Social Cohesion and Development

Human Resources for Health in Greece: Current status and the way forward

Daphne Kaitelidou, Charalampos Economou, Olga Siskou, Olympia Konstatakopoulou, Petros Galanis, Thanos Myloneros, Silviu Domente

To cite this article:

Human Resources for Health in Greece: Current status and the way forward

Daphne Kaitelidou, *National and Kapodistrian University of Athens*
Charalambos Economou, *Panteion University of Social and Political Sciences*
Olga Siskou, Olympia Konstantakopoulou, Petros Galanis, *National and Kapodistrian University of Athens*
Thanos Myloneros, Silviu Domente, *WHO Office Athens*

Ανθρώπινοι πόροι για την υγεία στην Ελλάδα: Υφιστάμενη κατάσταση και επόμενα βήματα

Δάφνη Καϊτελίδου, *Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθήνας*
Χαράλαμπος Οικονόμου, *Πάντειο Πανεπιστήμιο Κοινωνικών και Πολιτικών Επιστημών*
Όλγα Σίσκου, Ολυμπία Κωνσταντακοπούλου, Πέτρος Γαλάνης, *Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθήνας*
Θάνος Μυλωνέρος, Silviu Domente, *Γραφείο ΠΟΥ Αθήνας*

ABSTRACT

This paper presents briefly the suggested national human resources for health strategy for Greece, which is based on a rapid assessment of the current situation and drafted around 5 domains/strategic key areas: planning, skills and distribution, retention, governance and government health priorities. It provides an overview of the national context including demographic challenges, health status of the population and emerging health issues as well as health system organizational characteristics and policies with an impact on human resources for health strategy. The main objectives and the guiding principles of the suggested national strategy are explained and proposals for the way forward to successfully implement it are discussed.

KEY WORDS: Human resources for health, strategic objectives, Greece

ΠΕΡΙΛΗΨΗ

Το παρόν άρθρο παρουσιάζει συνοπτικά μια πρόταση για την εθνική στρατηγική για το ανθρώπινο δυναμικό στην υγεία, η οποία βασίζεται στην αξιολόγηση της παρούσας κατάστασης και αναπτύχθηκε με βάση 5 πεδία/στρατηγικούς τομείς-κλειδιά: τον προγραμματισμό του ανθρώπινου δυναμικού, τις δεξιότητες και την κατανομή των επαγγελματιών υγείας, τη συγκράτηση προσωπικού, τη διακυβέρνηση και τις εθνικές προτεραιότητες στον τομέα της υγείας. Παρέχει μια επισκόπηση των δημογραφικών και επιδημιολογικών προκλήσεων, των προβλημάτων που αντιμετωπίζει το ελληνικό σύστημα υγείας και των πολιτικών που επηρεάζουν τη στρατηγική για το ανθρώπινο υγειονομικό δυναμικό. Περιγράφονται οι κύριοι στόχοι και οι κατευθυντήριες αρχές της προτεινόμενης εθνικής στρατηγικής για τους ανθρώπινους πόρους στον τομέα της υγείας και εξετάζονται οι αναγκαίες δράσεις και τα επόμενα βήματα που θα εξασφαλίσουν την επιτυχή υλοποίηση αυτής.

ΛΕΞΕΙΣ-ΚΛΕΙΔΙΑ: Ανθρώπινοι πόροι για την υγεία, στρατηγικοί στόχοι, Ελλάδα

1. Introduction

In January 2016, WHO Europe launched a collaboration initiative with the Ministry of Health (MoH) of Greece with financial support from the Structural Reform Support Service (SRSS) of the European Commission. The scope of the action called "Strengthening Capacity for Universal Coverage" (SCUC) was to provide the necessary technical assistance towards enhancing universal access to quality health services; establishing a more transparent, inclusive and modernized health governance through an efficient and effective public administration; ensuring a fair and sustainable financing.

An important activity under this initiative was to support MoH to formulate a comprehensive strategic plan on Human Resources for Health (HRH). This plan included short- and medium-term HRH policies and interventions, taking into consideration the main health policy goals set by MoH towards universal health coverage, and the on-going country-wide roll-out of the primary health care network and the reorganization of Public Health Services. The work was conducted through a team of international and local experts, with a three-step procedure:

a) A desk review was conducted in order to map the current situation and identify any important policies, strategies and reports to serve as a source (Economou et al., 2018a).

b) An assessment of Human Resources for Health in Greece was performed in order to be used so as to develop a HRH National Strategy/Strategic Plan for Greece. The main topics presented in the report included information and published data collected about the background and socio-demography of the country, the impact of financial crisis in Greece, health system challenges, health status and emerging health problems, the impact of the current financial crisis on health, the current state of Human Resources for Health i.e. HRH level, HRH distribution, HRH performance, cross-cutting issues, the availability and efficiency of financing, education, management, current HRH-related strategies of the MOH and future challenges and the political context (Economou et al., 2018b).

c) Finally, based on the two former steps, a strategic plan on HRH was developed, which outlined specific policy choices and recommendations towards achieving strategic objectives as set out by the Ministry of Health in principal policy documents. It also provided a framework to guide all the interventions needed to support decision making in developing a health workforce capable of working in new ways to meet the increased and changing needs of the population and to be able to better support the health system's policies (Economou et al., 2018c).

The aim of the present paper is to briefly present the results of the above-mentioned procedure by providing assessment information of HRH in Greece and an overview of the strategic objectives which were identified as key priority areas.

2. Analysis of the current situation
2.1 Demographics and health system challenges

A number of challenges are raised for the Greek health care system, including the changing population's health and social care needs deriving among others from the ageing of the popu-

lation (people aged 65 and over represent now more than 20% of the population) (OECD, 2018a; OECD, 2018b) as a consequence of low fertility and increased longevity, and migration flows.

