Rural and Remote Health
MEDLINE listed
Impact factor .979
FRAME
ARHEN
Wonca
RURAL HEALTH
ISSN 1445-6354
The International Electronic Journal of Rural and Remote Health Research, Education, Practice and Policy

ORIGINAL RESEARCH

# Perceptions of primary care professionals on quality of services in rural Greece: a qualitative study

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***Submitted:*** *29 March 2012;* ***Revised:*** *14 September 2012,* ***Published:*** *22 October 2012*

**Sbarouni V, Tsimtsiou Z, Symvoulakis E, Kamekis A, Petelos E, Saridaki A, Papadakis N, Lionis C**

**Perceptions of primary care professionals on quality of services in rural Greece: a qualitative study**
***Rural and Remote Health*** **12: 2156. (Online) 2012**

**Available: http://www.rrh.org.au**

## ABSTRACT

**Introduction:** Greece is striving to limit its health expenditure to essential needs. General practice and the provision of Primary Health Care (PHC) mainly take place in rural settings, where approximately 200 Primary Health Care Centres (PHCCs) have been established. In order to determine how to optimize the effectiveness and efficiency of PHC services, it is important to first gain insights into the providers' perspectives. The aim of the study was to assess the perceptions of General Practitioners (GPs) and the directors of PHCCs regarding the effectiveness of available PHC services, and to elicit suggestions on how current services could be improved.

**Methods:** This qualitative study was based on semi-structured interviews. The setting was 21 PHCCs in the Epirus and Crete regions of Greece. Twenty-nine physicians were interviewed on aspects of capacity, resources, performance and quality of PHC services. Discussions were digitally recorded and transcribed verbatim. The transcriptions were then analysed using thematic content analysis.

**Results:** The main identified barriers to providing high-quality PHC services were: PHC service shortages in workforce and equipment; inadequate GP and paramedic training; the absence of position/job descriptions or duty statements for GPs and other PHC personnel; and limited public awareness about the role of GPs. Suggestions for remodelling the current PHC system included: the introduction of new technologies; GP empowerment; leadership reforms; and mechanisms for evaluating of the quality of services. Finally, areas of concern regarding future development and utilisation of private PHC infrastructure and services were highlighted.

**Conclusion:** The methodology of this study and the results regarding remodelling the current PHC system could be used to inform

policy-making in Greece, particularly in the current period of severe economic crisis; they may also be of relevance to other European countries facing similar challenges in allocating resources and reforming PHC.

**Key words:** general practice, Greece, health policy, primary care, public health, quality of health care.

# Introduction

Effective Primary Health Care (PHC) services are essential for the wellbeing of communities. However, according to the *World Health Report 2008: Primary Health Care (Now More Than Ever)*, despite the enormous progress in health globally, the failure to deliver services in line with PHC values and principles is obvious and health systems ought 'to narrow the intolerable gaps between aspiration and implementation'[1]. Among the aims of PHC are cost minimization, appropriate referrals and patient safety, earlier intervention, and the greater use of preventive practices[2]. Securing funds to reform PHC services effectively is a substantial challenge in a globalizing world, but this must be a high priority in countries affected by serious economic crisis, such as Greece, Portugal and Spain.

In addition to global concerns, the performance of PHC services in Greece has been criticised for the disproportionate or inordinate amount of time taken by prescribing, repeating prescriptions or ordering tests[3], because integrated PHC is not yet a reality[4]. This is despite systematic efforts to achieve this target during the past 5 years[5]. Moreover, difficulty in using clinical guidelines in daily practice, and gaps between the knowledge and practice of GPs in the use of evidence-based recommendations for health promotion and disease prevention at the PHC level have been reported[6]. Surprisingly, despite the efforts of the Greek Government, a PHC GP-based network is not yet developed in urban areas; while in rural areas, the absence of horizontal pathways between primary and secondary care mean that PHC patients frequently refer directly to urban hospitals for common disorders.

