

Re-profiling emergency medical services in Greece



Assesment report

With funding by
the European Union



Re-profiling emergency medical services in Greece

Assessment report

August 2017

WHO European Centre for Primary Health Care
Health Services Delivery Programme
Division of Health Systems and Public Health

This document was produced with the financial assistance of the European Union. The views expressed herein can in no way be taken to reflect the official opinion of the European Union

Abstract

This report presents the results of an assessment of emergency medical services in Greece. Acute care requires a coordinated response that involves a continuum of services that begin with primary care. In accordance with the European Framework for Action on Integrated Health Services, this report proposes focusing efforts on managing chronic diseases in primary care, strengthening the primary care workforce through primary care networks, establishing networks of out-of-hours providers in primary care, re-profiling emergency departments as specialized services, reinforcing the various connectors and interfaces to increase communication and coordination between primary care and emergency medical services and reorganizing hospitals to support primary care. The assessment comes as part of a series of activities outlined in the context of the collaboration between the WHO Regional Office for Europe and the Ministry of Health to strengthen the health system in Greece, financially supported by the Structural Reform Support Service of the European Commission.

Keywords

DELIVERY OF HEALTHCARE

HEALTH CARE SYSTEMS

HOSPITAL EMERGENCY SERVICE

PRIMARY HEALTH CARE

HOSPITALS

GREECE

Address requests about publications of the WHO Regional Office for Europe to:

Publications
WHO Regional Office for Europe
UN City, Marmorvej 51
DK-2100 Copenhagen Ø
Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office website (<http://www.euro.who.int/pubrequest>).

© World Health Organization 2017

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either express or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. The views expressed by authors, editors, or expert groups do not necessarily represent the decisions or the stated policy of the World Health Organization.

Contents

List of figures	ii
List of tables	ii
List of boxes	ii
Acknowledgements	iii
Background	1
Methods	3
Field visits and interviews	3
Conceptual framework used for assessing acute care	3
Findings	7
Focus on clinical outcomes	7
Acute care demand due to chronic conditions and ageing	7
Ambulance and triage system	9
Differentiation of services	10
Emergency departments as the first point of care	10
Types of services demanded in emergency departments	10
Response by emergency departments	11
Network of providers	12
Hospitals	12
Rural health centres and primary care centres	13
Connectors and interfaces	14
Role of the National Centre for Emergency Medical Services	14
Health records	15
eHealth in the piloting phase	15
Professional associations	15
Policy recommendations	17
Addressing acute diseases in primary care	17
Establishing out-of-hours primary care services	18
Re-profiling emergency medical services as specialized services	20
Reorganizing hospitals	22
Reinforcing connectors and interfaces	23
Building learning networks of primary care providers	24
Conclusion	27
References	29

List of figures

Fig. 1	Scope of services for acute care	4
Fig. 2	Integrated management of acute care	4
Fig. 3	Causes of death in Greece, % of total deaths, all ages, both sexes, 2014	8
Fig. 4	Proportion of the population older than 65 years (%) in selected countries in the WHO European Region, 2014	9

List of tables

Table 1	Elements for effectively integrating acute care health services	5
Table 2	Number of visits in the emergency departments of hospitals in the public health system in Greece, 2012–2015	11
Table 3	Hospital beds per 1000 population in regions in Greece	13
Table 4	Addressing acute conditions in primary care	18
Table 5	Establishing out-of-hours primary care services	20
Table 6	Re-profiling emergency departments as specialized services	21
Table 7	Reorganizing hospitals	23
Table 8	Reinforcing connectors and interfaces	24
Table 9	Building networks of primary care providers	25

List of boxes

Box 1	Essential information needed for complete patient records	23
-------	---	----

Acknowledgement

Margrieta Langins and Juan Tello, Division of Health Systems and Public Health, WHO Regional Office for Europe, prepared this report. Specific technical areas were supported by Paul Giesen of the European Research Network for Out-of-hours in Primary Health Care (EurOOHnet), who advised on organizing out-of-hours in primary care; and Francesca Avolio and Giovanni Gorgoni, Apulia Region, Italy, who advised on organizing hospitals. Vion Psiakis and Giannis Manasis, WHO Project Office in Athens, provided data and technical insights.

Silviu Domete, WHO Project Office in Athens, Division of Health Systems and Public Health, WHO Regional Office for Europe, led the overall organization of the mission. Aspasia Kotsari, WHO Project Office in Athens, provided logistical support. The Division of Health Systems and Public Health is led by Director Dr. Hans Kluge, who is in charge of providing technical assistance to Greece on health systems and public health.

Valuable support and insights to the report were provided by colleagues of the Ministry of Health, the Emergency Departments of the Chalkida Hospital and the Ippokrateio General Hospital, the Elefsina Heli-Centre, the National Centre for Emergency Medical Services, the Psachna Health Centre and the Regional Clinic of Drosia in Evia. The report also benefited from input from the Association of Private General Practitioners, the Hellenic Association of Nurses, the Hellenic Diabetes Association and the Organization of Cooperative Pharmacists.

Background

This report presents the results of an assessment of the role of emergency medical services in managing the acute care needs of people with chronic diseases in Greece. The work is part of a larger collaboration initiated in January 2016 between the WHO Regional Office for Europe, Division of Health Systems and Public Health and the Ministry of Health of Greece to implement the 5-year reform plan: “Greece’s health sector beyond austerity: the 100 actions plan for universal coverage.”

The collaboration, known as “Strengthening Capacity for Universal Coverage,” is financially supported by funds from the Structural Reform Support Service of the European Commission. The second phase of Strengthening Capacity for Universal Coverage focuses on policy interventions and activities aiming to strengthen public health services, financial protection of the population by reducing out-of-pocket payments and strategic planning of human resources for health.

In 2011, in accordance with European Union (EU) directives (1), a Central Health Council working group recommended defining the competencies, knowledge areas and skills for emergency physicians; proposed the contents and structure for emergency medicine specialists training programmes; and suggested the development, classification and staffing of the autonomous emergency departments in hospitals (2).

Following this proposal, in 2012, the Ministry of Health issued a decree governing the organization, structure, operational procedures and staffing of emergency departments. In practice, this regulation was never implemented.

In 2015, emergency departments of public hospitals served more than 4.5 million emergency cases, and health centres (mostly in rural areas) responded to 3 million cases (3). During the assessment, informants reported that more than 60% of the health services in emergency departments in Greece could be treated in primary care. This misuse of resources risks the safety of patients, compromises the overall quality of care, adds an enormous and unnecessary strain on health professionals and risks increasing inequity.

In this context, WHO conducted an assessment of emergency medical services in January 2017 with the aim of providing guidance for its re-profiling as part of the continuum of services that start in primary care. Taking an integrated approach to health services delivery (4), the assessment focused on services dedicated to managing acute care needs in terms of services provided, the role of practitioners and the settings in which the services are provided (5).

The report outlines findings and policy recommendations on how to alleviate the pressure on emergency medical services by strengthening the foundations of primary care and improving the organization of hospitals to ensure they are supportive of a primary care-led health system.

