World Health Organization
REGIONAL OFFICE FOR Europe

Monitoring and documenting systemic and health effects of health reforms in Greece

Assesment report

With funding by
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Abstract

This report aims to describe and assess the health system reforms implemented since the economic crisis and (where appropriate) present options and recommendations for policy adjustments or redirection. Informed by WHO's 2007 framework of building blocks for health system strengthening, the report is structured in six sections that each present a crucial domain of the Greek health system that needs, or has undergone, important reforms: (i) coverage, access to health care and financial protection; (ii) health-care provision; (iii) quality and safety of health care (considering health technologies and information systems); (iv) human resources for health (HRH); (v) the role of patients; and (vi) governance. These sections are followed by examination of selected indicators measuring changes in health status in both quantitative data and in-depth studies conducted since the onset of the crisis. The evidence base for this report comprises official documentation, published literature (grey and peer-reviewed), expert consultation and insights from the field collected in the first half of 2018. The assessment is part of a series of activities outlined in the context of the collaboration between 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.

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The views expressed herein can in no way be taken to reflect the official opinion of the European Union.

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Abbreviations

CPD	continuing professional development
CT	computed tomography
EAP	Economic Adjustment Programme
EEAE	Greek Atomic Energy Commission
EFKA	Unified Social Security Fund
EKAPY	National Central Authority of Health Procurements
EKAV	National Centre for Emergency Care
EKPY	Integrated Regulation for Health Services
ELSTAT	Hellenic Statistical Authority
EOF	National Organization for Medicines
EOPYY	National Organization for Healthcare Provision
ERDF	European Regional Development Fund
ESF	European Social Fund
ESIF	European Structural and Investment Fund
ESY	national healthcare service
EUnetHTA	European Network for Health Technology Assessment
EU-SILC	European Union Statistics on Income and Living Conditions
EYSEKT	European Social Fund Actions Coordination and Monitoring Authority
GDP	gross domestic product
GP	general practitioner
HRH	human resources for health
HTA	health technology assessment
IKA	Social Insurance Institute

KEN-DRG	diagnosis-related group (Greek version)
KESY	Central Health Council
KYPA	Alien Health Care Card
MRI	magnetic resonance imaging
MU	mammography unit
NCD	noncommunicable disease
NSRF	National Strategic Reference Framework
OAEE	Insurance Organization for the Self-Employed
OECD	Organisation for Economic Co-operation and Development
OENGE	Hellenic Hospital Doctors Association
OGA	Agricultural Insurance Organization
OOP payment	out-of-pocket payment
OP	operational programme
OPAD	Insurance Organization for Public Sector Employees
PEDY	National Primary Health Care Network
PET	positron emission tomography
PHC	primary health care
SCUC	Strengthening Capacity for Universal Coverage
SHI	social health insurance
TOMY	local health unit
VAT	value added tax
YPE	regional health authority

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This report was produced through the Grant Agreement between the European Union, represented by the European Commission and the World Health Organization (WHO) on the action entitled Strengthening Capacity for Universal Coverage Greece/Phase 2 (SCUC2). The general objective of the Action is to contribute to improving health and health equity in Greece, by helping the Greek authorities to move towards universal coverage and to strengthen the effectiveness, efficiency and resilience of the health system. An important area under SCUC2 is related to monitoring and documenting the systemic and health effects of progress with the reforms. In this context, the present report contains key information on progress with reform initiatives in recent years, with specific attention to primary health care; public health; emergency health care; access to medicines and diagnostics; HRH policies; and financial protection policies. The report focuses on critical interventions aimed at addressing the crucial structural inefficiencies of the health system and contains a series of recommendations for policy adjustments or redirection.

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Executive summary

In order to understand recent health reform measures introduced in Greece it is necessary to consider the realities of the health system before and during the financial crisis. The Greek health-care system was not well prepared to cope with the challenges imposed by the economic crisis as its multidimensional structural weaknesses made it vulnerable to economic fluctuations and unable to meet the increasing needs of the population. Implementation of operational and structural reforms designed to address these problems was urgently needed. At the same time, the measures stipulated in the Economic Adjustment Programme (EAP) for Greece mainly concerned fiscal consolidation, and cost-containment policies implemented after 2010 have generally taken the form of cuts across the board. When looking at individual reform initiatives it is important to remember that the Greek health-care system has undergone a huge number of changes in a very short time. As a consequence, reform steps that were prerequisites for further changes had no time to mature before new efforts had to be initiated.

This report aims to describe and assess the health-system reforms implemented since the economic crisis and (where appropriate) present options and recommendations for policy adjustments or redirection. Informed by WHO's 2007 framework of building blocks for health system strengthening, the report is structured in six sections, each representing a crucial domain of the Greek health system that needs, or has undergone, important reforms: (i) coverage, access to health care and financial protection; (ii) health-care provision; (iii) quality and safety of health care (considering health technologies and information systems); (iv) human resources for health (HRH); (v) the role of patients; and (vi) governance. The report is completed by examination of selected indicators measuring changes in health status in both quantitative data and in-depth studies conducted since the onset of the crisis.

The evidence base for this report comprises official documentation, published literature (grey and peer-reviewed), expert consultation and insights from the field collected in the first half of 2018. The report is far from exhaustive. It does not set out a detailed examination of all of the changes in the Greek health system since the beginning of the crisis. Instead, it focuses on critical interventions aimed at addressing the crucial structural inefficiencies of the health system. Where applicable, it also highlights developments in designated technical areas of the 100 actions plan in the framework of the Strengthening Capacity for Universal Coverage (SCUC) project. Finally, following scientific good practice, the report does not attempt analytical evaluation of reform measures that have been implemented only recently.

Coverage, access and financial protection

Substantial pressures on both components of public financing in the Greek system – social health insurance (SHI) and state budget – create justified concerns over the mid- and long-term adequacy of funding in the health system. Ensuring the predictability of both SHI and tax-based funds requires further focus on improving collection and pooling. Implementation of a single-payer system has to some extent managed to constrain expenditure growth and to allocate resources more rationally. However, creation of the National Organization for Healthcare Provision (EOPYY) has not been adequately supported at

the operational level, as ongoing understaffing and underfunding has led to delays in paying providers. Furthermore, excessive reliance on indirect taxes and high out-of-pocket (OOP) payments (both formal and informal) makes overall funding of the health sector regressive and inequitable.

The economic crisis resulted in more than 2.5 million people losing their SHI rights and thus facing insurmountable barriers to accessing health care. Furthermore, the Greek health system has always relied on a large share of private financing with high OOP payments, particularly because of underfunding in the public health sector. OOP payments increased substantially between 2010 and 2015, mostly as a result of an increase in user charges and copayments introduced with the aim of increasing revenues and limiting unnecessary demand for health services in the context of the crisis. It can be argued that some positive steps have been made since 2015, including legislation providing free access to care for uninsured Greeks and immigrants, abolition of some kinds of cost sharing and institutionalization of the surgical list. These measures resulted in a slight decrease in OOP payments but some issues for further consideration remain, including: structure of pharmaceutical copayments; ceilings on doctors' treatment activities; absence of real dental coverage; and persistence of informal payments. Some barriers to access were not eliminated. For example, uninsured people can access only public providers but not most private providers contracted with EOPYY. Furthermore, new types of informal payments have emerged as a consequence of physicians´ monthly activity caps. OOP payments continue to contribute to unmet need in the population, particularly for the most vulnerable groups.

Health-care provision

The cornerstone of current reform efforts in Greece is the creation of a new primary care network. The Greek health-care system is centred strongly on hospitals and the primary care system has not been developed fully. Hence, patients face problems with access, coordination and continuity of care as well as comprehensiveness of services. A new reform concept for primary health care (PHC) adopted in 2017 aims to improve access to essential quality services (short term); strengthen individuals and communities (mid term); and encourage macroeconomic and cultural change (long term). The first and capital step in this direction was Law 4486/2017 which sets the groundwork for introduction of a new PHC system that embodies the fundamental principles of WHO. This is expected to result not only in better access to quality health care but also in more rational and efficient use of existing services and resources through well-organized referral processes that reduce unnecessary hospital admittance. During the initial roll-out period, challenges have been observed in adjusting to a higher focus on teamwork, health promotion activities, community empowerment and prevention programmes; persistent lack of clear and uniform coordination mechanisms; full implementation of electronic medical records and of concrete clinical guidelines; uncertainty about the sustainability of the system driving potential staff's reluctance to work in the new primary care units; and lack of experience with the system among both new staff and decision-makers.

Existing public health services are centred on the control and prevention of communicable diseases. In light of the aforementioned strategic goals these have to be transformed to focus on the reduction of the incidence and prevalence of noncommunicable diseases (NCDs). Community mental health structures should be enforced in order to ensure sustainability and to provide quality services. Also, related health promotion and prevention actions in the general population should be strengthened, especially in light of the negative effects on mental health resulting from the crisis. Current over-reliance on emergency care for patients who do not require it needs to be addressed. Aside from strengthening primary care, this

could be addressed further by rethinking a uniform triage system; fostering the independent, specialized nature of emergency departments; institutionalizing emergency medicine as a specialty; and investing in awareness campaigns.