The country has been severely affected by the economic crisis since 2010, losing more than one quarter of its GDP (OECD, 2018c). Current health expenditure in 2016 was 8.5% of GDP, but in the context of drastically reduced GDP since the onset of the economic crisis, expenditure has fallen substantially (by one fifth) since 2010 (OECD, 2018d). A public expenditure cap of 6% of GDP which was set in the country's first Economic Adjustment Program (EAP) continues to apply.

As a result of the deep economic crisis, it is estimated that 2.5 million people lost their health insurance coverage and thus access to publicly provided services. Following two unsuccessful attempts to address this situation, a new legislation was introduced in 2016, reducing barriers and securing funding in order to provide health coverage for the whole population (Economou et al., 2017; Economou and Panteli, 2019).

Additionally, a significant number of reforms have occurred in the health system since 2010, introduced at the same time with quite pressing time frames, most of them as direct result of the Economic Adjusted Programs. Among the most significant ones were the creation of EOPYY, substantial changes in procurement, monitoring and evaluation, introduction of DRGs-KEN etc. However, one of the most far reaching reforms is the reconfiguration and delivery of primary health care services. The philosophy of this reform is based on a dense network of multi-disciplinary teams providing all range of PHC services at community level. Adequate resources, both economic but also in terms of workforce capacity, are quite important for the reform's success (Economou et al., 2017; Economou and Panteli, 2019).

2.2 Health status of the population and emerging health issues

Life expectancy at birth in Greece has been increasing over the past two decades and is slightly above the EU average (81.1 and 80.6 respectively) (Institute for Health Metrics and Evaluation, 2018). Currently, Greece faces a number of health challenges, including long-standing ones, such as socio-economic health inequalities, exceptionally high smoking prevalence and high rates of overweight and obesity which are expected to contribute to population ill-health and increase pressures on the health system (WHO, 2016).

More recent challenges include worsening mental health, emerging communicable disease outbreaks, and being at the front line of caring for the physical and mental health needs of migrants and refugees arriving in Europe. Mortality from communicable diseases has increased the last decade mostly due to deteriorating socio-economic conditions and lack of systematic prevention programs. Multi-morbidity is more common among elderly and there is a need for modern approaches by health workers. The likelihood of unmet health needs is one of the most important implications of the economic downturn in health (Figure 1). Greece scores second in the percentage of population reporting unmet needs among the EU countries in 2016. However, since the legislation for the universal coverage was in effect at the end of the relevant year, data were lower for 2017 (OECD, 2017; OECD-European Observatory on Health Systems and Policies, 2017).

**Figure 1: Inequality gap in unmet needs due to cost**
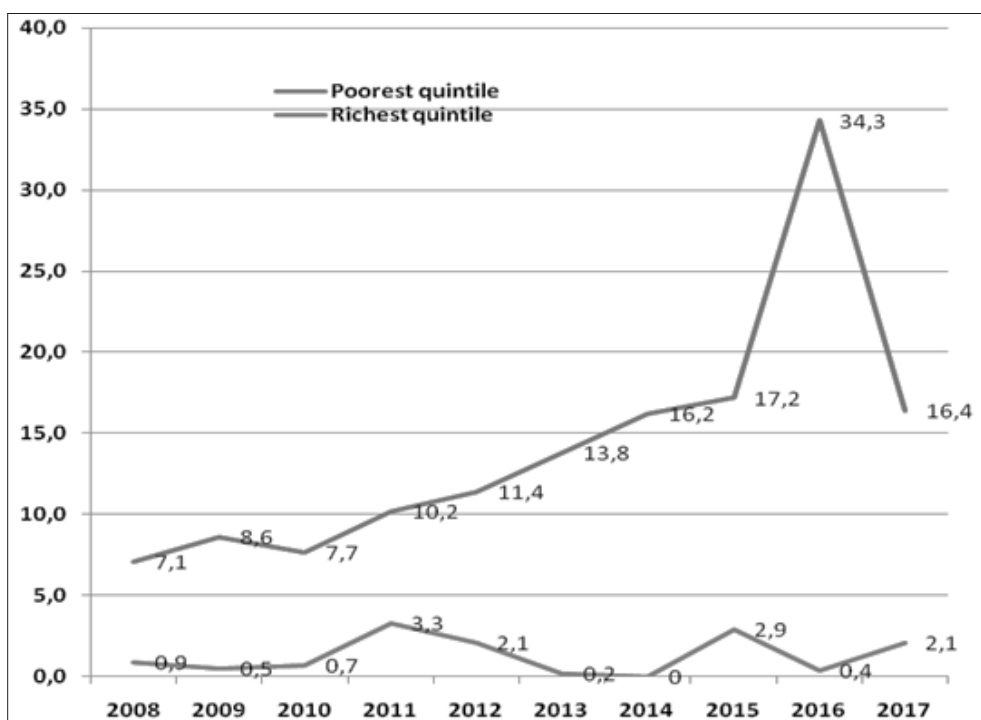
Source: Eurostat Database

2.3 Quantitative and qualitative imbalances between health professions and specialties

As far as the HRH level is concerned, Greece holds the highest proportion of doctors (6.6/1,000 inhabitants) among the EU countries, with an increasing trend over the years (Figure 2). The country also holds the first position regarding the number of physicians in many specialties (e.g. cardiologists, gynecologists-obstetricians, neurosurgeons, ophthalmologists etc.). In the case of dentists, Greece holds the third highest ratio (1.23/1,000pop) among OECD countries. On the other hand, Greece holds the last position among the EU countries with a proportion of nursing staff of 3.3 per 1,000 inhabitants (1.9 practicing nursing professionals and 1.4 practicing nursing associate professionals). As far as the midwives are concerned, Greece also holds the last position, with a rate of 0.24/1,000 inhabitants a fact possibly associated with the increased number of obstetricians and their predominant role in maternity care, bearing in mind that nurses are not allowed to participate in child birth. Finally, regarding physiotherapists (0.7/1,000pop), since 2011, a remarkable increase by 36% has been reported (OECD Health Data).