Methods

This report is based on the findings of a five-day country assessment at the end of January 2017. A multidisciplinary team of professionals conducted the assessment. During the week, the experts visited a range of services currently managing acute care in Greece accompanied by Ministry of Health officials.

The findings were complemented with the review of the most up-to-date background documentation on the health system and primary care reforms in Greece provided by the WHO Project Office in Greece. In addition, a dedicated research team at the WHO Project Office provided data on emergency medical services and hospital visits. Preliminary findings and policy recommendations were presented and discussed with the Ministry of Health.

Field visits and interviews

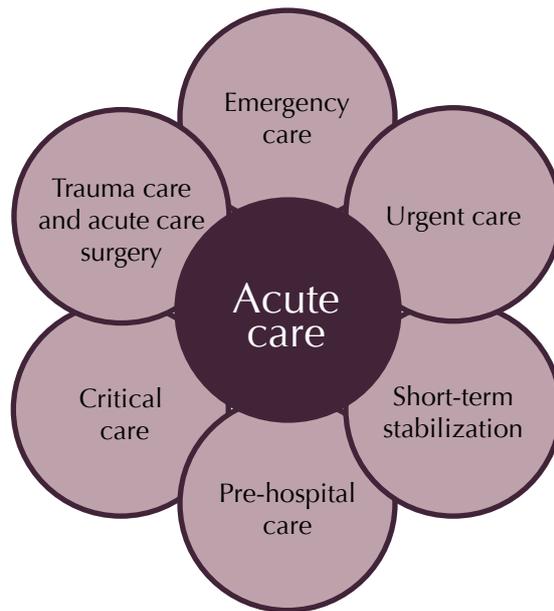
Field visits included the National Centre for Emergency Medical Services (EKAV), the Elefsina Heli-Centre, the Psachna Health Centre, the Regional Clinic of Drosia in Evia, the Chalkida Hospital emergency department and the Ippokrateio General Hospital emergency department. To understand the services for acute conditions and health providers' roles and future plans, interviews were held with chief executives and professional staff member of these institutions.

Meetings were also arranged with Ministry of Health officials, representatives of the primary health care task force and various associations, including the Organization of Cooperative Pharmacists, the Hellenic Diabetes Federation, the Greek Association of General Practitioners and members of the Hellenic Regulatory Body of Nurses. These meetings aimed to understand the relationships between various actors and their respective responsibilities in shaping the development of health services in Greece.

Conceptual framework used for assessing acute care

The work is framed in accordance with the model for managing acute care developed by Hirshon et al. (6). According to Hirshon et al. (6), responding effectively to acute care requires integrating a range of health services (both providers and settings) that are designed and organized to deliver acute care (Fig. 1). Acute care is uniquely defined by the need to restore health following a state of infirmity but also by its timeliness (6). Understanding the scope of services provided in emergency medical services was therefore the point of entry of the assessment.

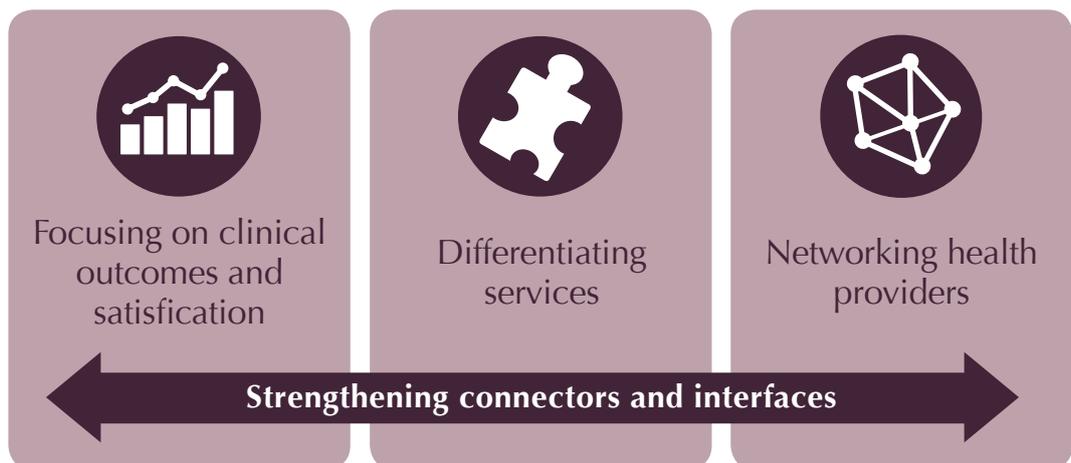
Fig. 1. Scope of services for acute care



Source: Hirshon et al. (6).

Four elements were considered to effectively integrate services that respond to acute care: (1) a focus on clinical outcomes and stratification to recognize and identify the priorities and level of urgency of the different clinical cases; (2) differentiation of services in terms of their scope in the network of providers available; (3) networking between providers to optimize capacity and responsibilities; and (4) strengthening connectors and interfaces using technologies and platforms to optimize communication between services and providers. Table 1 describes these elements in more detail, and Fig. 2 describes how they are related to one another.

Fig. 2. Integrated management of acute care



Source: WHO European Centre for Primary Health Care.

Table 1. Elements for effectively integrating acute care health services

Element	Description
Focusing on clinical outcomes and stratification	Different clinical needs are associated with different time sensitivities. Having a well-informed understanding on how to identify, set priorities for and manage these clinical cases using national guidelines and a nationalized triage guideline is essential to ensuring that these clinical needs are given appropriate priority.
Service differentiation	Various services are necessary to manage acute conditions over the course of time, with some being more appropriate than others at any given point in time. Sharing a common understanding of the scope and purpose of these services is key to understanding which of these services are more or less needed at any given time.
Network providers	Acute conditions are managed over time and with a life-course perspective. These clinical needs and the various service needs should be addressed by a network of providers whose integration is fundamental for ensuring the best outcomes for patients. Further, arrangements need to be set up to maximize the integration of these providers with each other so that provider services at all levels (primary, secondary, tertiary and quaternary) can benefit maximally.
Connectors and interfaces	To operationalize a response, given the previous three tasks, connectors and interfaces are of utmost importance in keeping lines of communication open between services, providers and patients. This ensures the continuity and coherence of care that is needed to ensure the best response to patient needs.

Source: WHO European Centre for Primary Health Care.

If any of these elements is sub-optimally developed, emergency medical services are overwhelmed by conditions that could have been better treated and managed in primary care, preventing the provision of critical, trauma, emergency and overall specialized services in a timely, equitable and safe manner.

The key to optimizing emergency medical services and primary care services is therefore to understand what resources both these services have available to address the current and future need of acute care, also given the burden of disease and accessibility.

The following section presents and discusses these considerations applied to the context of Greece.