Quality and safety of health care

Traditionally, Greek patients have been dissatisfied with the quality of health care they receive, whatever the level of care. There is no national quality management infrastructure nor any indicators routinely used to monitor hospital performance (or primary care services, for that matter). This should be further addressed in the near future, especially for monitoring and improving health system performance. Promising steps have been taken at hospital level and regarding the development of clinical guidelines. Historically, the Greek system has shown weak care coordination but the new primary care law emphasizes three of the main tenets of good coordination practice: (i) multidisciplinary teams at local level; (ii) adequate referral systems; and (iii) a common electronic medical record system.

Historically, investment in advanced diagnostic imaging equipment has not been the result of concerted evidence-based planning efforts. Recent efforts by the Ministry of Health and WHO culminated in a number of recommendations to address the issue, mainly through strategic planning based on needs assessment for medical devices at all levels of the health-care system, and broad stakeholder involvement. A number of measures have been introduced to curb overprescribing and encourage rational use of diagnostic tests and pharmaceuticals, including (but not limited to): successful introduction of a nationwide e-prescription system; monthly prescribing caps for physicians using the e-prescribing system (requiring close monitoring to ensure that inequities are not introduced and to address unintended consequences); price reductions; issuance of prescribing guidelines and specified rules for referrals. Finally, an early health technology assessment (HTA) mechanism was institutionalized in Greece in early 2018 to evaluate pharmaceuticals, and should be built on and expanded as experience grows, and against the backdrop of European developments.

Human resources for health

The Greek health system is characterized by quantitative and qualitative imbalances between health professions and specialties, a lack of human resource planning and maldistribution of health professionals across levels of care. A national strategic plan is being prepared to address these issues. Preliminary recommendations span education; human resource management and reward packages (particularly for remote geographical areas); team composition; personnel planning; and individual and institutional capacities.

Following a related verdict by the European Court of Justice, a recent legislative initiative aimed to harmonize working hours legislation for doctors in the national healthcare service (ESY) with EU (European Union) requirements. This had the stated aims of enhancing working conditions for doctors and, consequently, improving quality of care and reducing the likelihood of medical error. Close monitoring of the effects of the new framework is necessary to ensure that it meets its intended goals.

Role of patients

Patient groups lack any institutional role in health-care planning and regulation in Greece. Until recently, there was no officially developed tool for conducting patient experience/user satisfaction surveys in Greek public health care units. The new PHC law of 2017 stipulates that social control should be carried

out, inter alia, through surveys in which citizens evaluate the services they have received, and that the results should be considered for shaping future practice. Implementation of these provisions is in progress. In 2016, legislation mandated that offices for the protection of health services recipients' rights be established in every hospital, with responsibility for protection of patients' rights within the hospital and for examining relevant complaints from citizens.

Governance

A comprehensive range of effective measures has been implemented to enhance monitoring and ensure greater transparency of financial transactions within the health system. For example, development of the price monitoring tool for the collection and analysis of tenders and technical specifications published by hospitals; also, the 2010 introduction of the Diavgeia (Clarity) programme to promote transparency and openness in the Greek Government and its policies. However, citizen and patient participation in priority-setting and decision-making in health care is generally lagging behind other European countries.

Fragmentation of procurement had been identified as a major source of inefficiency in the health system, driving substantial efforts to strengthen procurement processes for both primary and hospital care. In hospitals, a uniform product coding system and a common registry for medical supplies were introduced to enable a more transparent and efficient procurement system, and the composition and remit of the National Central Authority of Health Procurements (EKAPY) were revised in 2017.

Health status of the population

It is not easy to assess how health-system reforms affect the health status of the population as it is difficult to estimate whether (and to what extent) an observed health effect is attributable to structural and procedural changes in the health system per se, or to changes in the social determinants of health brought about by the economic crisis. Also, it takes time for the impact of any given change on health to become apparent. This is even more challenging in Greece, as timely and relevant data are often not available. However, it can be noted that while life expectancy at birth continued to increase during the crisis years, time spent in good health largely decreased. The infant mortality rate started to increase after 2014 following decades of decline and a position constantly below the EU-28 average. Preventable, all-cause and cause-specific mortality all show changes in the crisis period, although to different extents and directions. Although the suicide mortality rate in Greece is among the lowest in the EU-28, an increasing trend was observed for the period 2010–2014, with a slight decrease in 2015. The effects of the crisis on mental health; maternal and child health; infectious disease dynamics; public health; and specific disease areas have been investigated by numerous short-term and emerging long-term studies and are summarized in the report.

Way forward

Looking ahead, there is a need for a more coherent, integrated and better-designed health reform plan that accounts more fully for population health needs; adopts a more sophisticated and strategic approach, particularly regarding resource allocation; and enables continuous monitoring and correction of unintended consequences of previous reform efforts. This report concludes with a set of suggestions for future consideration.

1. Introduction

At the start of the global financial and economic crisis, the Greek health system was characterized by an outdated organizational structure dominated by clinical medicine and hospital services. Planning was inadequate, as was accessible information on health status, utilization of health services and health costs. The system was neither progressive nor proactive in addressing the health needs of the population through public health interventions and primary health care (PHC). As a result, the Greek health-care system was plagued by several inefficiencies (Economou & Giorno, 2009; Economou, 2010). Governance was characterized by a high degree of centralization in decision-making and administrative processes; suboptimal managerial structures lacking adequate information management systems and often staffed by personnel without adequate managerial, planning or coordination skills; and limited managerial and administrative capacity. Health service planning was not based on needs assessment, priority-setting mechanisms or health technology assessment (HTA). Funding was regressive, with high out-of-pocket (OOP) payments. The anachronistic retrospective reimbursement system and problematic pricing created incentives for supplier-induced demand; increased OOP payments and the black economy; and prevented cost containment. The old social health insurance (SHI) system was fragmented, comprising many funds and providers with varying organizational and administrative structures offering services that were not coordinated. This resulted in differences in population coverage, contribution rates and benefit packages, which combined with the absence of a referral system and effective gatekeeping mechanisms to produce inefficient operations and large accumulated debts. In addition, oversupply of specialist physicians coexisted with an undersupply of general practitioners (GPs) and nurses. In conjunction with the unequal and inefficient allocation and regional distribution of human and economic resources, and of health infrastructure, the fragmented coverage has resulted in inequalities in access to services.

In the context of the wider economic situation, reform became an undisputed priority as the Greek health system came under additional pressure. Health-policy responses to the crisis and their effects should be considered with four realities in mind (Economou et al., 2015). First, the multidimensional structural problems of the Greek health-care system meant that it was ill-prepared to cope with the challenges imposed by the economic crisis. These structural weaknesses created a health system vulnerable to economic fluctuations and unable to meet the increasing needs of the population. Second, there was an urgent need to implement operational and structural reforms designed to address the weaknesses in the health-care system as presented in the previous paragraph. Third, and perhaps most importantly for understanding the effects of changes, the measures stipulated in Greece´s Economic Adjustment Programme (EAP) largely concerned fiscal consolidation. Cost-containing policies implemented in the Greek health system after 2010 have generally taken the form of cuts across the board. Fourth, when considering individual reform initiatives it is important to remember that the Greek health-care system has undergone a huge number of changes in a very short time. As a consequence, reform steps that were prerequisites for further changes had no time to mature before new efforts had to be initiated.

Greece employed a mix of health-policy tools in response to this situation. It can be argued that the majority of the reform measures introduced during the first wave of reforms (2010–2014) undermined the health system goals described in the typology adopted by the WHO Regional Office for Europe: health status, financial protection, efficiency, equity, quality, responsiveness, transparency and accountability (Mladovsky et al., 2012). These included reduction of the scope of essential services covered; reduction of population coverage and increases in user charges for essential services (i.e. changes in all three dimensions of coverage); increases in waiting times for needed services; horizontal cuts in public health expenditure; and attrition of health workers caused by cuts in salaries, reduced replacement levels for retiring staff and migration to foreign labour markets. Conversely, measures likely to promote health-system goals were limited and, in many cases, neither well planned nor implemented. This category encompasses establishment of the National Organization for Healthcare Provision (EOPYY) as a single payer to strengthen risk pooling; introduction of the diagnosis-related group (KEN-DRG) system for hospital payment; and price reductions for pharmaceuticals combined with e-prescribing.