Although the Greek national healthcare system was designed to offer free access to medical services for the entire population, there has been a rise in aggregate expenditure on private health care[7,8], coupled with a marked fall in the high annual growth rate of public expenditure in real terms (14.7% for 2004–2005 and 9.8% for 2005–2006). More recently there has been a serious fall to -9.9 (2009–2010) with aggregate expenditure on health falling to 10.2% in 2010[7]. Reforms to state PHC services are currently being discussed, while the development of private PHC services is the subject of debate.

Evaluation of the PHC services provided in rural Greece is considered to be the initial step in order to describe current conditions which will allow progression to relevant and efficient healthcare reform, particularly in the current period of economic crisis. Since no large-scale study has previously addressed primary-care services in rural healthcare centres in Greece, and as primary-care reform was already underway, this project was designed to evaluate the current situation in rural Primary Health Care Centres (PHCCs) throughout Greece. The main research questions of this qualitative study were to:

- determine to what extent quality PHC services have been achieved in the rural setting
- establish whether there are any barriers that impede the provision of high-quality PHC services
- elicit suggestions to improve the quality of PHC services.

This article reports on the findings of a qualitative study that aimed to provide additional insights into the perceptions of GPs and the directors of PHCCs regarding the effectiveness and quality of the PHC services, and also to clarify potential barriers they identified. It also presents their suggestions on how current services could be improved.

# Methods

## *Setting*

The study was performed over a 7 month period, between December 2008 and June 2009, and was part of a larger project of the School of Medicine of the University of Crete (UoC) in collaboration with the Department of Political Studies of the UoC and the National School of Public Health (NSPH) in Greece that aimed to evaluate the quality of PHCC services in Greece.

In Greece PHCCs are mainly situated in rural or semi-urban areas, and are affiliated with district hospitals. They were developed in order to provide health promotion, prevention, and chronic- and acute-care services free of charge. The PHCCs are staffed by GPs, nurses, midwives, health visitors, laboratory assistants, administrative personnel, and one centre director with a medical or dental background.

## *Study design*

**Setting, sample, and sampling:** This study reports data from two distinct, mainly rural regions: (i) the island of Crete in the Aegean Sea, the southernmost point of Europe at the crossroads of three continents, with a population of over 620 000 and population density of 75/km$^2$; and (ii) Epirus, a mountainous, sparsely populated, poor and isolated region in Northwestern Greece, with approximately 350 000 inhabitants and a population density of 39/km$^2$ (Eurostat). Five PHCCs in Crete and 16 in Epirus, with total population of approximately 99 300 and 195 200, respectively, were included in the study. The directors and management of PHCCs, and the GPs practicing in these PHCCs were invited by personal letter and telephone to participate and contribute to participant recruitment. Follow-up contact was made to those who accepted the invitation to participate and an appointment for the practice-based interviews was arranged. In addition, written material was provided informing participants of the aim of the study, the voluntary nature of participation and that all data would be treated confidentiality. All the participating GPs and directors were asked to sign an informed consent form prior to the interview.

## *Semi-structured interviews*

Individual semi-structured interviews were used to explore the perspectives of PHCC GPs and directors. Data collection by semi-structured interviews allows participants to be asked questions within a flexible framework[9] and ensures a common operating way by the researchers, managing to guarantee the informative completeness of the collected qualitative data. Prior to the interviews, all five interviewers were trained in qualitative interviewing techniques at an intensive two-day workshop held at the Faculty of Medicine, University of Crete. While free discussion was encouraged, the interviewers used three key topic areas to guide the session and ensure that important areas were covered (Fig1). The discussion was digitally recorded and transcribed verbatim. The duration of the interviews was 30–45 min.