Figure 2: Doctors and Nurses Ratios per 1,000 inhabitants in the EU countries.
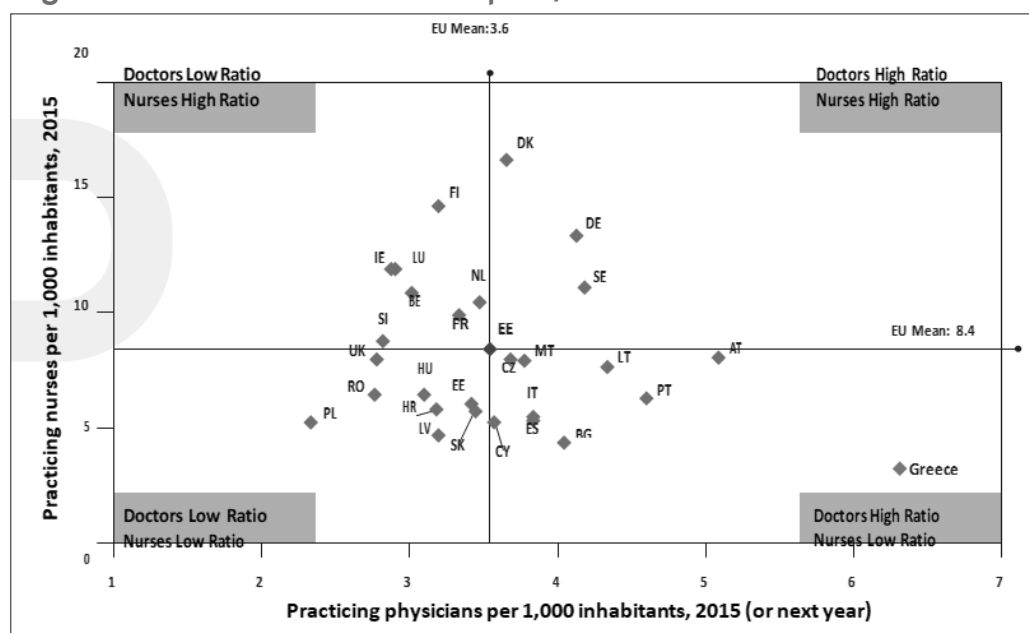
Source: OECD, 2017

Although, there is this disproportionate increased number of doctors, Greece faces shortages in general practitioners (GPs) as their ratio in 2016 was among the lowest in EU-15 with only 0.4/1000 inhabitants. However, over the last decade the number of GPs has significantly increased (over doubled) probably due to the saturation of the other specialties and, consequently, the decision of new physicians to become GPs. Additionally, the country faces remarkable shortages in specific specialties as for example Accident and Emergency medicine, General Practitioners, Occupational Medicine, Geriatrics and Intensive Care (OECD Health Data).

Reimbursement of physicians in the private sector (fee-for-service) and the consequent supplier-induced demand may partly explain the oversupply of certain medical specialists such as pediatricians, gynecologists and obstetricians. The inadequate planning regarding the physician specialties, the fee-for-service payment in the private sector and informal out-of-pocket payments in the public sector have traditionally created incentives for supplier-induced demand and/or oversupply of certain types of specialist physicians in Greece. Furthermore, a lack in sufficient number of nurses and other health professionals specialized in areas such as gerontology, community nursing, chronic disease management, public health etc. has also been identified.

2.4 Geographic and sectoral distribution of health professionals

There are notable geographical distribution inequalities (Table 1) between urban and rural areas, with the largest concentration of health professionals found in Attica and other urban areas (physicians ranging from 92 in Attiki to 29/100,000 in Central Greece and nurses from 29 in Attiki to 8/100,000 in South Aegean in 2016).

Financial incentives are not enough to recruit and retain physicians, nurses and other health professionals to remote areas and, as telemedicine applications have not been sufficiently developed at a national level and efforts have been occasionally and limitedly implemented, physicians have even less motivation to work in rural and/or secluded areas. Imbalances between health sectors are also recorded; the Greek primary health-care system absorbs a very limited part of the national health system's workforce and currently there are far fewer GPs in Greece than the EU mean, while the numbers of specialists are greater (in some cases considerably) than in the rest of Europe.

2.5 Lack of proper planning of Human Resources in Health

No proper planning of health workforce in Greece is in effect and there is no centrally planned HRH requirement for the health workforce and a lack of specific policy levers for redressing the imbalances in the work force which has led to maldistribution and imbalances. Due to the fact that there is no monitoring on the inflow of health professionals either the type or number, the planning system is in fact supply – led, matching existing staff to the services and not vice versa, and thus resulting to planning difficulties.

2.6 Lack of a national HRH database and not updated registries

Comprehensive data on human resources in Greece are not available in one single repository, as there is not a national system tracking data from all available sources, and there is no department/institution responsible for HRH information. This means that any attempt to determine the size and core characteristics of the health workforce requires some level of analysis and synthesis of available information from multiple sources and decision makers do not have direct access to data for HRH decision-making without significant effort. There is not a national system tracking at the same time graduates of health professions education programs (inflows), international immigration of health professionals or exits (outflows) and stocks, while health professionals' registries are not updated. In fact, there is a lack of data regarding many categories of health professionals and especially HR distribution (geographical, sectoral, age and gender, skills etc).