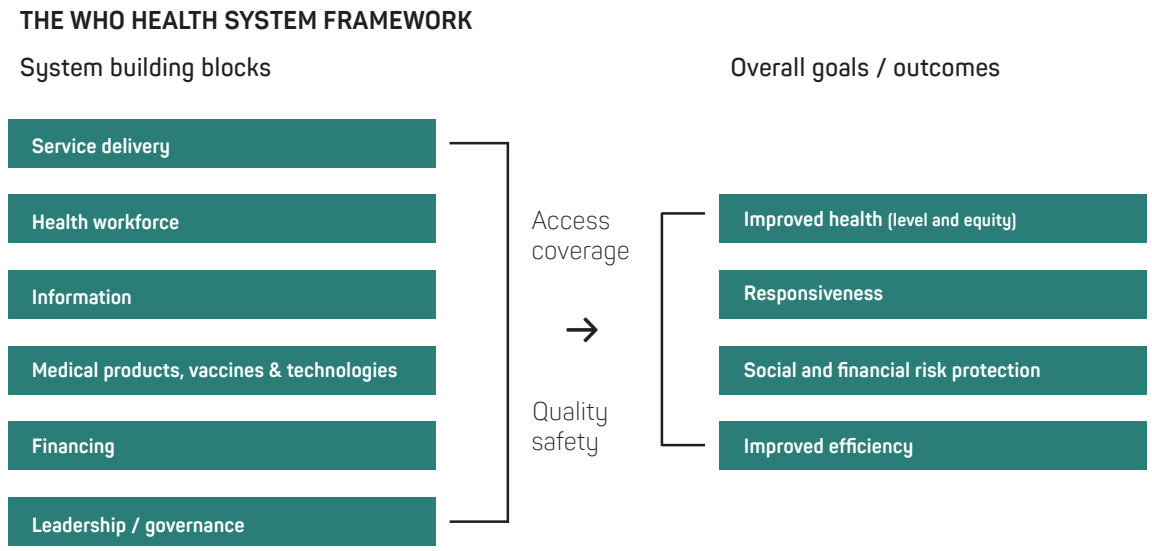
A range of essential policy options was neglected, however, including: strategic purchasing combining contracts with accountability mechanisms; HTA embedded transparently in decision-making processes, monitoring and transparency measures; public health measures to reduce the burden of disease; shifting from inpatient to day-case or ambulatory care; integration and coordination of primary care and secondary care, and of health and social care; reduction of administrative costs while maintaining capacity to manage the health system; and fiscal policies to expand public revenue. In addition, a patient-centred health system shaped on the basis of the citizen–patient dimension appeared beyond the scope of the first-wave reform package. Furthermore, whether intended or unintended, the effects of the measures introduced were neither monitored nor adequately considered to further shape policy (Economou et al., 2015; Economou et al., 2017).

After 2015, these neglected issues moved to the forefront of the health policy agenda, building on increasing concerns about achieving universal health coverage and reducing barriers in access to health services. This was catalysed by technical assistance provided by WHO. Launched in January 2016, the Strengthening Capacity for Universal Coverage (SCUC) initiative is a collaboration between the Greek Ministry of Health and WHO Regional Office for Europe, funded by the European Union (EU). Aiming to supporting Greece´s mid-term reform priorities for the health sector, the initiative has a general objective to contribute to improving health and health equity in Greece, especially for the most vulnerable population groups, by helping the Greek authorities in their move towards universal coverage and in strengthening the effectiveness, efficiency and resilience of the Greek health system. The initiative focuses on three reform axes: (i) enhancing universal access to quality care; (ii) improving the transparency, inclusiveness and modernization of health governance; and (iii) improving the financial sustainability of the health system. A 100 actions plan was developed to guide reform efforts along those lines. A number of reform measures introduced in the past three years have taken account of knowledge generated by the SCUC initiative.

Looking forward, there is a need for a more coherent, integrated and better-designed health reform plan that accounts more fully for population health needs and adopts a more sophisticated and strategic approach, particularly in resource allocation. To this end, this report aims to describe and assess the health-system reforms implemented since the economic crisis and, where appropriate, present options and recommendations for policy adjustments or redirection. Informed by the WHO 2007 building block

framework for health system strengthening (see Fig. 1), it is structured in six sections, each representing a crucial domain of the Greek health system that needs, or has undergone, important reforms: (i) coverage, access to health care and financial protection; (ii) health-care provision; (iii) quality and safety of health care (considering health technologies and information systems); (iv) human resources for health (HRH); (v) the role of patients; and (vi) governance. The report concludes with an examination of selected indicators measuring changes in health in both quantitative data and in-depth studies conducted since the onset of the crisis.

Fig. 1. WHO building-block framework for health systems strengthening



Source: WHO, 2007.

The evidence base for this report comprises official documentation, published literature (grey and peer-reviewed), expert consultation and insights from the field collected in the first half of 2018. The report is far from exhaustive and does not set out a detailed examination of all the changes in the Greek health system since the beginning of the crisis. Instead it focuses on critical interventions aimed at addressing the crucial structural inefficiencies of the health system. Where applicable, it also highlights developments in designated technical areas of the 100 actions plan in the framework of the SCUC project. Finally, following scientific good practice, the report does not attempt analytical evaluation of reform measures that have been implemented only recently.

2. Coverage, access and financial protection

Access to health services has been a major challenge in Greece since the advent of the crisis. Access deteriorated markedly between 2009 and 2016, particularly with the loss of health insurance coverage for unemployed (due to the increasing unemployment rate during the crisis) and self-employed people who could not afford to pay SHI contributions, and increasing user charges. During this period there were marked increases in the number of people reporting unmet needs for medical care, particularly for reasons of cost and particularly among the poorest segments of the population: from 4% in 2009 to 12% in 2016 (Eurostat, 2018a). Among the poorest quintile, this reached 17% in 2015 and doubled to 34% in 2016. The highest proportions of respondents reporting unmet need because of cost in 2016 were reported for unemployed people (21%) and those aged over 65 (14%) (Eurostat, 2018a).

2.1 Health financing

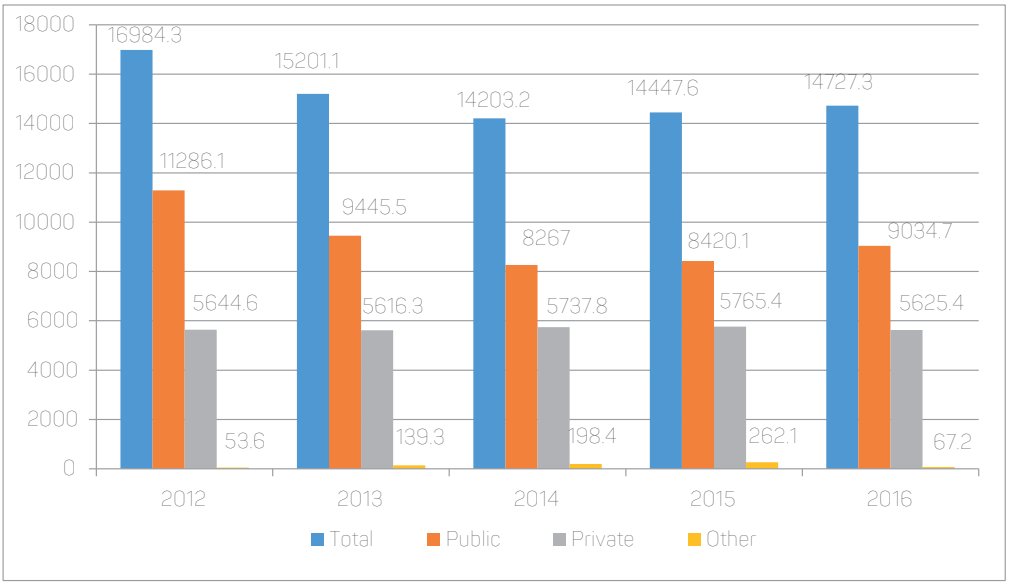
A 6% cap on public expenditure on health has been shaping fiscal sustainability measures ever since the first EAP was introduced in Greece in 2010 (European Commission, 2017). Severe austerity measures aimed at reducing the public debt and deficit included horizontal funding cuts to health care, social welfare and education. The number and salaries of public sector staff were reduced, as were pensions, while both direct and indirect taxation increased (Economou et al., 2017). Total health expenditure dropped from 8.9% of gross domestic product (GDP) in 2012 to below 8% in 2014, reflecting the peak of the crisis in 2013. An upwards trend has been recorded since, with total funding of health expenditures reaching 8.5% of GDP in 2016 (ELSTAT, 2018). Even though public expenditure on health in Greece had never exceeded the EU average, per capita spending recorded a 28% drop between 2009 and 2015 (Economou et al., 2017).

The share of total public spending in current expenditure on health (general government expenditure + SHI spent) is among the lowest in the EU, amounting to 61.3% in 2016. This constitutes a slight increase from the lows recorded in 2014 and 2015 when the public share of health expenditure fell below 60% (see Figs. 2 and 3). The distribution of public sector funding on health-care expenditures for different types of goods and services shows that budget cuts were made across the board and shares remaining largely unchanged, except for pharmaceuticals (see section 4.4) (Economou et al., 2017). This supports the position that budgetary reductions did not reflect efficiency considerations (the stated aim of the 6% public expenditure cap) but rather the necessity for fast-paced change to achieve fiscal targets.