## *Analysis*

The transcripts were analysed using thematic content analysis[10]. Analysis began with open coding describing each section within the transcripts. Using comparison across transcripts, the open codes were refined into major themes, which provided a coding frame for analysis. Ideas and categories were generated after performing line-by-line analysis and were tested and further explored in subsequent interviews until saturation was reached. After compiling a list of meaning statements related to the evaluation of the quality of PHCC services, emerging clusters of meaningful units were examined. The final themes were agreed upon after two researchers (ZT and AK) reached consensus. The coding was performed by researchers from different disciplinary backgrounds in order to improve study validity.

## *Ethics approval*

The Ethics Committee of the University Hospital of Crete approved this study (Protocol no. 9919), and clearance to initiate the study was provided by the Greek Ministry of Health and Solidarity.

1. **Personal experiences and views on working conditions in PHCCs**
2. **Potential and deficiencies in biomedical and other equipment in PHCCs**
3. **The perceptions of practitioners** on how PHCC services should develop, on research promotion within PHCCs and on the possible development of any private initiatives in PHC

**Figure 1: Topic areas covered in interviews. PHCC, Primary Health Care Centres.**

# Results

### *Participants*

Twenty-nine practice-based interviews were conducted with a total of 18 directors of PHCCs and 11 GPs. Fifty per cent (9/18) of the directors were women but most of the GPs were men (8/11). Information on years of work experience was available for most directors (16/18; mean [years] 19.6, standard deviation [SD] 5.8) and for most GPs (9/11; mean [years] 7.4, SD 7.0). Fifty per cent of the directors (9/18) were GPs, five (27.8%) were dentists, three (16.7%) were internists and one (5.5%) was a paediatrician.

The four themes identified by analysis were:

1. Barriers in providing high-quality PHC services
2. Remodelling the current PHC system
3. Concerns about the development of private PHCCs
4. Barriers to the pursuit of research activities in PHCCs.

A description of the emerging themes and their core content is presented (Fig 2).

### *Theme I: Barriers in providing high-quality PHC services*

There was great variability in the working conditions of the participants and the PHC services provided. The majority of participants were satisfied with the PHC services provided, considering the working conditions. However, almost all indicated that changes should take place urgently.

Personnel and equipment shortages: There was considerable concern regarding the lack of medical personnel (GPs and visiting specialists, paramedical and administrative staff) and also equipment shortages (ambulances, various medical instruments). There was also concern about reduced access to microbiological and radiological laboratories on demand, mainly because personnel must be shared with secondary healthcare facilities.

> *We work with a lot of manpower shortages. The coverage we have from our own staff is approximately 50% therefore we do not have the capacity needed by GPs. We have only seven nurses (instead of eleven).* (Director 3)

> *We have a microbiology laboratory without a microbiologist. The laboratory assistant is available only twice a week at the PHCC, the [rest of the week] being 'detached' to the general hospital […]* (Director 4)

> *We do not have enough drivers and, therefore cannot use the only ambulance in the area, intended to cover a very extensive area; 14 district practices (of our PHCC) in a 100 km area, […] three instead of five drivers, so it is often unavailable, […] we only have seven [nurses] instead of the required minimum number of 11.* (Director 2)

**1. Barriers to providing high-quality PHC services:**

***1a. Personnel and equipment shortages***

- lack of medical personnel both GPs and specialised visiting physicians
- lack of paramedical and administrative personnel
- lack of ambulances, medical equipment
- unavailability of microbiological and radiological labs on demand

***1b. Educational deficiencies in the training of GPs and other healthcare professionals and lack of CPD opportunities focused on the special needs of PHC***

***1c. Absence of duty statements for GPs and other PHCC personnel***

***1d. Limited public awareness about the role of GPs***

**2. Remodelling the current PHC system:**

***2a. Introduction of new technologies***

- electronic patients/health records
- telemedicine

***2b. GP Empowerment***

- implementation of the institution of family physician, with a specific list of patients; implementation of a gatekeeper system
- PHC in urban areas
- empowerment of academic General Practice