The existing databases are not only fragmented but also confusing since there are several discrepancies and variations in definitions and proposed indicators between them and the WHO's framework for HRH assessment. Some of the main problems occurring in gathering appropriate data are: (i) data on health professions that, apart from the health sector, work in other sectors too, (ii) data on health professionals who graduate abroad in professions with no obligation for a recognition of qualifications, (iii) retirement and other reason of withdrawals from work in health sector, (iv) employment of medical doctors in private hospitals etc. A particular problem is the uncertainty on health workforce availability introduced by the high proportion of unemployment.

Thus, in regard to the aforementioned, we have to point out some limitations regarding the data presented. With respect to the physicians, numbers reflect licensed physicians, i.e. both practicing and non-practicing physicians who are registered and entitled to practice as health care professionals. Consequently, the number does not reflect those who are actually practicing their profession. On the other hand, regarding practicing nurses and associate practicing nurses, figures are slightly underestimated, given the data derived via the ELSTAT survey on hospitals and public health centers; nurses working in other healthcare settings e.g. private diagnostic laboratories, home care services and private polyclinics are excluded. Moreover, double counting problems probably occur under the category of *"physicians without a specialty"*, as the registries of the local medical associations are not clear.

Table 1: Health professionals in Greece by cadre and Region per 10,000 pop in 2016

CADRE	Greece	Attiki	AMK	KM	DM	Ipeiros	Thessalia	IoN	DE	SE	Pel	VA	NA	Kriti
I. Generalist medical practitioners	4	2	4	3	4	5	4,5	5	4	5	6	4,5	4	5,3
General Practitioners	3	1	4	3	3	4	3	3	3	3	4	2,9	3	4,7
Social Medicine	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Practicing in rural areas as precondition to become trainees	1	1	0	0	1	1	1,5	2	1	2	2	1,6	1	0,6
II. Pediatricians	3	4	2	3	2	4	3	3	3	2	2	2	2	4
III. Specialist medical practitioners	38	52	26	39	4	40	32	30	38	19	22	26	22	35
IV. Without specialty	13	18	12	15	23	16	9	5	2	1	5	4	5	12
V. Trainees physicians in order to gain a specialty	8	15	10	1	3	1	6	2	6	1	3	1	0	6
Total Number of Physicians =I+II+III+IV+V	**66**	**92**	**53**	**62**	**36**	**66**	**54,5**	**46**	**54**	**29**	**38**	**37,5**	**34**	**62**
Nursing professionals (Hosp & Health Centers 2015) included Midwives & Health Visitors	20	27	21	18	16	25	19	13	16	9	11	14	8	22
Midwifery professionals (Hosp 2015)	2													
Nursing associate professionals (Hosp included practical nurses 2015)	**14**	**21**	**18**	**18**	**16**	**27**	**21**	**16**	**15**	**8**	**12**	**18**	**16**	**15**
Dentists (licenced)	**12**	**16**	**9**	**12**	**10**	**10**	**11**	**8**	**10**	**9**	**9**	**8**	**9**	**11**
Pharmacists	**11**	**10**	**9**	**10**	**9**	**10**	**11**	**9**	**9**	**8**	**9**	**9**	**8**	**9**
Physiotherapists (licenced)	7	9	6	7	5	5	6	7	6	5	5	6	4	5

AMK= Anatoliki Makedonia and Thraki, KM= Kentriki Makedonia, DM= Dytiki Makedonia, IoN=Ionia Nisia, DE=Dytiki Ellada, SE=Sterea Ellada, Pel=Peloponissos, VA=Voreio Aigaio, NA=Notio Aigaio

Source: ELSTAT

2.7 Reduced productivity and quality of care

The health sector is characterized by a lack of HR management tools including timely processes for selecting and appointing staff, a lack of substantive staff evaluation, a culture of non-accountability, and a generalized horizontal approach to reward and discipline (Minogiannis, 2012). Lack of skills related to both communication with colleagues and patients and management of new technologies is also reported. The long-standing dominance of the medical profession, the high number of physicians and a shortage of nurses, has led to an expensive substitution of the nurses' work by physicians and an inefficient way to produce care (Sakellaropoulos et al., 2012).

2.8 HRH increasing mobility status, high unemployment levels and poor working conditions

No reliable data are available concerning the international mobility of Greek doctors and nurses. However, the impact of the economic crisis and its effects in the health sector is one of the main factors contributing to the migration abroad of a large number of health professionals and especially doctors and nurses. High unemployment in the sector, reductions in salaries, high ratios of physicians, the shrinking of the private sector, the unfavourable working conditions and poor work satisfaction levels are among the main reasons for the outflows of health professionals (Minogiannis; 2012, Sakellaropoulos et al., 2012; Ifanti et al., 2014; Saridi, Karra and Souliotis, 2016). Currently, no motivation system is in place and no distinct financial incentives or incentives associated with achievement of goals and possibility of professional development or recognition in the workplace are applied.

2.9 HRH implications of emerging health issues

The Greek health system was mainly designed to provide acute care with little attention in primary health care and public health. Public and Primary health interventions including activities towards increasing physical activity, encouraging healthy dietary practices, diminishing smoking habits and establishing integrated approaches for the care of the elderly constitute areas with considerably significant level of improvement potential. Also, control of non-communicable diseases requires a multi-sectoral and comprehensive approach by policy makers, public health professionals and advocates which is necessary to accomplish public health targets. Multidisciplinary teams are important in order to deal with diverse health needs (e.g. migrants), including increasing illness complexity, disability, mental health problems and frailty.