By contrast, Greece has one of the highest shares of private health-care funding in the EU: for 2016 the remaining 38% came primarily from OOP payments (34%), with only a limited amount from private health insurance (4%) (ELSTAT, 2018; see Fig. 3). The main contributing components to total OOP

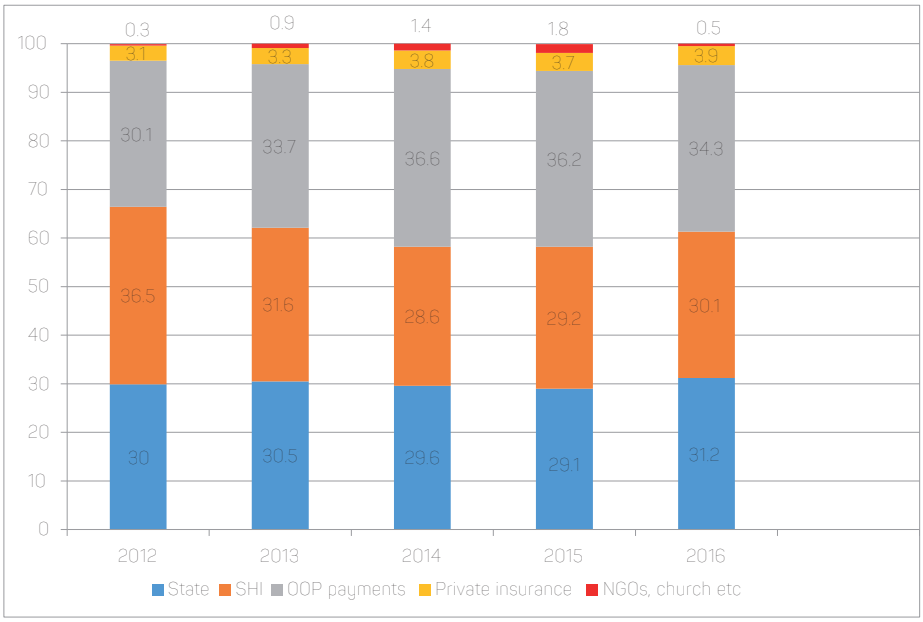
payments (more than 90%) are pharmaceutical co-insurance and direct payments for services not covered by SHI. Payments for services covered in the public system but purchased privately in order to speed up or otherwise enhance access and quality, also play a role. Finally, informal payments are notoriously pervasive in the Greek health-care system, attributable to a long tradition of insufficient and insufficiently efficient funding in conjunction with a lack of control mechanisms (see section 2.4 for more details on the structure of OOP payments and recent reform efforts).

Fig. 2. Current health expenditures, 2012–2016 (€ millions)



Source: ELSTAT, 2018.

Fig. 3. Funding health expenditures: percentage contribution by sector, 2012–2016



Source: ELSTAT, 2018.

Traditionally, and until the start of the economic crisis, SHI covered around 40% of current health expenditure (Economou et al., 2017). This share declined to 28.6% in 2014 and thereafter increased slightly to 30.1% in 2016, representing about half of total public health expenditure. The main sources of financing for SHI are compulsory contributions from employees, employers and pensioners; annual subsidies from the state budget; and pharmaceutical rebates. As a result, a variety of factors contributed to the substantial hit on SHI revenues in the context of the crisis: contraction of GDP, severe unemployment, diminishing wages and a decrease in the working-age population, partly due to outward migration (European Commission, 2017). The state subsidy for SHI is used to cover EOPYY's operational costs.

Until the end of 2016, the pension branches of the SHI funds collected the majority of SHI contributions and transferred the health insurance components to EOPYY. In 2017, Law 4387/2016[1] established the Unified Social Security Fund (EFKA) as the main social security fund for collecting and pooling contributions. EFKA also sets the health insurance contribution rate for salaried employees (currently 7.1% of income). The few health insurance funds that have remained outside the EOPYY and EFKA pooling framework cover a very small percentage of the population (fewer than 130 000 members). The necessity to reform the system of pooling of financial resources predates the financial crisis (European Commission, 2017; Economou et al., 2017) but a number of such reform efforts took place within the EAP context (see section 2.2 on establishment of EOPYY as a single payer in the system). Evasion of social security contributions remains an issue and is compounded by Greece's significant informal economy which translates into SHI contributions lost.

The state budget component of public health care financing in the Greek system is responsible for covering administrative costs and salaries of employees of public providers; funding primary/ambulatory health care; providing subsidies to public hospitals and EOPYY; investing in capital stock; and funding medical education. The Ministry of Finance transfers funds to the Ministry of Health through the annual budget, based mainly on the previous year's allocation and adjusted for inflation and overall budget growth. Resources for the state budget come from direct and indirect taxes. The latter have traditionally been relatively high in Greece (amounting to approximately 40% of tax revenue), and certain earmarked taxes have been dialed up in the context of the EAPs: taxation rose to 23% of the retail price on alcohol, 20% on cigarettes and 34% on cigars. Taxes are collected by the Ministry of Finance through a network of local tax offices but tax evasion and tax fraud are key problems in Greece. This is attributed to the confluence of many factors, including weak enforcement of related legislation; absence of codes of conduct and audit; lack of transparency in government activities combined with government impunity and broad discretionary powers; inefficient bureaucracy; and a lack of public awareness (Economou et al., 2017). A number of measures to increase transparency and accountability (see section 7.1) have been implemented in recent years but their effectiveness has not yet been fully evaluated. Examples include increased responsibilities for the Ministry of Finance encompassing budgetary and operational oversight of health-care spending, with publication of audited accounts and monthly reporting of public expenditure, tax refunds and arrears.

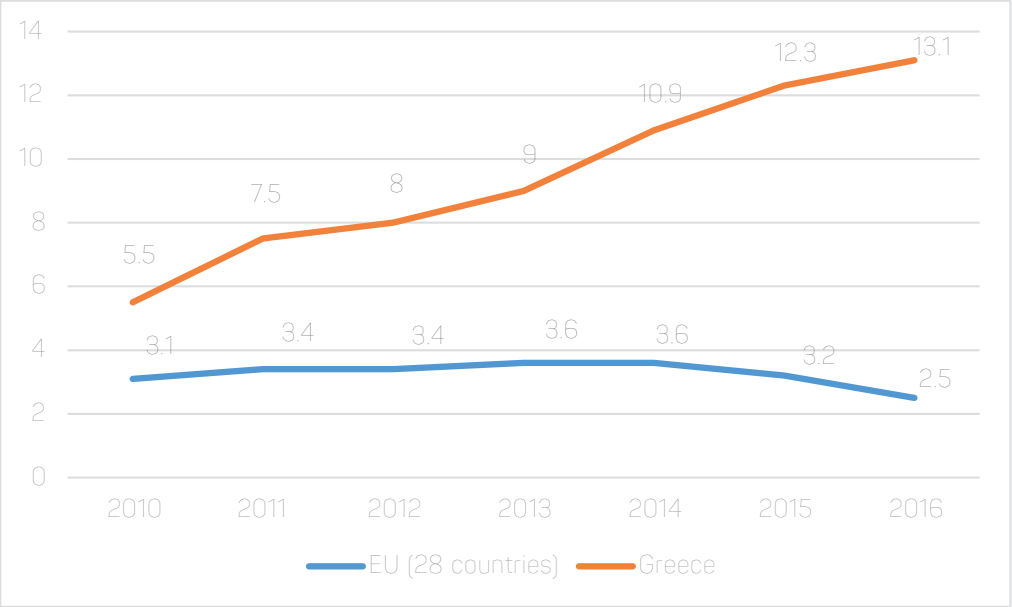
1 Official Government Gazette No. 85/Issue A'/12-5-2016.

The substantial pressures on the twin components of public financing in the Greek system create justified concerns over the mid- and long-term adequacy of funding in the health system. Fruitful reform efforts and sustainable gains (e.g. in the context of universal health coverage) are dependent on a sound financing base. The government has stated its aim to lift public spending on health care to at least 6% of GDP (currently 5.2%) in the immediate future. However, further focus on improving collection and pooling is necessary to ensure that this is achieved in a sustainable manner, securing the predictability of both SHI and tax-based funds.

Furthermore, excessive reliance on indirect taxes and high OOP payments, formal and informal, make overall funding of the health sector regressive and inequitable (Economou et al., 2017). Unmet need increased in the period 2010–2016 (Fig. 4), disproportionately burdening vulnerable groups (Thomson, Cylus & Evetovits, 2018). The latest data from European Union Statistics on Income and Living Conditions (EU-SILC) indicate a 3.1% decrease in unmet need in Greece between 2016 and 2017, possibly attributable to measures introduced for coverage of uninsured people as described in section 2.3.

Adequate capacities at ministry level are required to rethink reform policies along these lines. Indeed, it has been recognized that lack of capacities in the Ministry of Health and subordinated institutions is one of the biggest impediments to acceleration of the health reform agenda. Often following ministerial initiative, the SCUC project has contributed substantially in this direction by supporting the training of policy-makers directly involved in the design and implementation of reforms in a number of areas, including health financing.

Fig. 4. Unmet needs due to cost, distance or waiting time, 2010–2016



Source: Eurostat, 2018a.

2.2 SHI coverage

One major reform of the health system was introduced in March 2011: unification of the large number of health branches of the social insurance funds and the formation of EOPYY (Law 3918/2011).[2] Intended to function as a unique purchaser of health services, initially EOPYY was also tasked with managing primary care. The role involved coordination of such care, contracting with providers of primary care services and setting quality and efficiency standards, with the broader goal of alleviating pressures on ambulatory and emergency care in public hospitals. Subsequently, Law 4238/2014[3] converted EOPYY to a single purchaser of health services and responsibility for PHC provision was passed to regional health authorities (YPEs).