***2c. Mechanisms for quality assessment of PHC services***

***2d. Leadership reforms***

**3. Concerns about PHC privatisation:**

- PHC Commercialisation
- Exacerbation of inequalities
- Positive views: possible improvement of state-funded PHC by promoting competition

**4. Barriers in the pursuit of research activities in PHCCs:**

- lack of knowledge of research methodology
- lack of time; related to insufficient personnel
- funding issues
- absence of academic support throughout the country
- absence of organized electronic databases
- negative attitudes towards the combination of clinical and research activities

**Figure 2: Main themes and findings. CPD, Continuing Professional Development; PHC, Primary Health Care; PHCC, Primary Health Care Centres.**

The participants expressed concerns about the effect of the deficiencies on the quality of the PHC services. Due to a lack of medical personnel, the provision of home visits is difficult; remote areas are under-serviced; and preventive services are very hard to organise and deliver.

> *Primary health care should focus more on prevention with face-to-face education through visits to workplaces and schools; and we could if the PHCCs were better staffed and we did not have these shortcomings.* (Director 3)

General practitioner burnout was a visible consequence of the lack of personnel and the current distribution of medical workforce at the different PHCCs, as outlined by a number of participants.

> *You cannot effectively meet the needs of the population because there are so many people and one doctor, [who] cannot see more than 30 patients in one morning.* (GP 3)

A number of GPs expressed major concern about the unavailability of laboratory and radiological examinations (on demand and 24-hours-a-day), leading to higher rates of potentially unnecessary hospital referrals.

> *[…] should have laboratory and radiological examinations [available] around the clock. If this was the case fewer cases would be sent to the hospitals.* (GP 10)

Educational deficiencies in the training of the GPs and paramedics, and continuing professional development opportunities in primary health care: Some physicians mentioned insufficient GP education during residency followed by limited opportunities for Continuing Professional Development (CPD). That three years of the four-year residency program for general practice is spent in hospitals was questioned, and training in the management of chronic diseases was also considered inadequate. More training on evidence-based decision-making and clinical guidelines was requested during residency and at CPD level.

> *[…], my studies were different from the type of PHC I experience here. No relationship at all […] PHC training is required, such as; evidence-based medicine (EBM), protocols, treatment protocols, and updates on the current literature.* (GP 9)

General practitioner CPD was seen as an indispensable prerequisite for quality improvement, with an emphasis on who is to fund such activities. Stronger financial support by the national healthcare system was requested.

> *[…] to be trained on PHC issues through educational seminars financed by the state; the state should organize such events.* (GP 5)

Description of duties: The absence of specific position description for GPs was considered problematic in providing high-quality PHC services:

> *The specialty of general practice should be further defined: limits, boundaries, duties, when to refer a patient etc.* (GP 2)

A duty statement was also considered important for all PHCC personnel:

> *I would have defined the duties for each person, because often […] the response is 'I did not know that it was part of my duties'.* (GP 6)

Limited public awareness about the role of GPs: Although general practice has been recognised as a distinct medical specialty in Greece for over 20 years, several GPs felt that limited public awareness about their role, coupled with a lack of recognition amongst specialist peers, represented another barrier to high-quality PHC services.

> *General Medicine. This term is misunderstood by the public. There is a lack of public understanding about what a doctor can and should do and there is no public education about what a GP is […] Physicians of all specialties in large numbers have not 'recognised' [it], […] they view it*

*'competitively' or even condescendingly[…] This lack of appreciation [by other specialists] is often 'passed on' to patients – affects the GP.* (Director 8)

*Greek citizens do not learn about PHC as in countries like the UK. The patient will go directly to the specialist. If the patient has a sore throat, he will go to an ENT doctor or the outpatient clinic of the hospital, if there is easier access.* (GP 9)

### *Theme II: Remodelling the current primary health care system*

There was discussion about how PHCC services should be developed. Participants suggested: the introduction of new technologies; GP empowerment (implementation of the family physician with a specific patient list along with the gatekeeper system, PHC in urban areas, empowerment of academic general practice); leadership reforms (economic and administrative independence from hospitals); and mechanisms for quality improvement and assessment (eg the implementation of clinical audits).