Findings

Focus on clinical outcomes

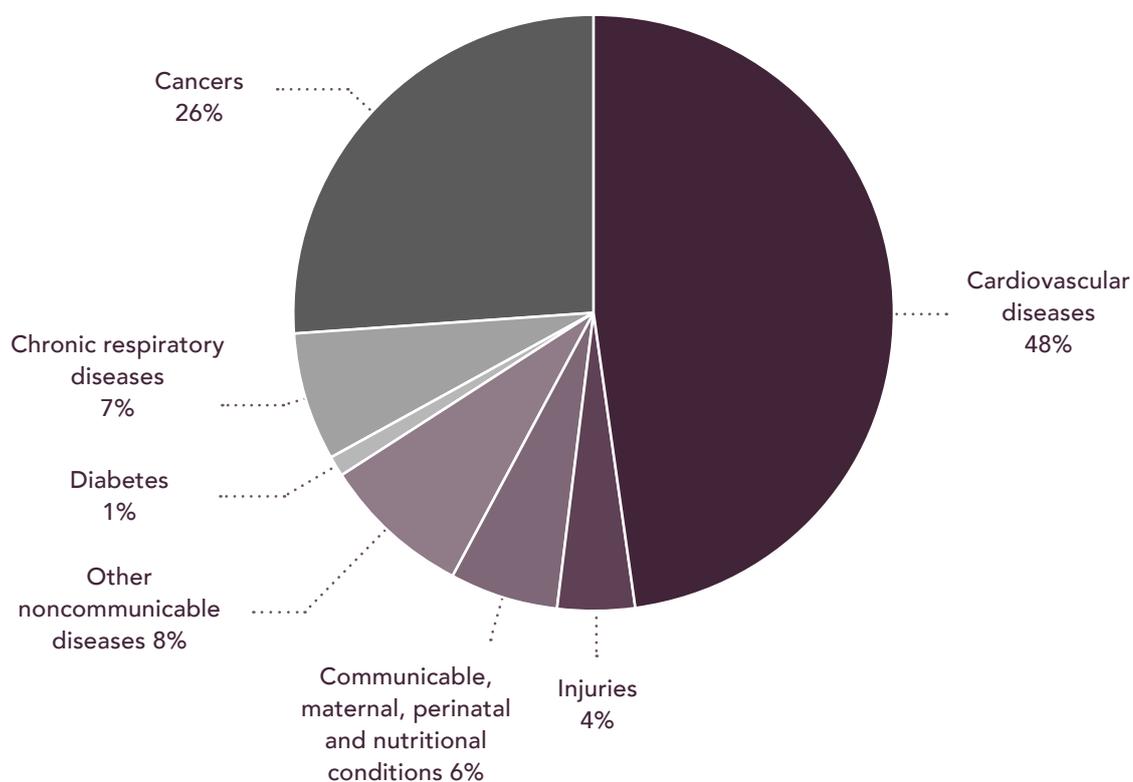
Acute care demand due to chronic conditions and ageing

Health status in terms of life expectancy and mortality has continually improved in Greece, but the pace of improvement has been slower than in other countries in the WHO European Region. The health and demographic profile for Greece is experiencing changes towards chronic noncommunicable diseases that are putting pressure on all services in Greece. Noncommunicable diseases alone account for an estimated 90% of total deaths (Fig. 3). Noncommunicable diseases place disproportional pressure on services because they require time-sensitive acute care. If not managed and monitored in a preventive manner by monitoring organ degeneration, adjusting and renewing medication according to changes in status and dietary regulation, for example, these diseases quickly accelerate. If health systems are not subsequently organized to differentiate the services available to manage this degeneration, this will necessarily result in an uneven pressure on emergency medical services.

Major pressure currently results from increased levels of premature death from circulatory diseases, cancer and respiratory diseases. At present, ischaemic heart diseases cause 48% of total deaths and neoplasms 26% (7, 8). The period from 2005 to 2015 saw the greatest increase in deaths caused by chronic obstructive pulmonary disease (74%) but also Alzheimer's disease (57%), followed by ischaemic heart disease (23%) and liver cancer (21%) (9).

Risk factors influencing morbidity and mortality from noncommunicable diseases include the high proportion of adult smoking (46% among men and 34% among women), placing Greece among the countries with the most smokers in the Organization for Economic Co-operation and Development (OECD), high blood pressure (27% of the population) and the high proportion of child obesity (10). Austerity has been associated with a rise in maternal and infant death rates and an increased rate of male suicide (7).

Fig. 3. Causes of death in Greece % of total deaths, all ages, both sexes, 2014



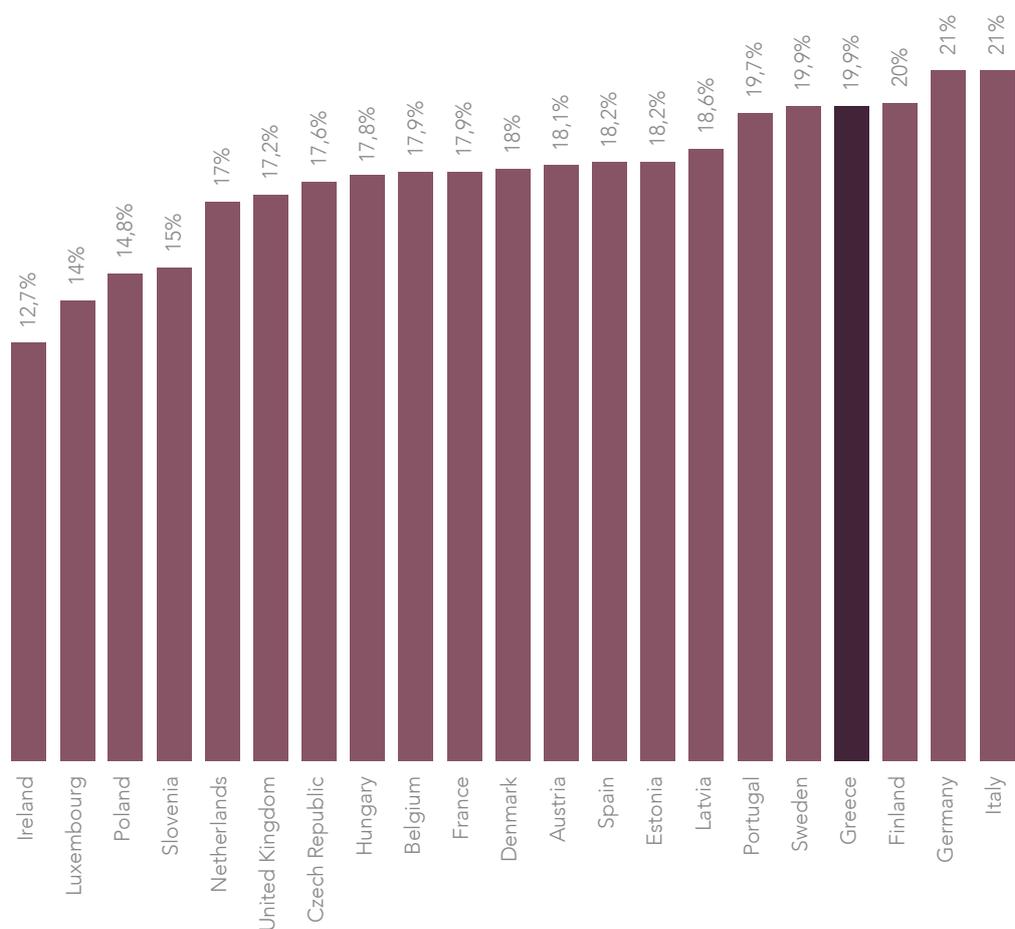
Total deaths: 112 000

Noncommunicable diseases account for an estimated 91% of all deaths

Source: Noncommunicable diseases country profiles 2014 – Greece (7).