Under the 2011 regulation, four major social insurance funds – Social Insurance Institute (IKA), Agricultural Insurance Organization (OGA), Insurance Organization for the Self-Employed (OAEE), Insurance Organization for Public Sector Employees (OPAD) – formed EOPYY to act as a unique purchaser of health services and pharmaceuticals for all insurees. Subsequently, EOPYY expanded to include more health branches of insurance funds. The benefit packages of these funds were standardized and unified to provide the same reimbursable services based on the EOPYY Integrated Regulation for Health Services (EKPY), although there are still differences in arrangements (e.g. variations in contribution size). According to the EKPY, EOPYY seeks to ensure equal access for all insurees in a single-service system which aims to provide services for disease prevention, health promotion, improvement, restoration and protection. The EKPY has been amended twice and, at the time of writing, a new amendment is under consideration. This outlines a number of health-care services, together with their associated costs and how they are administered. Furthermore, the regulation specifies who is covered and how costs are reimbursed. Yet despite the introduction of a common benefit package, there was a reduction in covered benefits and ceilings were imposed on the activities of doctors contracted with EOPYY (see also sections 2.3, 4.3 and 4.4). For example, some expensive examinations (including PCR tests and tests for thrombophilia) that had previously been covered by insurance funds – even partially, on an outpatient basis – were removed from the EOPYY benefit package. Entitlement restrictions were introduced for childbirth, air therapy, balneotherapy, logotherapy and services for thalassaemia and nephropathy. Moreover, introduction of a negative list for medicines in 2012 resulted in withdrawal of the reimbursement status for various drugs.

Creation of the EOPYY represented a major shift towards a single-payer health insurance system by replacing the multiple health insurance funds that previously covered the population. EOPYY is now the sole purchaser of medicines and health-care services for all insurees although it operates with underdeveloped HTA-like mechanisms. Standardization of the numerous benefits packages that existed under the insurance funds addressed long-standing inequities in the services covered for different employment groups and applicable co-payments. However, EOPYY has not formally stated the criteria used to decide what services are included in the EKPY, and coverage now excludes some previously reimbursed services (see previous paragraph). A systematic HTA process is not yet in place and there is no systematic assessment of the effectiveness of the services included in the benefits package (see section 4.5).

2 Official Government Gazette No. 31/Issue A'/2-3-2011.

3 Official Government Gazette No. 38/Issue A'/17-2-2014.

EOPYY purchases services on a contractual basis, negotiating with providers on the volume, cost and quality of services and, in theory, taking account of the demographic, epidemiological and social characteristics of the local population. As the single purchaser of publicly provided health-care services EOPYY has substantial bargaining power with suppliers, although somewhat limited by heavy regulation of collective bargaining in the Greek public sector. To some extent, implementation of a single-payer system has managed to combat fragmentation and limit waste and administrative costs in the system; to constrain expenditure growth; and to allocate resources more rationally. However, the creation of EOPYY has not been supported adequately at operational level: continuing understaffing and underfunding leads to delays in paying providers.

2.3 Access to health care for uninsured people

Through total deregulation of the labour market via flexible industrial relations policies and redundancies dictated by the memoranda of understanding, the economic crisis increased unemployment in Greece and, according to the National Social Insurance Registry (ATLAS), resulted in more than 2.5 million people losing their SHI rights. Action to address this development was delayed and the measures implemented were uncoordinated, insufficient, and stigmatized beneficiaries. The first effort was the health voucher programme launched in September 2013, funded mainly by the National Strategic Reference Framework (NSRF) and introduced by Joint Ministerial Decision No. DOLKEP/F15/40/oik.20849.[4] Targeting people who had lost their insurance coverage and were unemployed for over two years, the NSRF gave them and dependent family members vouchers for free access to primary/ambulatory care for a limited number of visits to contracted physicians and facilities of the national healthcare service (ESY). Hospital-care costs were not covered; a voucher was valid for four months and could not be renewed. The specific criteria set made it available only to people who were formerly insured with social security funds which joined the EOPYY, with a real or imputed income of up to €12 000 (single person) or family income up to €25 000 (married person). The programme was limited to cover approximately 230 000 uninsured citizens in 2013–2014 but no more than 23 000 vouchers were issued, largely due to the bureaucratic procedures for claiming them, and their very limited scope. This raised serious doubts about the effectiveness of this provision and hence the measure was abandoned (Economou et al., 2014; Economou, 2015; Economou et al., 2017).

A second effort was made in June 2014 with the issuance of two Joint Ministerial Decisions (Y4a/GP/oik.48985[5] and GP/OIK.56432)[6] signed by the ministers of finance; of health; and of labour, social insurance and welfare. According to these, all uninsured Greek citizens and legal residents of the country

4 Official Government Gazette No. 1891/Issue B'/1-8-2013.

5 Official Government Gazette No. 1465/Issue B'/5-6-2014.

6 Official Government Gazette No. 1753/Issue B'/28-6-2014.

(and their dependents) without social or private health insurance, not eligible for poverty booklets,[7] and having lost their insurance rights through inability to pay their social insurance contributions, were covered for: (a) inpatient care, free of charge, at the expense of public hospital budgets, provided that they have received a referral from a doctor of the National Primary Health Care Network (PEDY) or an outpatient department of a public hospital and confirmation from the special three-member medical committee set up in each hospital to certify patients' need for hospitalization; and (b) pharmaceuticals, at the expense of the state budget, provided that they were prescribed by a PEDY doctor or a doctor of a public hospital. However, beneficiaries were required to pay the same copayments as those paid by insured people.[8]

The aforementioned legislation was expected to have positive effects but four issues have to be considered. First, the stigmatizing procedure for accessing hospital services given that a specific committee had to certify the need for hospitalization of uninsured patients but not of the insured population. As already described, access was granted by referral plus the committee's confirmation. Second, the legislative requirement for uninsured and insured people to make the same copayments for pharmaceuticals raised potential negative effects for those in difficult economic situations. Third, it was not very clear how public hospitals implemented the ministerial decision on hospitalization of uninsured people. As a consequence, uninsured people seeking hospital services faced serious unjustified administrative and bureaucratic barriers in access to health care due to their differentiated treatment by different public hospitals that conflicted with the legislation. Last but not least, the bureaucratic system that was created resulted in increased operational expenses Economou et al., 2014; Economou, 2015; Economou et al., 2017).

The ineffectiveness of this legislation resulted in its abolition but a new legislative framework was introduced by Article 33 of Law 4368/2016[9] and Joint Ministerial Decision A3(g)/GP/oik.25132[10] in 2016. These provide free access to care for uninsured Greeks and immigrants who are legally resident in Greece, subject to possession of a unique social insurance number (AMKA). These beneficiaries have the same coverage package as the population insured with the EOPYY. Moreover, irrespective of legal status, all residents are entitled to access emergency departments for the management of life-threating conditions. Undocumented migrants in need of health services (e.g. pregnant women, children, people with disabilities or mental disorders) are entitled to access all public health structures free of charge, subject to possession of an alien health care card (KYPA). People living in refugee shelters and hotspots may access public services (e.g. pharmaceuticals from hospital pharmacies, emergency and inpatient services) with a referral from a physician providing care in these settings. Furthermore, people

7 Those who had exhausted their insurance rights to sickness benefits and eligibility for Greek Manpower Employment Organization (OAED) programmes and the health voucher could request a poverty booklet. Introduced by Joint Ministerial Decision No. 139491 of 30 November 2006, this special mechanism was developed to protect the vulnerable population and to provide free access to public hospitals, medical services and pharmaceuticals for poor and uninsured people who had exhausted their social insurance rights. The basic eligibility criteria were a lack of insurance, low income and permanent and legal residency in Greece. Beneficiaries eligible for the uninsured booklet were registered in the Registry for the Uninsured and Financially Weak kept by the health or welfare directorate of each municipality. The poverty booklet was valid for one year, with the possibility of annual renewal for as long as the applicant remained unemployed and in poverty.

8 It should be mentioned that, under article 1 of Law 4238/14, PHC services were also provided with no charge on an equal basis for all citizens, irrespective of their economic, social and insurance status and place of residence, through establishment of the PEDY. However, PEDY faced serious problems (see section 3.1).

9 Official Government Gazette No. 21/Issue A'/21-2-2016.

10 Official Government Gazette No. 908/Issue B'/4-4-2016.

and families whose annual income, total taxable value of their property, total deposits with all credit institutions (home and/or abroad), and investments (e.g. current value of shares, bonds) do not exceed set amounts are eligible to obtain medication free of charge.

Undoubtedly this legislation is of key importance in improving equity and access to health care for vulnerable groups, but it has not eliminated some barriers. For example, uninsured people can access only public providers and not private providers contracted with EOPYY (e.g. doctors, diagnostic imaging laboratories). This continues to undermine equity of access, particularly in regions where public health care units are understaffed or face shortages of modern equipment such as computed tomography (CT) and magnetic resonance imaging (MRI) scanners. In addition, implementation of the KYPA that would allow migrants access to health services has been delayed, although they can still access care provided they have legal documentation (Economou et al., 2017).

2.4 OOP payments

Greece's health system has always relied on a large share of private financing, with high payments, particularly because of underfunding in the public health sector. OOP payments formed more than 90% of private health financing, increasing from 28.1% of total current health expenditure in 2010 (ELSTAT, 2017) to 36.2% in 2015 (ELSTAT, 2018). This is a matter of serious concern as it undermines the constitutional guarantee of free access to health services. It also increases inequities in the distribution of the burden of financing health services among social groups as it disproportionately affects poor and disadvantaged population groups. A recent study found a high incidence of catastrophic spending on health[11] in Greece – nearly 10% of households in 2016 – in comparison to many other countries in the EU. More specifically, 7.2% of households in Greece experienced catastrophic OOP payments in 2010. This share had risen to 10.5% of households in 2015, falling to 9.7% in 2016 (WHO Regional Office for Europe, 2018a).