Introduction of eHealth: Computers in every PHCC and electronic patient records were considered necessary to ensure healthcare continuity at the community level:

*Having a computer with internet access at every health centre [would help achieve so much more].* (Director 3)

*[…] Electronic patient records to communicate with other PHCC and with universities are absolutely necessary.* (Director 13)

Moreover, the implementation of telemedicine was suggested as a means to decrease referrals while simultaneously increasing quality of care by quickly and efficiently providing expert opinions when necessary, even in remote and isolated areas.

*[…] telemedicine, initially just a pilot, has to be implemented for certain remote and mountainous areas or islands where moving the patient is not always easy, and when and where [another] physician['s]guidance is needed.* (Director 4)

General practitioner empowerment: Adapting the GP role according to the setting by implementing a patient list that is GP- or PHCC-specific was suggested. This would allow fast, streamlined patient record exchange. Also, many participants proposed the expansion of PHC into semi-urban and urban areas with more PHCCs, with the creation of a gatekeeper system to reduce unnecessary hospital visits.

*Primary care should be properly supported and include the creation of urban health centres to decongest the hospitals. A citizen should not be able to go to hospital without a referral from a PHC physician.* (Director 4)

[…]*Having a connection with the family physician is the main and most important [function] for the region, including urban centres. There should not be a [single] person, [not] a Greek family, without their 'own' family physician. […] the cornerstone is the establishment of the family physician.* (Director 12)

*The family physician [institution] has to be fully implemented at some point; to have the family physician [would allow] better control [in] the area as he would really know the cases. […] I know the details of cases it would take the hospital 10 days to reach a full diagnosis. […] Having direct patient contact, knowing from the ailment, his problems, everything. This would truly help to provide good PHC services, chronic care and to avoid unnecessary referrals.* (GP 14)

General practitioner empowerment through the implementation of academic general practice in all Greek medical schools, and the introduction of PHC in the undergraduate medical curriculum were also emphasised:.

*The whole process should start earlier, from medical schools, having courses on general practice. To include the concept of*

> *'primary health care', to know what it is. It is still [a] confusing [concept] in Greece.* (GP 8)

Quality assessment mechanisms for primary healthcare services: Permanency of PHCC personnel in their posts may ensure a safety-net for employees, but it could also lead to decreased productivity due to reduced motivation. The directors of PHCCs stated that it was necessary to evaluate the quality of services provided by physicians and other personnel:

> *I would say that we should be given the opportunity first of all to assess and evaluate all the staff, aiming to provide better performance incentives.* (Director 4)

> *The employee has pride and goodwill to work but there is no awareness about future development.* (Director 3)

Moreover, monitoring certain morbidity indicators was suggested as necessary for assessing the quality of PHC services:

> *We can improve greatly improve health through prevention [...] seeing whether indicators of morbidity can be reduced in our area; this would be the best indicator.* (Director 4)

Leadership reforms: The PHCC directors repeatedly underlined the urgent need for economic and administrative independence from the hospitals.

> *We have no say in the allocation [of funds] provided by the Ministry for primary care; the hospital we [organizationally] belong to manages them. We do not even communicate with them to discuss our needs. I would say that I am not given any opportunities. All I can do is ask, which I do.* (Director 4)

> *We purely execute. We have to work with what we are given; financially, administratively and scientifically we belong to the general hospital – no independence whatsoever.* (Director 2)

### *Theme III: Concerns about primary health care privatisation*

Numerous concerns were identified concerning future development of private PHCCs. The provision of free PHC services was considered essential, while commercialization of PHC was predicted to adversely impact preventive service provision, thus exacerbating inequalities. Restricted or limited access to such services would create further social inequalities, especially in the current economic crisis.