In 2014, life expectancy at birth in Greece was above the average for the WHO European Region (83 years for women and 79 years for men), and the 20% of the population older than 65 years is among the highest and most rapidly growing proportions in the EU and WHO European Region (Fig. 4) (11).

Fig. 4. Proportion of the population older than 65 years (%) in selected countries in the WHO European Region, 2014



Source: Fourth draft of primary health care roll-out strategy (12).

Ambulance and triage system

In many countries in the European Region, systems for monitoring emergency medical services are based on national triage tools and guidelines. Such systems are important to provide clarity at the emergency departments and to help practitioners at other points of care and settings to decide when to refer patients to the emergency department. Either a five or three-level triage tool is used. The main purpose is to determine the level of priority-setting of the care at the moment the patient arrives at an emergency department rather than to guide patients in navigating the network of possible services available. Greece has no unified national triage system. Triage varies in all the emergency departments visited, including the National Centre for Emergency Medical Services dispatcher service. Triage in rural health centres also varies.

Efforts are in place to coordinate emergency calls through the National Centre for Emergency Medical Services. However, because a single national triage system shared across the country is lacking, the final result remains inefficient and raises quality and equity concerns. Frustration is palpable with regard to the ambulance services, especially among rural health centres. Several anecdotal stories reporting

ambulances lying idle in rural health centre parking lots confirm the lack of a shared understanding and coordination inefficiency.

Differentiation of services

Emergency departments as the first point of care

To take care of their health needs, most patients seek specialist care, bypassing primary care providers. Urban emergency departments appear to be highly affected by this pattern, with informants reporting that 60–80% of the visits could be avoided and cared for in rural or urban health centres and solo primary care units. This overcrowding is happening despite the coverage of emergency departments across the country.¹

1

Greece has 423 emergency departments. These include: the emergency departments of rural or urban health centres (303), regional hospitals and large hospitals throughout the country, of which 22 are in Athens and 98 are outside Athens.

In Athens, Thessaloniki and some other major cities in Greece, access to emergency departments is guaranteed 24/7 on a rotating basis. An emergency department “on duty” covers the entire city’s emergency needs, with shifts from 15:00 until 8:00 the next day. There are also some hospitals on duty 24/7, from 8:00 until 8:00 the next day.

Several factors appear to compound the overcrowding of emergency departments. Health centres at a distance from large urban centres are required to provide 24/7 care but report limited capacity – in terms of both human resources and equipment. Subsequently, they do not actually operate as a first response to care needs but rather as dispatchers of patients to larger emergency departments through the ambulance services of the National Centre for Emergency Medical Services. Informants report that many patients are directed from smaller urban health centres nearby that comprise the national primary health care network, and there is also a high proportion of self-referrals. The pattern of seeking care in urban emergency departments seems to be further reinforced by the general attitude that specialists are best positioned to manage patient care and an overall lack of trust in primary care practitioners to manage acute illness. This lack of prestige of general practitioners is exacerbated by the absence of an adequate training programme for them. Overall, the training and practice of general practitioners remains hospital focused, and there is no university curriculum for enhancing such skills as communication, patient management and collaboration, family medicine principles, public health, pharmacy and palliative care.

Types of services demanded in emergency departments

Data show an overall decline in visits to emergency departments since 2012 (Table 2), but no systematic registration has taken place to understand whether patients met the criteria for being treated in an emergency department or could have been better treated elsewhere. Large urban emergency departments systematically report emergency department visits but do not distinguish between cases treated. Large emergency departments of regional or urban hospitals reported no registration of waiting time.

Informants report that many people accessing emergency departments seek follow-up care, refills on prescriptions or advice on non-acute conditions. It is unclear

how many of these patients are admitted to the hospitals. One facility reported that more than 20% of the people visiting an emergency department were admitted. Discharge data in hospitals report shorter stays than the average for the EU (8).

Without reliable data describing the demographic and epidemiological profile of these patients, emergency medical services have difficulty in setting targets, benchmarking emergency departments, reorganizing services and identifying which competencies in managing acute care would be useful to strengthen in primary care. An opportunity for analysing data on the use of emergency medical services lies with the National Centre for Emergency Medical Services: the centralized public national service for medical emergencies. No statistics are available regarding the type of services provided. However, officials report that the Athens branch of the National Centre for Emergency Medical Services receives 30 000 calls a day, conducts about 800 evacuations per day and has experienced a 5% increase in calls since 2014. Informants recognize the relevance of a centralized system for planning purposes.

As with emergency medical services, there is no monitoring of primary care services provided in terms of nature of visits, diagnosis and degree of urgency.

Table 2. Number of visits in the emergency departments of hospitals in the public health system in Greece, 2012–2015

Health Region	2012	2013	2014	2015	Change 2012-2016 (%)
Attica	1 116 548	1 149 093	1 213 228	1 142 275	+2.30
Piraeus Region and Aegean Islands	616 763	587 867	604 895	585 111	-5.13
Western and Central Macedonia	651 696	638 651	637 212	603 122	-7.45
East Macedonia and Thrace	865 387	815 945	765 381	710 302	-17.92
Thessaly and Central Greece (Sterea Ellada)	483 506	452 565	460 987	434 977	-10.04
Peloponnese, Ionian Islands Epirus and Western Greece	803 130	757 512	829 054	795 803	-0.91
Crete	392 348	388 888	399 123	380 718	-2.96
Total	4 929 378	4 790 521	4 909 880	4 652 308	-5.62

Source: ESYnet database [online database] (3).

Response by emergency departments

Another factor exacerbating the lack of coordination and clear differentiation of services at the point of emergency care is the lack of a specialization in emergency medicine. Equipping emergency departments with emergency medicine specialists

allows emergency departments to remain focused on cases that require specialized procedures improving quality and health outcomes. The EU sets a minimum of five years of training necessary to specialize in this field. Greece has not yet complied with this EU directive², and a national specialization in emergency does not exist (2). A national specialization in emergency is as important for the process of triage as for providing care after the triage.

For patient care after triage, emergency departments rely on specialists who move through the emergency department on a rotating basis. The presence of specialists in emergency departments may explain the high admission rates and, most importantly, raises concerns about the lack of a holistic approach.

In the absence of this specialization, nurses are not handling triage, which could be a way to release general practitioners towards primary care and to allow emergency specialists to provide care in emergency departments. Some nurses reported that they have volunteered to undergo courses from the National Centre for Emergency Medical Services but that this is not an official requirement by the hospital or by the government.

Only one hospital provides on-the-job emergency medicine training to its staff members but reported that this was unique. Paramedics working at the National Centre for Emergency Medical Services undergo two-year training at one of the National Centre for Emergency Medical Services centres in Athens or Thessaloniki, regardless of whether they work at the call centre or tend to patients in ambulances or air fleets.