One explanatory factor for this trend is the increase in user charges and copayments introduced in the Greek health-care system after 2010 with the aims of increasing revenues and limiting unnecessary demand for health services. However, these measures have combined with salary and pension cuts to produce detrimental effects on patients, especially those with chronic illness; reduced adherence to medication; reduced utilization of laboratory and imaging services; and poor monitoring of complications. Chronic patients who reported that the need for physician visits related to their chronic condition was largely met, indicated that this had been achieved by increased OOP expenditure and large family budget cuts on (other) essential household goods and services (Economou, 2015).

In 2011, user charges for outpatient services in public hospitals and health centres were increased from €3 to €5. In addition, Law 4093/2012[12] introduced a €25 patient fee for admission to a public hospital from 2014 onward, together with an extra €1 for each prescription issued under the ESY (in both primary/

11 Catastrophic health spending occurs when the amount a household pays for health care out of pocket exceeds a pre-defined share of its ability to pay for health care, which may make it difficult for the household to meet other basic needs (WHO Regional Office for Europe, 2018).

12 Official Government Gazette No. 222/Issue A'/12-11-2012.

ambulatory care and inpatient settings). With the exception of the €1 prescription fee, these fees were later abolished: the first in 2015 by Joint Ministerial Decision No. A3(g)/GP/oik.23754.[13] This was based on the rationale that abolition of the OOP consultation fees would remove: (i) a barrier to access to care that is significant, and a real deterrent for useful uptake of care by low-income households; and (ii) a de-facto discrimination of the rural and urban populations regarding non-hospital ambulatory care (Health Reform Support Programme, 2015b). The hospital admission fee was also revoked (Law 4235/2014, article 69)[14] as health professionals and other stakeholders raised major concerns regarding the impact on access to care. Instead, an extra tax on cigarettes was imposed.

In 2016, exemptions were introduced for the €1 prescription charge to relieve former welfare beneficiaries, uninsured people on low incomes and those belonging to vulnerable groups (see section 2.3). Although this measure is positive in reducing the economic burden of vulnerable groups, it does not eliminate a barrier to access imposed on the whole population. The €1 mechanism has not been set up as a tool for rationalizing drug prescriptions (see section 4.4), nor as a disincentive for excessive consumption of pharmaceuticals, because it is not associated with doctors' prescribing behaviour or the severity of patients' disease (Health Reform Support Programme, 2015a). Rather, it is purely a horizontal measure aiming to balance the EOPYY budget by levying a flat €1 tax on individuals consuming a pharmaceutical treatment so as to establish a regular income for EOPYY.

The €1 mechanism is not the only OOP payment for medicines. In 2011 increases in some copayments were introduced (from 0% to 10% for many medicines; 0% to 25% for others) with the aim of funding the elimination of copayments for a limited number of medicines. Furthermore, patients are charged the difference between the retail price and the reference price reimbursed by health insurance, currently set with an upper limit of €20 (Ministerial Decision No. Γ5(a)/oik.12033/16-2-2016).[15] Despite the continuous price reductions in pharmaceuticals and exemptions in user charges for people on low incomes; people with chronic disease; children aged under 18 living in social care; and some other population groups (see also section 2.3), the policy implemented so far has not only increased average monthly household pharmaceutical expenditure but also the average proportion of patients' copayments for pharmaceuticals: from 9% in 2009 to 30% in 2016 (Economou, 2015; Economou et al., 2015; Economou et al., 2017; Economou et al., 2018a).

Patients' financial burden increased in April 2014 when calls to make appointments with any doctor under the PEDY scheme were outsourced to private telephone companies: charges range from €0.95 to €1.65 per minute. Positive evolution has resulted in the e-Government Centre for Social Security Services (IDIKA) developing the electronic rendez-vous (e-RDV)[16] application launched in January 2017 that enables patients to make appointments free of charge.

In 2012, copayments for EOPYY insurees were introduced through amendment of the EKPY (Joint Ministerial Decision No. EMP5).[17] Under the provisions of the EKPY, treatment in public hospitals is free

13 Official Government Gazette No. 490/Issue B'/1-4-2015.
14 Official Government Gazette No. 32/Issue A'/11-2-2014.
15 Official Government Gazette No. 335/Issue B'/16-2-2016.
16 https://www.e-syntagografisi.gr/p-rv/p [in Greek].
17 Official Government Gazette No. 3054/Issue B'/18-11-2012.

of charge but treatment in private clinics contracted with EOPYY presupposes user charges ranging from 30% to 50% of the KEN-DRG and 100% of the doctor's payment. Similarly, patients visiting a private laboratory contracted with EOPYY are obliged to pay a 15% copayment for clinical tests provided free of charge in public facilities. This undermines equity of access, particularly in regions where public facilities do not offer the necessary services.

Publicly funded dental services are part of the EOPYY benefits package but lack of adequate funding and the absence of contractual arrangements with private-sector dentists means that most services are not covered and patients must pay out of pocket. EOPYY members who are unable to pay out of pocket for private dental services can visit ESY units but, in practice, these have limited capacity to provide dental services in health centres and public hospitals. Dentists working in health centres (usually understaffed) provide dental treatment free of charge for children up to 18 years of age, and emergency treatment for all ages. Dentists working in public hospitals provide mainly secondary dental treatment for patients with medically complex needs (e.g. people with disabilities, HIV/ AIDS/). Patients pay fixed amounts for different services (e.g. €6.34 for a tooth extraction, €9.07 for fluorosis). The lack of full coverage from either EOPYY or private insurance makes dental care one of the main fields for direct payments, with over 15% of total OOP expenditure financing dental treatment in 2014 (OECD, 2018).

More than 25% of OOP health expenditure in Greece concerns informal, under-the-table or side payments, constituting a black or hidden economy inside the health system and raising serious concerns about access barriers to health-care services. One main reason for their scale and existence is the lack of a rational pricing and remuneration policy within the health-care system. Surveys have shown that almost one in three respondents who consumed health services over the past 12 months reported making at least one informal payment. These were mainly for the provision of hospital services or payments to physicians, primarily surgeons, so that patients can bypass waiting lists or ensure better quality of service and more attention from doctors. With this in mind, it can be argued that Ministerial Decision No A3a/oik.97136[18] on establishing, organizing and operating the surgery list is a positive measure, not only for increasing transparency and equality but also for reducing waiting times for surgical interventions carried out in public hospitals all over the country, thus diminishing motivation for informal payments. This ministerial decision identifies five categories of surgical intervention severity, prioritizing patients based on the symptoms, malfunction and progress of disease.

New types of informal payments have emerged recently as patients seeking treatment have to pay an additional under-the-table fee to EOPYY-contracted doctors, ranging from €10 to €20 for a service that is supposed to be free of user charges. This arises partly because of the low per-visit remuneration of €10, but mostly because of ceilings imposed on the activities of EOPYY-contracted doctors in 2014. These include monthly numbers of patient visits; of prescribed pharmaceuticals; and of diagnostic and laboratory tests. Patients are forced to make informal payments in order to avoid the need to contact several doctors in order to find one who has not reached their visits and prescription limits (see also sections 4.3 and 4.4) (Economou, 2015; Economou et al., 2017; Economou et al., 2018a).

18 Official Government Gazette No. 4316/Issue B'/30-12-2016.

A large part of the black economy stems from obstetric services in public hospitals, hence the initiative undertaken in the context of the SCUC action to reduce excess reliance on caesarean sections is also expected to contribute further to limiting of informal payments (see also section 4.2) by raising public awareness among the population and health professionals. Some recommendations of a report produced by a WHO team of experts (SCUC, 2016a) are already transposed into the new law on PHC (Article 12 on midwifery care in PHC). These aim to strengthen the role of midwives at PHC level, particularly in preparing for natural birth throughout pregnancy. In addition, the project activity in this area has significantly accelerated the process of the Central Health Council (KESY) granting official approval of national clinical guidelines and patient consent in obstetrics and gynaecology.

The WHO Project Office in Athens is also supporting the formulation of policy options to reduce informal payments in the Greek health sector. The aim is to evaluate and systematize available data on informal payments, collect additional data and develop a framework for understanding the drivers and policy options for further action. A report highlighting major findings and suggesting relevant and feasible policy recommendations (WHO Regional Office for Europe, 2018b) is expected to mobilize institutional interventions by the Ministry of Health. However, there is also a need for support from other ministries and authorities, such as the Ministry of Justice (mainly in reform of legal framework and penalties) and the Ministry of Finance (re monetary rewards).

In summary, it can be argued that some positive steps have resulted in a slight decrease in OOP payments: from 36.2% of total current health expenditure in 2015 to 34.3% in 2016 (ELSTAT, 2018). These include the legislation that provides free access to care for uninsured Greeks and immigrants and the abolition of some types of user charges. Furthermore, in a related move, hospital debts incurred by uninsured people were written off in 2017 (initially €28 million, later approximately €150 million). However, remaining issues for further consideration include: the structure of pharmaceutical copayments; ceilings on doctors' treatment activities; the absence of real dental coverage; and the persistence of informal payments.