> *Private PHCCs, for me personally, may reduce preventative medicine. Because private GPs offer less, they do not 'add'. And in this way if we become private GPs, services will be cut.* (GP 3)

> *I am negative because this means the exploitation of health and we would have to pay for everything and we do not have money to pay. People do not have money to pay.* (Director 2)

Only a few participants felt that private PHCCs could develop under state supervision and cooperate with public PHC entities. Some stated that private PHC could even improve public services by promoting competition.

> *[...] to have private initiatives, since we live in a globalized economic environment and it is inevitable, the state should require strict measures, serious evaluation of private hospitals, diagnostic centres. A strong institutional framework of operation of these private diagnostic centres and nursing centres will be needed.* (Director 12)

### *Theme IV: Barriers in the pursuit of research activities in primary healthcare centres*

The vast majority of PHC GPs and directors believed that research activities could help improve the quality and effectiveness of their services. However, seven main barriers were identified by participants:

1. Lack of knowledge about research methodology

2. Lack of time
3. Heavy workload and reduced capacity (insufficient personnel)
4. Funding issues
5. Absence of academic support throughout the country
6. Absence of organized electronic databases
7. Negative attitudes towards combining clinical and research activities.

*Many studies such as this one can happen, but it takes organization, funding, equipment, and infrastructure. This cannot happen from one doctor who has a passion for this, we need to work collectively as a group*. (Director 12)

*I am sure that research work can be conducted, provided we have the right conditions. Perhaps, for us, older physicians, who were not taught certain statistics courses to have the necessary additional training, but in collaboration with university hospitals. [...] currently, there is an atmosphere of lowered morals and, overall, I would say pessimism about how the system will evolve, as workload is exhausting and available means inadequate, [these may be] reasons that certain research initiatives have not progressed as they could have.* (Director 4)

# Discussion

### *Discussing the findings in the light of the literature*

The type of quality that the participants struggle to deliver in their everyday PHC services reflects the goals of the four WHO reforms. Such broadly shared expectations provides further evidence that the agenda is set for health system change[1]. Reforms in universal coverage, service delivery, public policy and leadership are requested by the people that serve in PHC and they share the desire for renewal 'now more than ever'[1]. Therefore the changes that the study participants proposed were also in line with the above reforms, aiming for convergence between the values of PHC, the expectations of citizens and common health performance challenges. Moreover, the quality improvement strategies suggested are also in line with recent reforms in Australia, the UK, and the Netherlands that included postgraduate training programs for GPs, accreditation of GP practices, and efforts to modify professional behaviour by clinical guideline development.

The suggested changes have been implemented previously with success in the context of PHC reforms[11], serving as examples of policy innovation as they assist in the shift from institutional to community care, thus promoting integration and a generalist approach to patient needs[12]. The introduction of new technologies (implementation of an electronic medical record system and clinical management guidelines) occurred some years ago in a rural health centre on Crete[13], and has been tested recently in a pilot multifaceted intervention program in Cyprus that reported positive care outcomes assessed by specific quality indicators[14]. Moreover, empowerment of the GP role through the expansion of PHC networks in urban areas, implementation of patient lists per GP or per PHCC, and GPs acting as gatekeepers to secondary care, have been implemented in a number of countries, including in the UK National Health System, leading to an increase in equitable access to care for the population, and assisting in cost containment[15].

In order to empower GPs, the implementation of academic general practice was suggested as having a distinct role in building bridges between the two very different cultures of medical schools and general practice by teaching medicine in the community setting; carrying out research to establish the nature of general practice; improving the delivery of clinical care; and contributing to the wider philosophy of medical practice and its role in society[16]. Academic rural general practice is also expected to play a central role in supporting the discipline of rural health, and rural practitioners who seek an academic career[17].