2.10 Payment mechanisms not related to performance

Performance related payment mechanisms for health workers in order to improve productivity and effectiveness, are not in effect. Salary levels of Health care professionals working in NHS units depend on cadre, years of working experience, marital status and working shifts, undependably of performance/productivity. Very limited economic incentives are provided for those health professionals willing to work in rural and remote areas.

2.11 Good quality of pre-service education but also a growing necessity to reorient curricula towards meeting the population's health needs

The health profession education provided both on pre-service and post-graduate level in Greece is considered to be of high quality in most educational institutions. During the last years, some initiatives have been implemented to reorient educational objectives and the corresponding curricula towards meeting the population's health needs (e.g. community nursing, general medicine, public health, geriatrics and gerontology, oncology and lately emergency care) during pre-service and post graduate education. However, these efforts should be strengthened and better coordinated. Another issue is the fact that currently there is no control on the output of the education sector either by type of health professional or their numbers. The inflows of these health professionals into the system create pressures and contribute to planning difficulties.

2.12 Continuous Professional Development

There is a voluntary framework for CPD for all health professionals, while a legal framework for compulsory CPD regarding physicians exists, but it is not implemented. In reality, there is no further obligation for doctors to continue their education after obtaining their license to practice. There is no specific framework setting out the rules for the implementation of a Continuing Professional Education and process control. It constitutes more of a moral obligation and it is voluntary in the context of conferences, seminars, scientific days and postgraduate courses organized by health professional universities and professional associations.

2.13 Decision making processes and current policies with an impact on HRH strategy

Although decentralization is an issue at stake, the power in the health sector decision making still remains in the MoH while Regional Health Authorities' responsibilities are limited. Decisions of the MoH have been traditionally highly influenced by the medical associations.

3. Outlines of the suggested HRH Strategy

The suggested HRH Strategy aims to support Ministry of Health's goals of moving towards universal health coverage, reducing health inequalities and developing an effective people centered system in order to improve the health outcomes of the population with a focus on primary health care and public health. The vision of the HRH strategy is to provide the strategic framework, policies and recommendations in order to better support and enable a sustainable and flexible 'forward looking' workforce that is capable of achieving the vision of the health system and the policy framework of the PHC reform and the public health plan which includes the provision of accessible, equitable and high quality patient-centred care close to the community and based on the needs of the population.

The achievement of the PHC reform and the National Public Health plan requires reforming the health workforce at all levels and in different areas, ranging from setting health workforce

norms and standards to training and institutional capacity building. This needs a long-term vision and commitment of all stakeholders and focused implementation of strategic choices on PHC and PH. It implies several iterative rounds of strategy development and implementation over time. Importantly, government and all stakeholders must commit financially and politically as the long-term planning and implementation of the recommended strategic options require constant review and reiteration. Successful implementation requires a continuous iterative process of implementation, followed by review, followed by adapted implementation and so on. This also implies making choices on what to do first and setting parameters to allow transparency on how choices have been made.

The present HRH strategy is a first step and is developed along some basic guiding principles. Indicatively:

- It evolves around the fundamental principles of equity, accessibility and the provision of high quality care tailored to the needs of the population.
- It focuses on key HRH reforms required to implement the primary health care and public health strategies in line with the current policy priorities.
- It is a rolling plan.
- It offers policy options. This facilitates a consultation process with different stakeholders and ownership.
- It suggests quick "accomplishments" to show success in the short term, motivate the involved parties, boost the team moral and allow continued commitment of all stakeholders.
- It suggests the need to ensure sustainable financing; sustainable finance is a cross cutting condition for success of all the measures/options recommended. As the current financial envelope is restrictive, priorities must be set so as to determine what could be done within the current financial circumstances. Additionally, funding options need to be identified to further develop and finance other recommendations.
- It suggests an accompanying policy option priority setting framework, the need to monitor and evaluate progress by using objectives and key performance indicators as a specific way of measuring success, a change and stakeholder management process as well as a communication plan in order to inform and help convince those not included in the strategy development.

Therefore, the strategy development process has identified five strategic priorities, which represent the focus of the HR planning for the next years, ranging from equitable distribution and retention of health workers to improved governance and better management systems (Figure 3).

Figure 3: The five strategic objectives

Proposed strategic objectives and policy actions are itemized below along with some of the recommendations which constitute the most urgent policy priorities:

Strategic Objective 1: Improve HRH planning, data collecting, analysis and reporting mechanism and registries

1.1 *Quantify HRH needs in terms of predicted needs and workloads rather than by population or facility-based norms (the estimated number, category and qualification of health workers required to meet public health goals and population health needs).*
     One of the proposed recommendations, which may be considered as a "quick accomplishment", is to:
     – Establish an HRH planning model in order to be able to effectively meet HRH future requirements in health sector, including PHC and Public Health, taking into consideration the changing needs and trends (demographic changes, epidemiology, efficiency etc)

1.2 *Strengthen HRH data collection and develop robust registries for health workforce flows and CPD*
     One of the proposed recommendations is to:
     – Improve HRH information architecture and interoperability and develop an integrated Human Resources Information System (HRIS)

Strategic Objective 2: Achieve appropriate numbers and types of health profes-sionals in post and those professionals to be equitably distributed

2.1   *Strengthen recruitment to address shortages of health professionals at all levels, **im-** ***prove** recruitment processes and retention in remote geographical areas (islands, rural remote areas etc.)*
       Some indicative recommendations are to:
       – Analyze and improve existing recruitment policies and procedures - Staffing norms should be reviewed and change to meet the changing needs of the popu-lation and to support the implementation of PHC and Public Health Plan
       Provide incentives for health workers who practice in remote areas by making *those areas more attractive (e.g. "Total Reward Packages")*