2.5 Use of EU funding to support health reform activity

The EU provides different funding instruments to Member States and other countries: European Structural and Investment Fund (ESIF); European Union Solidarity Fund (EUSF); and Instrument for Pre-Accession Assistance (IPA). Structural funds are among the main instruments for implementing reforms. Operational programmes (OPs) are detailed plans in which Member States set out how money from the EU funding instruments will be spent during each programming period. They can be drawn up for a specific region (regional OPs) or a countrywide thematic goal (e.g. environment). A great portion of the funds available for Greece come through the European Social Fund (ESF), which is targeted at so-called soft actions and does not provide resources for infrastructure and high-value capital medical equipment. Such spending can be supported by resources from the European Regional Development Fund (ERDF), available mainly through regional OPs.

As in many other countries, Greece has been relying on EU funding to implement often complex strategies in various sectors encompassing social, economic and developmental aspects of the country's profile. Health care is one sector that has benefited substantially from these funds. A large number of

infrastructure projects (hospitals and PHC buildings, expensive equipment and health-care interventions) have been funded partially or fully by EU resources. Since the EU´s 2007–2013 programmatic period there has been no dedicated OP for health in Greece, meaning that other OPs (e.g. on human resources development, digital governance or public sector reform) under the NSRF 2007–2013 have funded health-related interventions. This was facilitated by the fact that the NSRF included a health-related general objective:

> … establish an efficient and economically sustainable health system that will provide quality and tailor-made services to the citizens and will focus on the constant improvement of prevention and health-care services (Ministry of Economy and Finance, 2007).

Funding was dependent on activities supporting at least one of a number of related special objectives.

The NSRF 2007–2013 had a total budget of €20.1 billion, of which €420 million went to health care: €72.7 million for developing the PHC network; €32.3 million for public health; and €210.6 million for the ongoing mental health reform. The remaining funds were distributed to other health-care interventions, largely for developing infrastructure and purchasing medical equipment. The lack of an OP dedicated to health care made it much more complicated to design strategy, budgeting activities and project implementation. The Ministry of Health had to undertake strenuous and complex negotiations with other social and political sectors in order to allocate the necessary funds, often without total control of initiation and even implementation of its projects.

Strategy design for the new programming period (Partnership Agreement for the Development Framework, 2014–2020) was initiated as early as 2012 with the stated vision of improving population health status and mitigating inequalities in health care while securing the future sustainability of the health system. Under a new political leadership, in late 2015 the Ministry of Health adopted the 100 actions plan developed with WHO support (see introduction). This formed the core of what became the National Strategy for Healthcare under the Partnership Agreement 2014–2020. Overall vision of the strategy remained unchanged, detailed in three pillars:

1. health care system sustainability – a transparent health system without exclusions and with modernized health-care governance, through an effective and efficient public administration;

2. health care as investment in human capital – securing universal coverage and quality health-care services; and

3. eliminating inequalities in health care.

As there continues to be no dedicated OP for health care in the current programmatic period, funds are allocated by the central partnership agreement managing authorities and their counterparts in other OPs (thematic and/or regional), in coordination with the Ministry of Health. As already mentioned, this means that the Ministry does not directly manage any funds from the Partnership Agreement 2014–2020 but rather supports managing authorities of thematic and regional OPs in selecting and funding relevant projects, and (often) monitoring their implementation and impact. This awkward situation becomes even more complicated as, unlike the previous period, the current programming period has no key objective

dedicated to health care. Table 1 shows the most recent data on available funds supporting reform initiatives.

Assessment of the degree to which the Partnership Agreement 2014–2020 strategy has been implemented is still a little vague; fund allocations do not necessarily follow actual spending and implementation patterns. However, Table 2 and Fig. 5 indicate that the majority of ESF resources are, predictably, dedicated to PHC in the country's effort to build a PHC network based on local health units (TOMYs) (see section 3.1).

Table 1. Available funding in current programming period (€ millions)

Funding source	Amount
ESIF projects from regional OPs	180
ESIF projects from OP on reforming the public sector	70
ERDF projects from regional OPs	200
ERDF projects for enhancing energy efficiency of health-care buildings from regional OPs and the OPs on transportation infrastructures, environment and sustainable development	95
Total	**545**

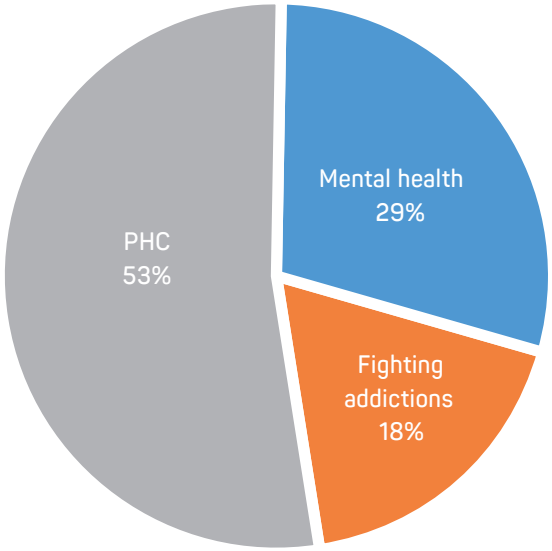
Source: NSRF Executive Agency – Ministry of Health, unpublished data, 2018. Note: The ERDF aims to strengthen economic and social cohesion in the EU by correcting imbalances between its regions. Its investments are focused on several key priority areas (known as thematic concentration): innovation and research; digital agenda; support for small and medium-sized enterprises (SMEs); and the low-carbon economy. ERDF supports its priority areas through a variety of activities, including infrastructure development and purchasing of equipment.

Table 2. ESF resources dedicated to health care in regional OPs (€ millions)

Health policy sub-sector	Mental health		Fighting addictions	
REGION	Ministry of Health & EYSEKT for partnership agreement operational planning	Reserved money from regional OPs	Ministry of Health & EYSEKT for partnership agreement operational planning	Reserved money from regional OPs
Totals	32.1	48.8	25.5	25.6
Health policy sub-sector	**PHC – supporting TOMY's operation**		**Total per region**	
REGION	Ministry of Health & EYSEKT for partnership agreement operational planning	Reserved money from regional OPs	Ministry of Health & EYSEKT for partnership agreement operational planning	Reserved money from regional OPs
Totals	119.1	32.6	176.7	107

Source: NSRF Executive Agency – Ministry of Health, unpublished data, 2018. Note: The ESF is Europe's main instrument for supporting jobs, helping people to get better jobs and ensuring fairer job opportunities for all EU citizens. It works by investing in Europe's human capital – its workers, its young people and all those seeking a job. ESF financing of €10 billion per year is improving job prospects for millions of Europeans, particularly those who find it difficult to get work. The ESF Actions Coordination and Monitoring Authority (EYSEKT) was established in 2001 in order to coordinate the implementation of interventions in Greece co-financed by the ESF.

Fig. 5. Distribution of structural funds to the main reform tracks



Source: NSRF Executive Agency – Ministry of Health, unpublished data, June 2016.

Table 3 shows the absorption of resources from the ERDF: 65% of the available Partnership Agreement 2014–2020 funds is reserved; 72% of that total is already provided to applicants. A pool of applications is awaiting funding approval but these exceed the approximately €71 million still available.

Table 3. ERDF resources reserved for health care in regional OPs (€ millions)

	Eligible public spending	Reserved funds	Eligible funds transferred to applicants	Requested budget
Totals	**197.4**	**149.9**	**93.8**	**119.3**

Source: NSRF Executive Agency – Ministry of Health, unpublished data, June 2016.

Table 4 provides detailed information on a different track of actions, under the energy efficiency goal, which focus on renewable resources of power supply for health-care units. These types of actions have a long-term impact in terms of both public health (fewer pollutants, environmental protection) and financing (raw material for producing energy is usually a freely available good – e.g. sun, wind). In this area, the OP of Transportation Infrastructure, Environment and Sustainable Development provides twice the amount of funds supplied by regional OPs.

