PHC in Greece and hinder the achievement of high-quality standards for the health of the Greek population.

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