Mechanisms for evaluating the quality of services have also been successfully implemented in European countries in an effort to promote clinical governance, with the recent example of the Quality and Outcomes Framework (QOF)

that has repeatedly shown a number of significant changes to organization and service delivery[18,19]. Other successfully implemented performance-incentive models such as Chain Care (The Netherlands), Disease Management (USA), and AQUA Institute (Germany) could also prove to be examples of such mechanisms. Mechanisms for monitoring healthcare outcomes, in addition to EBM, risk management and continuous medical education, have been described as key elements for the effective establishment of clinical governance[20].

According to the participants, the training provided to GPs during their residency and opportunities for CPD should be reconsidered, in order to secure the necessary levels of GP competence in general practice. The focus of residency programs should be on training in the management of the most common community diseases through learner-centred methods. Efficient training of GPs is essential to allow them to fully develop their professional profile, while CPD is crucial in order to maintain competence, update knowledge and skills and protect clinicians from the risk of burnout[21]. Training the managers (ie directors) is also a key issue in the effective provision of primary care services which, unfortunately, remains neglected within the Greek national healthcare system.

General practitioner CPD should not be conditioned by commercial imperatives or sporadic initiatives, for it is expected that national healthcare systems manage the available financial resources and fund high-quality educational or training activities[22].

Complaints about the poor recognition of family medicine and a lack of clarity about the GP's role in healthcare models have been previously described in Central and Eastern Europe[23]. Although the need for a 'context-specific approach' has been recognized in international surveys, the development of a 'European standard of family medicine' is unlikely due to major stakeholder differences[23]. In addition, training for paramedics and other personnel working in PHCCs was requested by the physicians, because such personnel are usually trained according to the requirements of hospitals which lack a PHC view. This is in line with the findings of another study that explored the training needs of nursing staff in rural Cretan primary-care setting[24]. The necessity to move from continuing medical education focused on GPs, to CPD involving the whole practice team has been recognized in the UK[25,26]. Therefore, PHC-driven training initiatives for both medical and paramedical personnel should be implemented to enable the development of multidisciplinary teams that can provide integrated and updated PHC services.

The results suggest that the majority of PHC providers and directors believe research can also help to improve the quality and effectiveness of services. Research can assist in the effort to develop step-wise empirical models that will guide countries with limited resources to consider local strengths and find solutions to overcome major limitations[27]. The research barriers that were identified were very similar to those previously reported by an Australian qualitative study where they were categorised as 'individual' and 'system' issues, providing an exploratory model that may assist in developing suitable strategies for enhancing research capacity in general practice[28]. Progress in primary-care research can be achieved by strengthening academic family practice, building practice-based research networks and distributing funding for research in primary-care settings[17,29]. In addition, release from time-consuming administrative details would significantly support PHC providers in their efforts to become more involved in research activities, needs assessments and PHC service evaluation.

Finally, this study has highlighted some areas of concern regarding the development of private PHCCs. One key consideration is the risk of further devaluation of public PHC services with inevitable consequences for health and social equity. In a recent study comparing the experiences of public PHC users and the users of care provided by private GPs in Hong Kong, higher satisfaction levels were reported by patients of private GPs, mainly because of easier accessibility and better interpersonal relationships offered[30]. Although a few of the present participants agreed that this initiative could encourage productive competition between public and

private PHCCs, and even improve the quality of care provided through their cooperation, the majority expressed concern. This is in line with Ministry of Health and Solidarity efforts to develop a Uniform Primary Healthcare System that includes primary-care physicians who serve in both private and public healthcare sectors.

### *Strengths and limitations of the study*

The main strength of this study is that it is the first qualitative study in Greece exploring the views of GPs and directors regarding the effectiveness of PHC services provided. Qualitative studies are important to clarify complex issues by assessing doctor perspectives and eliciting provider preferences, and should therefore be a priority in the research agenda for topics relevant to general practice/family medicine and PHC. Moreover, the study presents the in-depth views of participants in a realistic setting. The authors believe that the use of practice-based interviewing resulted in participants being more comfortable to share their views than if they had been invited to an external setting.