National Centre for Emergency Medical Services training centres offer courses in emergency care (advanced life support, pre-hospital trauma life support, advanced trauma life support and basic life support) to professionals across the country. Data regarding enrolment were not available. These training programmes are a potential base on which nationwide mandatory training could be developed.

Network of providers

Hospitals

The population of Greece is served by 127 hospitals and 34 068 beds. This represents 3.1 beds per 1000 inhabitants, below the average for the 15 countries that were EU members before 2004 (EU15) and 27% lower than the average in the WHO European Region (13). However, the beds are not equitably distributed across the country. Some regions currently show an excess of hospital beds, such as Epirus, whereas others have a deficit, such as Sterea Ellada (Table 3).

The services provided in hospitals are not planned according to local needs and gradual specialization by case mix complexity. Smaller hospitals provide services based on the availability of the staff members and their specialties, generating inequalities in access across the country.

Hospital staffing is mostly based on availability at a specific hospital in that specific

area or region rather than planned according to health local needs.

This situation mainly results from the lack of strategic planning of hospitals.

Hospitals do not appear to be reorienting patients towards primary care because of incentives to increase admissions. Practitioners from hospital and primary care report not being mutually informed about their patients.

The overall performance of hospitals is not measured, assessed or analysed.

Table 3. Hospital beds per 1000 population in regions in Greece

Region	Inhabitants	Beds	Beds per 1000 population
Western Greece	679 796	1 871	2.8
Peloponnese	577 903	1 598	2.8
Attica	3 828 434	13 639	3.6
East Macedonia and Thrace	608 182	1 140	1.9
North Aegean	199 231	383	1.9
West Macedonia	283 689	673	2.3
Epirus	336 856	1 553	4.6
Thessaly	732 762	1 777	2.4
Ionian Islands	207 855	781	3.7
Central Macedonia	1 882 108	6 771	3.6
Crete	623 065	2 279	3.6
South Aegean	309 015	794	2.5
Sterea Ellada	547 390	809	1.5
Total	10 816 286	34 068	3.1

Source: ESYnet database [online database] (3).

Rural health centres and primary care centres

Primary care services are delivered in different settings: larger rural health centres, smaller primary care centres – that are part of the national primary health care network or small solo practices. Most personnel working in primary care are trained as specialists (14). General practitioners report that their practical training was mostly done in hospitals and did not prepare them for the realities of practice in the community.

Greece has 203 rural health centres. According to the last census in 2011, they adequately account for the primary care needs of 21% of the population living in rural areas. They are staffed with physicians (predominantly specialists and internists), nurses, midwives, internists, dentists and radiologists.

There are also primary care centres serving either smaller communities or urban centres. Solo practices are also in place – both private and public. Although all these centres and rural health centres are limited in their equipment

to monitor and manage acute conditions in terms of diagnostics, available laboratory services and medicines, the situation is most extreme in rural public solo primary care units.

In the absence of a nationally defined scope of practice for primary care providers and a limited number of updated evidence-based national clinical guidelines in primary care³, managing patient pathways and equipment is difficult.

The lack of gatekeeping and referral systems further limits the role of primary care. A registry system is promised in the new strategy for rolling out primary health care (12).

Clinical guidelines and clear scopes of practice for general practitioners and nurses in primary care are lacking. Where clinical guidelines are in place, they are specialist-centred and physician-centred. The –National Organization for the Provision of Healthcare Services does not pay for the employment of nurses by general practitioners, and nurses are therefore rare in solo practices. Instead, nurses and other health professionals who want to work in primary care tend to concentrate in and around the larger rural healthcentres or national primary health care network clinics in the city. Even here, nurses seem to be underutilized compared with their potential. In one setting, an informant reported that, while trained to conduct deliveries in her midwifery training, she only provides basic prenatal care and has only attended three births in three years. During this visit, no physiotherapists were available to address musculoskeletal disorders nor were dietitians, psychologists or social workers available.

Continuing education for health professionals is mandated but is not overseen by managers of rural health services and smaller clinics. Practitioners in rural areas report difficulty in reaching training when they are available, since they have no replacements to care for their patients. No on-the-job training was reported upon starting to work in the rural health centre. The training was provided in one of the larger hospitals.

Connectors and interfaces

Role of the National Centre for Emergency Medical Services

The National Centre for Emergency Medical Services is the centralized public national service for medical emergencies. It has 4088 staff members and 12 branches. All calls to the National Centre for Emergency Medical Services are channelled through one telephone number: 166. The Centre coordinates ambulance transfers. It is widely present across the country and represents a potential source of coordination. Its network – while intended to stabilize and transport people in emergencies – has become more of a transport agency even for patients that do not qualify. Without having out-of-hours services available in primary care and with the prospect of overcrowded emergencies, patients increasingly call the Centre in the hope of getting more rapid and more convenient access to care. The Centre acts as a dispatcher of patients towards emergency departments and

3

So far, the Central Health Council has approved 13 clinical guidelines for primary health care.

does not have the oversight of the services available in primary care or out-of-hours services, such as in rural health centres or primary care doctors on call. The Centre informants described their role as an executive body. They expressed pride in its training facilities and a willingness to play a role in developing an emergency medicine specialty but also having a larger role in helping to manage acute illness in the community. This will depend on resources.

The Centre reports limitations in its telematics. It can communicate with patients and providers but cannot integrate information with existing patient records or the availability of services to direct patients.

Health records

The possibility of sharing information about patients, their care plans, diagnostic tests and the results of the visits over time improves the coordination of providers and the timeliness of the response to acute episodes. In Greece, the digitization of patient records has not been rolled out yet. The reliance on paper-based records poses time constraints on providers, especially nurses.

Records cannot be shared between providers. Health professionals report often depending solely on patient memory to obtain information about the services provided by other professionals. Patients' visits to the emergency department are not usually reported back to general practitioners. The lack of mandatory registration with a general practitioner worsens the situation. The lack of shared patient records also increases inefficiency, which is costly to the system and patients from the duplication of procedures, undertreatment or contraindicated care.

eHealth in the piloting phase

All doctors in rural and urban primary health care units have computers, even in small rural clinics. These are needed for prescribing medicine or diagnostic tests. Greece has some documented experiences with telehealth, but these are reported to be on a project basis. These initiatives are not scaled up from their pilot phase and have not been integrated into wider government policy (14).

Professional associations

Professional associations can have important roles in developing training programmes, adopting guidelines and supporting the reorganization of services. In Greece, general practitioners are currently organized in at least three associations with competing and overlapping areas of focus. Specialists face similar problems, which raises concerns about their representativeness. Emergency medicine, however, is organized in one single entity.

All professional associations are funded by their members and pharmaceutical companies. The government provides no financial support.

Because the burden of chronic conditions mismanaged in primary care is growing, many people turn to emergency departments. Exacerbating this situation, emergency departments lack a defined scope of practice and are underresourced.