2.2   *Transform the professional, technical and vocational education and training within the aim of ensuring the necessary number of graduates with a given skills set as well as the quality of those human resources (in order to enable the implementation of the national health plan)*
       Some indicative recommendations are to:
       – Development/adaptation of curricula, re-orientation of specialists and develop-ment of an adequate pool of the specialties facing shortages as for example GPs, Public Health Professionals, Gerontologists-Geriatricians, Emergency Care spe-cialists, Epidemiologists, etc
       – Provide education and training to primary health care and public health pro-fessionals to handle co-morbidity/elderly/vulnerable groups, risk assessment and proactive counseling in order to confront effectively life-style risk factors and emerging health issues
       – Develop all necessary educational and training courses required to implement PHC strategy and Public Health Plan with emphasis in team building, other soft skills, management/leadership capabilities and multi-professional education

2.3   *Introduce a systematic procedure on Continuous Professional Education (CPD) for all health care professionals and national relicensing assessments*
       One of the proposed recommendations is to:
       – Develop regulation to ensure that public and private sector professionals are com-petent, sufficiently experienced and adhere to agreed standards relative to the scope of practice and competency enshrined in regulation and legislative norms

2.4   *Develop a systematic plan to support government priorities and attract health profes-sionals in primary health care and public h*ealth
       Some indicative recommendatio*ns are to:*
       – Develop PHC guidelines and protocols to support their daily practice, train health professionals for their use and incentivize their use and compliance to the guide-lines
       – Improve health professionals' cultural competence to work with migrants and refugees and strengthen their knowledge regarding these groups' specific epide-miology, public health needs, etc
       – Strengthen the role of nurses in chronic diseases and life-style risk factors man-agement

- Develop a critical mass of priority health workers (eg GPs, public health experts) and expertise in order to meet the objectives as stated in the PHC reform and the Public Health Strategic Plan

Strategic Objective 3: Improve HRH performance by formulating a positive working environment: motivation, satisfaction, retention, remuneration

3.1 *Improve working conditions, wage levels and establish a meritocratic reward system*
One of the proposed recommendations is to:
- Develop a merit-based career path (including well defined performance criteria) for all professionals in order to improve work satisfaction, staff motivation and accountability/Establish a pay for performance mechanism (a meritocratic reward system may be examined in order to incentivize high performance and provision of high quality services)/Establish fair wage appropriate to skills and contributions

3.2 *Introduce policies to reduce migration of health professionals and increase retention of highly skilled professionals*

Strategic Objective 4: Strengthen governance and administrative capacities to implement HRH policies and clarify the rules regulating decisions from the central to the peripheral and the facility level

4.1 *Improve the institutional capacity within the MoH in order to implement the HRH strategy*
Some indicative recommendations are to:
- Develop an HRH planning team reporting to a senior level within the Ministry of Health (e.g. Director General) with responsibility to develop and monitor policies and plans and put in place institutional mechanisms in order to coordinate an intersectoral health workforce agenda
- Establish a high level multi stakeholder HRH steering committee (HRH High Level Committee) to coordinate and monitor implementation of the HRH Strategy i.e. coordinate/monitor implementation and adapt or revise the strategy if necessary

4.2 *Strengthen the administrative and management capacities of HRH, at National and regional level, in order to implement an array of systems, policies and practices and to support performance of health workers*
Some indicative recommendations are to:
- Develop tools and supportive management systems, including mentoring, counseling and coaching, change management programs, etc
- Include training of health professionals in leadership and management skills in Continuous Professional Development as a prerequisite criterion for all key management posts

Strategic Objective 5: Align investment in HRH with government strategic health policies and priorities (including the Primary Healthcare Strategy and the National Public Health Plan)

5.1 *Develop a fully costed plan about all service delivery changes which incorporate HRH requirements including all types of start up and recurring operational costs and cost-benefit/impact analysis*

5.2 On-going review of financial commitments regarding sustainable HRH funding
One of the proposed recommendations is to:
– Develop a comprehensive mapping of the different funding sources for HRH and their financial commitments (including funding for pre-service education, salary/allowance payment in the health sector, CPD, performance management activities, payment for HRH functions within the ministry- include private sector and other sectors etc).

It is important to note that all proposed strategies and policies need to be implemented in a step-wise manner. The implementation and timing of identified recommendations should be outlined in annual national, regional and organizational work plans, which would need to be determined each year in accordance with the health system's priorities and available resources. Similarly, the investment that will be required should be determined by the MoH and a specific costed plan of the HRH strategy is required. An HRH management team within the MoH (which represents one of the recommendations) is important in order to facilitate the implementation of the HR strategy and maintain a continuous monitoring process to ensure that the strategy remains on target with the policy priorities set.

Finally, a detailed and robust monitoring and evaluation system should be put in place to track implementation of the National HRH strategy and identify areas where corrective actions will be required. Monitor &Evaluation findings should be disseminated to all key HRH stakeholders and the process should be linked with the established health sector monitoring and evaluation mechanisms.

4. Discussion

Due to several types of limitations with regard to the financial, social, political and technical feasibility of the policy options and recommendations, attributed to the specific characteristics of the national context, the Greek Ministry of Health needs to set priorities regarding the selection and order of the implementation of the options and recommendations presented in the strategy. Therefore, a (financial, social, political and technical) feasibility analysis i.e. an assessment of the operational practicality of the recommended policy options and recommendations must precede any implementation decision.

The factors contributing to a decision regarding the financial feasibility/viability of the HRH Strategy and the selected policy recommendations constitute, primarily, the estimation of the total cost of these priorities (both start-up i.e. one-time and recurrent total costs), its funding potential (the corresponding financing/funding sources and structure) and a sensitivity analysis regarding the volatility in large increases in cost and/or adverse economic conditions. Therefore, the priorities set by the MoH must be costed in advance and the relevant potential funding sources should be early on identified and assessed regarding their availability and readiness to respond to the HRH Strategy's funding needs.