Among the limitations of this study is the small sample size, which could mean that only limited perspectives were gained. However, the team was reassured when the same themes occurred repeatedly. Recruiting physicians for interviews is not easy due to the fact that they are usually busy. Although data collection occurred prior to the current economic crisis, the key messages of this qualitative study have added value as Greece undergoes further reforms to primary care. The inclusion of only five (of the 14) PHCCs operating in Crete in comparison with the 16 (all) PHCCs of Epirus may raise questions as to data representativeness. However, these 5 health centres are distributed in all 4 prefectures of the island of Crete and serve approximately half that of the Epirus PHCCs population. The authors stress that the objective of this purposive sample was not to compare two different geographical areas, but to create a pool of primary-care physicians' views. It is noteworthy that the 21 PHCCs included in the study represent approximately 10% of the capacity of the NHS health-centre network in Greece. Finally, prior to the submission of this manuscript, the qualitative research review guidelines (RATS) were checked[31].

### *Implications for practice*

This study raises a number of questions regarding the current organization of PHC. The identified barriers to the delivery of high-quality PHC services demand further attention. The main concerns regarding current working conditions seem to stem from limited capacity (insufficient personnel) and the absence of a laboratory/ diagnostic equipment. Re-allocation of existing personnel, enhancing the nurses' role (which has been associated with favourable patient outcomes, especially in the management of chronic diseases and in prevention[32,33]), implementing a computerised system aiding GPs to provide PHC services with minimal administrative work, and training PHCC directors in management issues should be attempted by the governmental and regional health authorities. Low-cost diagnostic technology and near-the-patient testing that could be used on GP request by PHCCs, and the implementation of guidelines in daily practice and in evidence-based decision-making could help reduce referrals to hospitals for laboratory tests, decrease costs and increase the effectiveness of PHC services. Considering the economic crisis that Greece is currently facing, an improvement in the quality of public PHC service delivery, as demanded by our PHC providers, could also relieve households of a significant financial burden. In accordance with Margaret Chan, Director of WHO, the authors believe this study shares the vision 'to foster joint learning and sharing and to chart the most direct course towards health for all'[1].

## Conclusions

This qualitative study evaluation of PHC services in two distinct rural regions in Greece provided insight into the views of PHC providers and directors. The practice-based interviews demonstrated that primary care practitioners have varying views on the quality of services offered, although the vast majority identified similar barriers to providing high-quality PHC services. The positive attitudes of PHC

providers to research evaluating the quality of PHC services should be reinforced by overcoming the identified barriers, while the highlighted concerns regarding the future development of private PHCCs should be taken into consideration in order to prevent a serious shrinkage of state-funded PHC services. If suggestions about remodelling the current PHC system are attempted in the current financial crisis, this could assist other European countries facing the same challenges in reforming their PHC services. Furthermore, the methodology used in this qualitative study was found suitable to assess provider views on the quality and performance of PHC services and could also be used in other European countries undergoing PHC reforms or tackling similar challenges.

## Acknowledgements

The authors thank the following primary healthcare centre directors and GPs who helped this study to take place, namely: Agoras E, Alevizakou A, Batsis K, Dimitrakopoulos N, Drakos D, Gerantoni E, Kala E, Kambitaki E, Kassimatis P, Katsios E, Katsiou N, Kortzis M, Kostoula K, Kourti T, Ktistakis G, Kristis C, Mitsakou P, Nastas P, Papaharalambous P, Papakosma E, Papanikolaou T, Saridakis A, Stamatis G, Stratis S, Teisen A, Theodorou A, Tsaka S, Vartziotis A, Vasilakis E and Venetis M. Additionally, the authors thank Ms Rose Ellis for her thorough linguisting editing, the individuals who anonymously helped in this effort, and the following collaborators of the Clinic who were involved with technical issues and interviews: Antoniadou E, Antoniou M, Kokolodimitraki C, Koukosias N, Moustaka A and Vova X.

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