Policy recommendations

This section proposes policy recommendations for developing an integrated response to the need for acute care. The policy recommendations hinge on several system enablers to setting out clear health targets; designing services according to these health targets, strengthening the accountability of local health units and regional health authorities; aligning provider payment mechanisms; and reviewing training programmes for health professionals to support practice-based learning.

Addressing acute diseases in primary care

Viable primary care that manages chronic conditions and is responsive to acute health needs is a precondition for re-profiling emergency medical services (Table 4).

To achieve this, available data (3, 8–12) should be used to set priorities for developing clinical guidelines and patient pathways. There is also a need to define a scope of practice of primary care providers that includes roles and responsibilities on health promotion, disease prevention while increasing their responsive capacity in diagnosing, treating and managing people with noncommunicable diseases. The guidelines should be developed in collaboration with professional associations representing multiple professions but also multiple specialties to collectively clarify different scopes of practice and identify the coordination mechanisms needed. Pharmaceuticals and examinations linked to guidelines need to be included in the benefits package.

Increased support from nurses should be considered so that general practitioners can update their skills and focus on clinical tasks. This means expanding nurses' roles to include screening, applying triage, managing prescription renewals, overseeing polypharmacy and directing patient flows between services.

The alignment of providers' payment mechanisms for primary care teams should complement these efforts. A mixed payment scheme that determines providers' income based on registered patients and an additional bonus for performance can prevent acute episodes related to chronic conditions. For example, performance related to increased clinical activity and procedures in primary care to manage and monitor hypertension, diabetes, cancer and respiratory conditions should be incentivized. The use of equipment such as spirometry, electrocardiograms, screening tools, colposcopy, speculums and critical blood diagnostics like blood glucose monitoring should be also incentivized. Referral to other health

professionals such as psychologists, dietitians, social workers and physiotherapists should be enabled. Engaging nurses to carry out health promotion and initial screening can also be incentivized by the use of pay for performance.

Performance payment should also encourage seeking care in out-of-hours services before reaching out emergency departments. These incentives should also encourage hospitals, including emergency departments, to connect with primary care providers when patients are referred back.

Table 4. Addressing acute conditions in primary care

Recommendation	Timeline	Stakeholders
Moving forward with plans to establish national registry for general practitioners and introducing the requirement for patients to register with a single general practitioner	Short	Ministry of Health, general practitioner association
Develop and continually revise multiprofessional guidelines to guide primary care teams but also specialists in the prevention of and managing and monitoring patients with the most concerning noncommunicable diseases (ischaemic heart disease, cancer, respiratory diseases, Alzheimer’s disease and depression)	Short	Ministry of Health, multi-specialty and discipline professional associations including medicine, nursing, pharmacy, physiotherapy, psychology and dietitians), Central Health Council
Update primary care provider scopes of practice according to national primary care guidelines	Short	Ministry of Health, multi-specialty and multidisciplinary professional associations including medicine, nursing, pharmacy, physiotherapy, psychology and dietitians), Central Health Council
Engage and train primary care nurses with clearly defined scope of practice in primary care to primarily focus on screening, basic monitoring, managing prescription renewals, overseeing polypharmacy, organizing patient flow in the clinic and between services and developing patient care plans for the short, medium and long term	Short	General practitioner, nursing training institutions, nursing association
Introduce a mixed payment system to pay for performance in primary care to incentivize services, treatments and activities outlined in the national guidelines for prevention, detection, managing and monitoring noncommunicable diseases in primary care	Medium	Ministry of Health, Ministry of Finance, regional health authorities, National Organization for the Provision of Healthcare Services

Establishing out-of-hours primary care services

In order to effectively assume the first line of responsibility for managing acute care needs, primary care will need to be made available 24/7. Providing out-of-hours primary care – after 17:00 and on weekends – requires a place in the national vision for primary care and careful planning to ensure that both practitioners and the population and patients are satisfied (Table 5).

Out-of-hours cooperatives of general practitioners and nurses that cover a specified geographical catchment area after hours, including multiple group practices, with

alternating on-call duties, can be secured in regional networks. For the general practitioners and nurses providing these out-of-hours services, it will be important that they fully participate in designing and organizing themselves in terms of shifts and that the numbers of general practitioners and nurses are available. General practitioners should receive support through ad hoc contractual arrangements. Such contractual arrangements can include pharmacies, social services, physiotherapy services, emergency departments, diagnostic centres and long-term care providers. Out-of-hours primary care services can be located in the existing urban and rural units of the national primary health care network or co-located in or near hospitals and emergency departments. Out-of-hours practices should be equipped with diagnostic tools such as tele-imaging services, echocardiograms, laboratories and other relevant medical instruments. Specialists can provide advice to out-of-hours providers in managing more complicated patient through teleconsultation, dedicated phone lines, telehealth or electronic platforms.

A trained clinical team, possibly comprising doctors and nurses, triage patients to assist them with self-care or home visits or direct them to local out-of-hours practices or ensure transport and access to emergency departments. The existing National Centre for Emergency Medical Services telephone system, duly upgraded, could serve this purpose.

A system signalling general practitioners about their patient's visit or call to the emergency medical services (emergency departments, National Centre for Emergency Medical Services or out-of-hours services) should be put in place. This signalling system has proven to be useful in reinforcing the primary responsibility of general practitioners towards their patients. General practitioners and primary care teams should then focus on avoiding reoccurrence.

Table 5. Establishing out-of-hours primary care services

Recommendation	Timeline	Stakeholders
Commit to and legislate that primary care will be made available 24/7	Medium	Ministry of Health
Engage professional associations in designing out-of-hours services	Short	Ministry of Health, professional associations
Incentivize large out-of-hours cooperatives	Medium	Ministry of Health, National Organization for the Provision of Healthcare Services
Establish contractual arrangements with and between providers such as pharmacies, social services, physiotherapy services, emergency departments, diagnostic centres and long-term care providers to comprehensively deliver any needed out-of-hours testing, technologies or pharmaceuticals	Short	Ministry of Health, Ministry of Finance, Regional Health authorities, National Organization for the Provision of Healthcare Services, general practitioner Associations
Incentivize general practitioner group practices participating in out-of-hours services to equip with more diagnostic equipment such as (tele-) imaging services, echocardiograms, laboratory testing and medical instruments	Medium	Ministry of Health, Ministry of Finance, National Organization for the Provision of Healthcare Services, general practitioner associations
Introduce a dedicated telephone line to primary care providers with information regarding out-of-hours clinics, emergency departments, etc.	Medium	Ministry of Health, general practitioner associations, National Centre for Emergency Medical Services
Engage specialists to on-call duty for providing advice to out-of-hours services and primary care teams	Medium	Ministry of Health, specialist associations
Explore out-of-hours primary care services co-located with emergency departments, especially during the transition period	Medium	Ministry of Health, hospital management
Introduce a system of signalling a patient's general practitioner when they have attended emergency medical services	Medium	Ministry of Health, emergency departments, National Centre for Emergency Medical Services, National Organization for the Provision of Healthcare Services, eGovernance Centre for Social Security Services, general practitioner association

Re-profiling emergency medical services as specialized services

The main focus of specialized emergency medical services is to care for patients that can be categorized in the top 2 or 3 levels of a nationally triage emergency system. To achieve this, both emergency departments and the National Centre for Emergency Medical Services need to be staffed with emergency medicine specialists as per EU directives. This specialization is relevant to staff members working in emergency departments, those handling the transport of critical patients and those providing urgent care, including general practitioners, nurses, paramedics and the national dispatcher centre. The National Centre for Emergency Medical Services and Ippokrateio General Hospital can provide valuable experience in developing this specialization (Table 6).