A social feasibility/impact assessment should be conducted as well so as to identify and analyze the severity of any possible adverse impacts on the population/communities upon which the strategy should disclose its implementation outcomes and assess their willingness to accept proposed changes (eg acknowledge and accept an advanced role of nurses in the system). This

will help to mitigate them to the possible extent, reduce resistance, strengthen its general support, and allow for a more comprehensive understanding of its costs and benefits.

Furthermore, a technical feasibility analysis should be conducted in order to acquire an understanding of the technical resources available and their applicability to the expected needs of the implementation of the recommended policy options i.e. to ascertain that there is the technical expertise to go through with the completion of the implementation process.

In order for the adopted HRH Strategy to be successfully implemented, some essential requirements/important strategies that should be put in effect are primarily with regard to change management, stakeholder mapping and management and communication strategy for PHC and PH.

A structured approach to ensure the changes that this HRH Strategy entails are implemented smoothly and successfully so as to achieve lasting benefits regarding the PHC and PH reform must be employed. Change management strategies within the health sector should include all approaches to prepare and support all involved stakeholders, individuals and bodies, in making these changes. Change management process may include not only determining the need for change (based on the strategies, options and recommendations presented in this document) but also prepare and plan for change, implement the change and ultimately, sustain the change. Change management involves collaboration between all members working for the HR management team within the MoH or an authorized by the MoH body to implement the HRH Strategy. Finally, change management processes should also include creative marketing to enable communication between changing audiences, as well as deep social understanding about the stakeholder group dynamics.

Furthermore, stakeholder mapping and management processes should be established so as to develop positive relationships with stakeholders and effectively deal with their expectations. The main objectives of this process would be to collaborate with the professional associations who need to be supportive due to their advanced role and seek their consensus. Stakeholder management is a process that must be planned and guided by several underlying principles. Stakeholder management within the reform context prepares the HRH strategy using information gathered during the processes of the stakeholder analysis and effective engaging and communicating with stakeholders. In addition, some of the basic principles of stakeholder engagement entail effective communication so as to ensure the achievement of desired responses, early and frequent consultation so as to find answers to questions and collecting useful information, effective planning and time investment in consultation processes and consensus building, building trust with the stakeholders and creating ownership of the HRH strategy across stakeholders.

Finally, the main objectives of the communication strategy, not only for the HRH strategy, but also for the PHC reform and the Public Health strategy would be to raise public awareness, explain the reasons for changing so as to decrease friction and establish an open ground for debate and outline the benefits users might expect as a result of the changes. The components that must be considered with regard to the communication strategy are the corresponding objectives and key messages, target audiences, tools and resources and timeframes.

However, the strategic management process is accompanied by various types of risks that mainly refer to operational risks; predictable changes and those difficult to predict must be taken into careful consideration. As the dynamics of environmental changes are often unpredictable and can lead to adaptations of priorities and adjustments of implementation, the iterative process of HRH priority setting and adjustments of plans over time is essential. Thus, the impact of

these factors on the effectiveness of the strategy implementation must be foreseen and analyzed in order for actions to be taken and avoid all possible negative implications. Some of the risks that may affect the successful implementation of the PHC and PH reforms and a National HRH Strategy, include the political instability; the lack of administrative capacity to ensure continuation and sustainability of interventions; competing priorities on stakeholders' agendas, lobbying and political dynamics that may influence the policy-making or implementation process; lack of stakeholder and political commitment to the HRH strategy; unforeseen implementation costs and inadequate or fragmented funding.

Thus, the establishment of an HR management team within the MoH is crucial so as to mitigate these risks and to take responsibility to implement and monitor the strategy and to adapt it to potential changes. Bureaucracy and time-consuming procedures may delay the set up of this team and therefore political will to implement the proposed action is necessary. Finally, implementation of a strategy more than often requires the completion of a series of stages by different departments within the wide spectrum of the state services.

Bibliographical references

Economou Ch., Kaitelidou D., Karanikolas M. and Maresso A., (2017), "Greece: Health System Review", *Health Systems in Transition* Vol. 19, No. 5 2017.

Economou C., Kaitelidou D., Siskou O., Galanis P. and Konstantakopoulou O., (2018a), *Literature review in preparation of the rapid assessment of human resources for health in Greece. Support to the Ministry of Health of Greece in developing a national strategy/ strategic plan on human resources for health,* Unpublished internal report for Minister of Health.

Economou C., Kaitelidou D., Siskou O., Galanis P. and Konstantakopoulou O., (2018b), *Rapid assessment of human resources for health in Greece. Support to the Ministry of Health of Greece in developing a national strategy/strategic plan on human resources for health,* Unpublished internal report for Minister of Health.

Economou C., Kaitelidou D., Siskou O., Galanis P., Konstantakopoulou O., Scotter C., Domente S., Myloneros Th., Dieleman M. and Onvlee O., (2018c), *National strategy on human resources for health. Support to the Ministry of Health of Greece in developing a national strategy/strategic plan on human resources for health,* Unpublished internal report for Minister of Health.

Economou C. and Panteli D., (2019), *Monitoring and documenting systemic and health effects of health reforms in Greece,* WHO Regional Office for Europe: Copenhagen.

Ifanti A.A., Argyriou A.A., Kalofonou F.H. and Kalofonos H.P., (2014), "Physicians' brain drain in Greece: a perspective on the reasons why and how to address it", *Health Policy* 117(2):210-215.

Institute for Health Metrics and Evaluation, (2018), Retrieved from http://www.healthdata.org/ greece, (last accessed on 17 March 2018).