National triage guidelines. National triage guidelines using three or five urgency classes to define the parameters for stratifying emergencies should be introduced and implemented by all health providers. This will guide the patient pathways across providers and settings of care. The guidelines are to be developed in close collaboration with the National Centre for Emergency Medical Services, the emergency medicine association, the associations of general practitioners and nurses and representatives of emergency departments and should be properly disseminated to the public. The national guidelines can also help to direct patients back to general practitioners after discharge and to redirect the flow of patients towards out-of-hours practices or general practitioners. The national triage guideline can also be used for collecting data about the type of needs and demands from the patients' perspectives for developing initiatives for improving services.

Table 6. Re-profiling emergency departments as specialized services

Recommendation	Timeline	Stakeholders
Introduce a special emergency medicine specialization in accordance with EU directives	Medium	Ministry of Health, National Centre for Emergency Medical Services, Central Health Council, Ippokrateio General Hospital, Emergency Physician Association, training institutions
Revise staff requirements in emergency departments according to a more specialized emergency profile and based on nationally introduced triage guidelines	Medium	Ministry of Health, Hospitals, emergency physician association
In the interim, provide all general practitioners and current staff members who work in emergency departments with National Centre for Emergency Medical Services emergency medicine training (including emergency department physicians, nurses, paramedics, pharmacists and physicians)	Medium	Ministry of Health, National Centre for Emergency Medical Services, Ippokrateio General Hospital, nursing association
Review equipment in emergency departments to ensure that it is appropriate and in accordance with the national triage guidelines	Short	Ministry of Health, regional health authorities, hospitals, emergency medicine association
Introduce a national triage guideline using three or five urgency classes to be introduced across the country in all emergency medical services	Short	Ministry of Health, emergency departments, National Centre for Emergency Medical Services, professional associations, hospital management, Central Health Council
Develop a public awareness campaign to draw people's attention to the national triage guideline and the appropriate use of emergency medical services with information on how to reach out to out-of-hours clinics	Medium	Ministry of Health, emergency departments, National Centre for Emergency Medical Services, general practitioner and nurse associations, emergency medicine association

Reorganizing hospitals

Re-profiling emergency departments towards more specialized services requires strengthening supportive primary care services but also requires that hospitals support primary care. Similarly, hospitals need to serve as resources for primary care. This can be achieved in several ways (Table 7).

Hospitals can be organized in a network that provides a gradient of services ranging from concentrated highly specialized and advanced services using the latest technology to lower specialized services. The added value of such an organization of hospitals, usually known as a hub-and-spoke model, is its networking function and its role as a single operating system. It improves efficiency in terms of training opportunities, integrating health information systems and using diagnostic equipment. It also helps to promote multidisciplinary work.

Reorganizing involves thoughtful classification of hospitals according to needs, volumes and level of complexity in managing acute conditions. Efforts in this direction require investing in updating equipment, qualifying health professionals and innovating organizational structures.

Hospitals should be enabled to proactively engage with primary care to plan and follow up patients after discharge through regular meetings and joint planning with the purpose to keep patients healthier and at home. This can be only achieved with accountability arrangements and a supportive hospital information system.

Several international examples are available that share how nurses in hospitals can be engaged in liaising with community services and how to organize hospital services to focus more on discharge planning to the community (15).

Table 7. Reorganizing hospitals

Recommendation	Timeline	Stakeholders
Classify and organize hospitals in accordance with the hub-and-spoke model	Long	Ministry of Health, regional health authorities, hospitals
Introduce a system of signalling a patient's general practitioner when they have attended the hospital	Medium	Ministry of Health, Hospitals, National Organization for the Provision of Healthcare Services, IDIKA SA (e-Government Centre for Social Security Services), general practitioner association
Connect hospitals with regional primary care networks through decision-making platforms and patient records	Medium	Ministry of Health, hospitals, general practitioner association, National Organization for the Provision of Healthcare Services, IDIKA SA (e-Government Centre for Social Security Services)
Establish a data monitoring system to follow patient outcomes, progress and experience	Medium	Ministry of Health, Hospitals, National Organization for the Provision of Healthcare Services, IDIKA SA (e-Government Centre for Social Security Services)

Box 1. Essential information needed for complete patient records

- ✓ Patient preferences
- ✓ Care plan with patient status in terms of the level of support they need to cope effectively
- ✓ Up-to-date relevant diagnoses
- ✓ Archived correspondence between providers and with patients
- ✓ Past diagnoses
- ✓ Allergies
- ✓ Laboratory results
- ✓ Current and past medications

Reinforcing connectors and interfaces

Reinforcing connectors and interfaces that are focused on minimizing barriers will be essential for optimizing user orientation away from emergency medical services and towards primary care services. The following three important connectors and interfaces are given highest priority and should be the focus of discussions between a larger group of stakeholders, as identified in Table 8. Without this, their sustainability and scope of success will be limited. Because they are so important to user orientation towards primary care, they can serve as the focus and entry points for study visits to both the Netherlands (optimizing the role of the National Centre for Emergency Medical Services and shared electronic patient records) and Italy (shared electronic records and optimizing eHealth solutions).

Among the stakeholders to be included, key players in existing or past pilot studies as documented in Greece (14) will also be important to bring together so they can share past experiences of lessons learned and be part of the task force to strategize scaling up the different initiatives that have taken place with telehealth.

Optimizing the role of the National Centre for Emergency Medical Services.

In terms of managing patients presenting with acute care needs, National Centre for Emergency Medical Services is already a valuable resource and should be supported in assuming the role in directing patient pathways. Its dispatcher role and already well-established switchboard can be significantly expanded. Its regional offices can serve to co-locate both the out-of-hours primary care line and the emergency services line. International experience suggests that, although these lines can be co-located for the purposes of liaising with one another in case of emergency, the out-of-hours primary care line should be staffed and monitored separately.

Shared electronic patient records. The interoperability and connectivity of health information systems, including electronic prescription and the use of electronic patient records, facilitate the response to acute needs and the integration of services for managing chronic and acute needs. This is in accordance with the current primary care reform. Proper triage by emergency medical services and out-of-hours telephone centres should also benefit.

Optimizing e-health solutions. To improve the feasibility of group primary care practices both in rural and urban areas, telehealth services and communication platforms that link primary care teams with on-call specialists are highly recommended.

Table 8. Reinforcing connectors and interfaces

Recommendation	Timeline	Stakeholders
Develop a new system for monitoring emergency medical services based on the new national triage guideline to understand patient presentation to emergency medical services and guide service improvement initiatives to redirect patients to primary care	Medium	Ministry of Health, emergency departments, National Centre for Emergency Medical Services
Support the development of telehealth services and communication platforms that link primary care teams with on-call specialists	Medium	Ministry of Health, general practitioner association, specialist associations
Introduce shared electronic patient records with connectivity to other electronic platforms such as electronic prescription, clinical decision aids and documentation from telemedicine consultations	Medium	Ministry of Health, IDIKA SA (e-Government Centre for Social Security Services)

Building learning networks of primary care providers

The current primary care reform establishes local health units (ToMY) (11). They will comprise a countrywide network of more than 300 primary care units in the first 2 years of roll-out (11). This network has potential to support local initiatives

in planning and managing learning opportunities and resources. Establishing subnational nodes can help to set priorities among topics and to tailor learning methods according to local needs (Table 9).

With renewed scopes of practice and increased demands on primary care providers, the need for updating health workforce competencies will increase. In particular, new competencies will need to include engaging patients in self-care, teamwork, people-centred care, communication skills, health promotion and disease prevention and early detection, management and monitoring of noncommunicable diseases. Overall, learning should promote inter-professional and interdisciplinary learning and shared decision-making between specialties and professions but also give priority to gathering feedback on how to improve service design and organization.

These learning opportunities can be designed and developed in collaboration with local branches of professional associations and universities.

To give primary care a coherent and representative voice, the establishment of a single general practitioner association should be encouraged. Professional associations can have an important role in self-regulation, sustaining policy reforms, developing clinical guidelines and guiding the implementation of activities.

Table 9. Building networks of primary care providers

Recommendation	Timeline	Stakeholders
Move forward with organizing primary care teams in national but also regional networks	Medium	Ministry of Health, general practitioner association
Develop telehealth infrastructure for the purpose of linking general practitioners in isolated areas with each other into regional learning and decision-making networks	Medium	Ministry of Health, E-health department, regional health authorities, general practitioner association
Mandate regional networks to develop continual learning opportunities for their primary care teams based on new national guidelines, priority areas and hot topics	Medium	Ministry of Health, universities, professional associations (general practitioners, nurses, specialists)
Developing nationally supervised communication and decision support platforms targeting the implementation of national primary care guidelines and hot topics	Short	Ministry of Health, general practitioner association, relevant specialist associations
Create a single member-based national general practitioner association with some financial support from the government to concentrate activities on government priorities	Medium	Ministry of Health, Ministry of Finance, general practitioner association

Conclusion

Emergency medical services in Greece seem to face a large influx of patients. Much of this demand comprises people with chronic conditions derived in acute episodes because of weak management in primary care or other less urgent care needs that do not require time-sensitive interventions.

The response of emergency departments cannot therefore be differentiated from those of other care services. The weak capacity of primary care to provide out-of-hours and basic acute services in the community exacerbates this situation.

Important opportunities lie in increasing the role of primary care in managing chronic conditions to prevent acute episodes and re-profiling emergency medical services as highly specialized care. This needs to be complemented by reorganizing hospitals to complete the continuum of care across settings and levels of care needs.

References

1. Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications. Official J Eur Communities. 2005;L 255:22–142 (<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32005L0036>, accessed 25 September 2017).
2. Council directive 2006/100/EC of 20 November 2006 adapting certain directives in the field of freedom of movement of persons, be reason of the accession of Bulgaria and Romania. Official J Eur Communities. 2006;L 363:141 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:363:0141:0237:EN:PDF>, accessed 25 September 2017).
3. ESYnet database [online database]. Athens: Ministry of Health; 2017.
4. The European Framework for Action on Integrated Health Service Delivery. Copenhagen: WHO Regional Office for Europe; 2016 (EUR/RC66/15; (http://www.euro.who.int/__data/assets/pdf_file/0004/315787/66wd15e_FFA_IHSD_160535.pdf?ua=1, accessed 25 September 2017).
5. Tello J, Barbazza E. Health services delivery: a concept note. Copenhagen: WHO Regional Office for Europe; 2015 (http://www.euro.who.int/data/assets/pdf_file/0020/291611/Health-Services-Delivery-A-concept-note-301015.pdf?ua=1, accessed 25 September 2017).
6. Hirshon JM, Risko N, Calvello EJB, de Ramirez SS, Narayan M, Theodosis C et al. Health systems and services: the role of acute care. Bull World Health Organ. 2013;91:386–8 (<http://www.who.int/bulletin/volumes/91/5/12-112664.pdf>, accessed 25 September 2017).
7. Noncommunicable diseases country profiles 2014 – Greece. Geneva: World Health Organization; 2014 (http://www.who.int/nmh/countries/grc_en.pdf, accessed 25 September 2017).
8. European Health for All database [online database]. Copenhagen: WHO Regional Office for Europe; 2017 (<http://data.euro.who.int/hfadlb>, accessed 25 September 2017).
9. Global burden of disease: Greece country profile. Athens: Institute for Health Metrics and Evaluation; 2015 (<http://www.healthdata.org/greece>, accessed 25 September 2017).
10. OECD health policy overview: health policy in Greece. Paris: Organisation for Economic Co-operation and Development; 2016 (<http://www.oecd.org/greece/Health-Policy-in-Greece-January-2016.pdf>, accessed 25 September 2017).

11. Andoniadou I, Koutis A, Lionis C, Myloneros T, Panagiotopoulos T, Benos A. [Basic principles, positions and proposals for the development of primary health care in Greece.] Athens: 2015 (<http://isx.gr/sites/default/files/Το%20πόρισμα%20της%20Ομάδας%20εργασίας%20για%20την%20Π.Φ.Υ..pdf>).
12. [Fourth draft of primary health care roll-out strategy.] Athens: Ministry of Health; 2017.
13. Greece: profile of health and well-being. Copenhagen: WHO Regional Office for Europe; 2016 (http://www.euro.who.int/__data/assets/pdf_file/0010/308836/Profile-Health-Well-being-Greece.pdf, accessed 25 September 2017).
14. Health systems in transition: Greece. Brussels: European Observatory on Health Systems and Policies; 2010 (http://www.euro.who.int/__data/assets/pdf_file/0004/130729/e94660.pdf, accessed 25 September 2017).
15. Lagarde F. Guide to develop a health promotion policy and compendium of policies. Montréal: Agence de la santé et des services sociaux de Montréal; 2009 (http://hphnet.org/attachments/article/2160/Guide_standard1_English.pdf, accessed 25 September 2017).

The WHO Regional
Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

Albania
Andorra
Armenia
Austria
Azerbaijan
Belarus
Belgium
Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czechia
Denmark
Estonia
Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Luxembourg
Malta
Monaco
Montenegro
Netherlands
Norway
Poland
Portugal
Republic of Moldova
Romania
Russian Federation
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Tajikistan
The former Yugoslav
Republic of Macedonia
Turkey
Turkmenistan
Ukraine
United Kingdom
Uzbekistan

World Health Organization Regional Office for Europe
UN City, Marmorvej 51, DK-2100 Copenhagen Ø, Denmark
Tel.: +45 45 33 70 00 Fax: +45 45 33 70 01
E-mail: contact@euro.who.int