Minogiannis P., (2012), "Tomorrow's public hospital in Greece: Managing health care in the post crisis era", *Social Cohesion and Development* 7(1):69-80.

OECD, (2018a), Retrieved from https://data.oecd.org/pop/elderly-population.htm#indicator-chart, (last accessed on 17 March 2018).

OECD, (2018b), Retrieved from https://data.oecd.org/pop/elderly-population.htm#indicator-chart, (last accessed on 30 March 2018).

OECD, (2018c), Gross domestic product (GDP) (indicator). doi: 10.1787/dc2f7aec-en (last accessed on 30 March 2018).

OECD, (2018d), Health Care Resources (indicator). http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT, (last accessed on 30 March 2018).

OECD, (2017), State of Health in the EU: Greece, Health Profile 2017. Retrieved from: https://ec.europa.eu/health/sites/health/files/state/docs/chp_gr_greece.pdf, (last accessed on 30 March 2018).

OECD-European Observatory on Health Systems and Policies, (2017), *Greece: State of Health in the EU 2017*, OECD Publishing, Paris/European Observatory on Health Systems and Policies, Brussels.

Sakellaropoulos T., Economou C., Georgousi E., Thomas D., Kyriazis S. and Filiopoulou M., (2012), *Structural and qualitative characteristics of public healthcare workforce in Grecce,* Hellenic Union of Public Servants (ADEDY) (In Greek).

Saridi M., Karra A. and Souliotis K., (2016), "Work related stress in health care professionals in the economic crisis", *Archives of Hellenic Medicine* 33(1):73-83 (In Greek).

WHO, (2016), *Greece profile of health and well-being,* Copenhagen.

Biographical note

Daphne Kaitelidou is an Associate Professor in Health Care Management, School of Health Sciences, Department of Nursing, National and Kapodistrian University of Athens, and Director of the Center for Health Services Management and Evaluation. She has extensive research experience in the fields of Health Management and Economics. Her work has focused, in particular, on the funding of the health care system, health technology assessment, health and social inequalities, health policy and health services management. She has participated in many international and national projects on these areas and has published a significant number of articles in peer reviewed international and national journals and books.

Charalambos Economou is Professor of Health Policy and Sociology of Health in the Department of Sociology of Panteion University. His teaching and research activities concern Social Policy, Supranational Social Policies, European Social Policy, Health Policy, Social Exclusion, and Sociology of Health. Besides, he lectures in graduate courses and in the National School of Public Administration, Athens. He has published on health policy, health sysñtems, European social policy, welfare states comparative analysis, poverty and social exclusion. He has participated in many international and national research projects and he is collaborating with international organizations (OECD, WHO) and research centres (European Observatory on Health Care Systems, LSE Centre for Civil Society etc).

Olga Siskou, RN, MSc, PhD is a Senior Research Associate at the Center for Health Services Management and Evaluation, Department of Nursing, National and Kapodistrian University of Athens and has been working as Contractual Academic Staff at the Department of Nursing since 2014. She has participated in many Greek and International Projects and published many papers in national and international journals. During the last years her work has focused on Health Economics and Health Nursing Economics, Nursing Management, Funding of the health care system and health inequalities, Health Technology Assessment, Barriers to health care access and socio-economic determinants of health, Health Services Management and Human Resources Management in Health Care.

Olympia Konstantakopoulou is an Economist, with a MSc in Health Care Services Management (National and Kapodistrian University of Athens) and a doctoral student in Healthcare Management and Health Economics. She is a Research Fellow at the Center for Health Services Management and Evaluation since 2013 and she has participated in projects funded on a National and European level in the fields of health and social care services management, health and social inequalities, economic evaluation and modeling, health policy, public health, health education, etc. She has also extensive professional and research experience as a statistician and researcher in the areas of Statistics/Biostatistics.

Petros Galanis has a MSc and a PhD degree at Public Health and since 2008 he has worked as a research fellow in the Department of Nursing, National and Kapodistrian University of Athens and in particular in the Center for Health Services Management and Evaluation. During 2002-2007 he worked as a research fellow in the Laboratory of Clinical Epidemiology, Department of Nursing. He is teaching Epidemiology, Research Methodology, Medical Decisions Theory, Demography and Biostatistics in undergraduate and postgraduate programs. He has written many books and he is co-author in many publications in peer reviewed national and international journals. He has participated in a multitude of National and International research projects as an expert on Research Methodology Design, Evidence-based Nursing and Biostatistics.

Thanos Myloneros has studied Public Administration and has a MSc in Health Institutions Management, at the Conservatoire National des Arts et Métiers, while he currently studies for the MSc in Public Health at the London School of Hygiene and Tropical Medicine, University of London. In 2015 he started working in the Greek Ministry of Health as a senior advisor on Primary Health Care and since 2017 he is working for WHO Europe, as a National Professional Officer, Health Systems, based in Athens, Greece. From May 2019 onwards he is part of the WHO Country Office team, with main areas of work on public health, primary health care and health systems.

Silviu Domente was trained as a medical doctor in the Republic of Moldova, and then got a MSc in Public Health at the London School of Hygiene and Tropical Medicine, University of London. He has started his professional career as a surgeon in the Emergency Hospital immediately after graduation, then moved to the Ministry of Health of the Republic of Moldova and acted there as Head of the International Relations Department for almost 6 years. In 2004 he has joined the UN family, working first for UNICEF Moldova and then for WHO (since 2008). In 2013 he became part of the WHO team on the ground in Athens, Greece, acting initially as Health System Analyst and later-on as Senior Adviser Health Policy, until March 2019. Since April 2019 he is WHO Representative and Head of the WHO Country Office in Georgia.