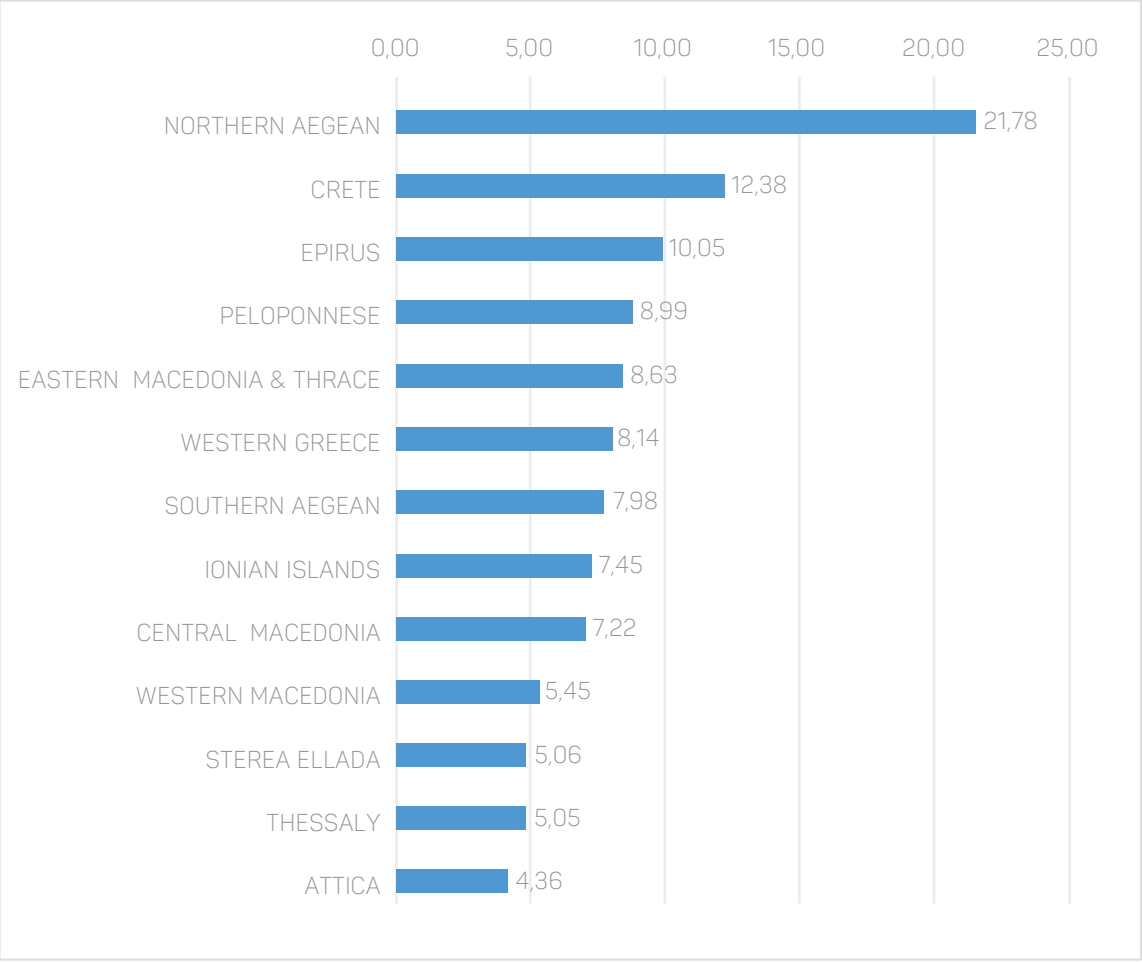
The PHC network is the main area of ESF funding, and it is interesting to note that, in 2017 alone, €126 million were reserved solely to support the operation of TOMYs across the country. The density of (planned) TOMYs varies greatly by region as many factors are considered to determine their appropriate density and location in the new network, extending beyond population numbers to include (for example) special geographical demands. Fig. 6 demonstrates this clearly: per capita funding is lowest in Attica, where the dense urban population does not necessitate such considerations, in contrast to island and mountainous areas (where per capita funding is highest). The opposite is true in Central Macedonia, where larger rural areas and a greater number of small cities require the establishment of more TOMYs in order to provide adequate PHC coverage for the population.

Table 4. Funds available for advancing energy efficiency projects in public health care buildings (€ millions)

	OP transportation infrastructure, environment and sustainable development	Regional OPs (funds available or allocated)	National investment programme (funds available or allocated per region)	**Total funds**
Amounts	**48.8**	**25.6**	**32.6**	**116.9**

Source: NSRF Executive Agency – Ministry of Health, unpublished data, June 2018.

Fig. 6. Regional per capita spending for development of TOMY network (€ millions)



Source: NSRF Executive Agency – Ministry of Health, unpublished data, June 2018.

Summing up, the data presented above indicate that the Greek authorities are trying to exploit fully the available funding capacities in the current programming period, mainly to support implementation of the priority PHC reform effort – establishment of the TOMY network. Almost 30% of all available EU structural funds have been reserved for PHC purposes. It is challenging to directly compare fund investment in PHC between the two programming periods previously discussed, as it is difficult to ensure that figures are robustly comparable. The other two main funding priorities in the current period

are mental health (for the long ongoing reform) and the improvement of energy efficiency in health-care buildings. The continued lack of a dedicated OP for health care is a significant drawback and has made the design, establishment and funding of Ministry of Health strategy very cumbersome. Health-care reforms represent a key priority for the country so, at the very least, it would make sense to have a key objective or priority dedicated to health (as in the NSRF 2007–2013), to facilitate the allocation, distribution and use of funds in future programming periods.

3. Health-care provision

The Greek health-care system is centred strongly around hospitals. Substitution policies to replace inpatient care with less expensive outpatient, home or day care are largely non-existent and there is little integration between primary and secondary care providers. Traditionally, public health services have lagged behind the development of secondary care services. Service delivery rarely encompassed prevention, health promotion, social care and rehabilitation. The primary care system was not developed fully and patients faced problems with access, coordination and continuity of care as well as the comprehensiveness of services. Until recently, there was no gatekeeping mechanism to manage the referral system, hence hospital emergency departments often functioned as entry points for patients who could have been treated at primary care level. Proper functioning of these departments was further impeded by the fact that emergency medicine was not institutionalized as a specialty in Greece and the triage system was not well developed (Economou et al., 2017).

3.1 PHC network

In 2010, PHC in Greece was a sector facing problems on two dimensions of coordination. Firstly, the absence of a referral system meant that there was very little coordination between PHC providers and hospital doctors. In addition, the lack of clearly defined referral procedures prevented continuity of care and increased the ineffectiveness of the system. Secondly, different organizational and administrative structures existed with insufficient staff and equipment.

The establishment of health centres in 1983 increased access to primary care in rural areas but their actual performance fell short of expectations due to inadequate staffing, outdated biomedical technology and facilities, and lack of financial and managerial autonomy. The large number of insurance funds and providers with varying organizational and administrative structures offered services through outpatient clinics that were not coordinated. These not only overlapped but also varied in the quality and extent of services, resulting in social inequity. As a consequence, insurance funds contracted with private providers for services not offered by the public system. The lack of control measures over referrals to private diagnostic centres for high-cost examinations burdened the insurance funds with unjustifiable expenses. Continuity of care was undermined by the absence of a referral system based on GPs, and of personal electronic medical records. This overloaded the system with unnecessary visits and led to financial overburdening of the insurance funds. The poor quality of services and the absence of quality assurance programmes created mistrust among users of public services, leading them to seek second opinions from private physicians. Furthermore, the large number of doctors (mostly specialists) under contract to insurance funds and the fee-for-service remuneration induced demand and increased costs borne by the different insurance funds (Economou & Giorno, 2009; Economou, 2010). This situation created a false perception of PHC and led to serious distortions. Given the absence of a referral system; the fact that almost all primary care providers were specialists; and the lack of coordination and

continuity, it could be argued that Greece had fragmented ambulatory services rather than an integrated PHC system.

In February 2014, a structural reform was undertaken to upgrade the provision of publicly funded primary care through improved coordination of the various providers. Legislation passed in 2014 (Law 4238/2014)[19] aimed to develop a nationwide primary health care service consisting of health centres, SHI outpatient clinics and contracted health professionals. According to this Law, all public PHC facilities passed under the jurisdiction of the YPEs. Based on that reform, such facilities were supposed to function 24 hours a day, seven days a week. In addition, Law 4238/2014 introduced a referral system based on GPs (Economou et al., 2015). However, staffing of PEDY units remained oriented towards specialized doctors and a gatekeeping system did not come into effect. Generally, implementation of the reform was quite slow due to human and economic restraints and a rather fiscal-driven managerial approach.

One major issue that had to be tackled was the response-to-demand approach embodied in previous policies. This had led to significant health inequities as it implied that the burden of disease is usually a personal matter, thereby promoting passive privatization and over-reliance on profitable provision of services, with minimum public health interventions. The new PHC reform concept adopted in 2017 is short term to improve access to essential quality services; mid term to strengthen individuals and communities; and long term to encourage macroeconomic and cultural change. The first and capital step in this direction is Law 4486/2017[20] which aims to introduce a new PHC system.

The new legislation grants regional territorial units (known as PHC sectors) responsibility for the delivery of primary care, through their network of local primary care units (TOMYs) and at least one specialist ambulatory care unit (health centre). Multiple PHC sectors will provide referrals to joint secondary, tertiary, specialized or rehabilitation care based on population health needs. TOMYs are staffed with multidisciplinary health teams consisting of GPs, internists, paediatricians, nurses, health visitors, social workers and administrative staff. Their aim is to tackle major health-related issues at community level, reduce avoidable hospitalizations, provide patients with care as close to their homes as possible, and address public health issues at their roots by targeting behaviour and risk factors. Proximity, dense networking and integration with other services will help health teams to establish an enduring relationship with their communities – a prerequisite for identifying marginalized social groups and addressing individual lifestyle factors and other health determinants. People will need to register with a TOMY – thereby contributing to coordination and continuity of care (see also section 4.1). Evidence-based referrals will reduce unnecessary treatments and over-prescriptions. A gatekeeping system will be phased in and is expected to be fully operational when all TOMYs are in place throughout the country.

Existing rural health centres and urban ambulatory clinics will be transitioned to form the referral centres of the primary care network. These (new) health centres will create a level of ambulatory care with specialist, diagnostic and out-of-hour services, relieving hospitals from unnecessary workloads in outpatient clinics and emergency departments. More specifically, the health centres will function as specialist ambulatory care units, with responsibility for: (a) coordination of the TOMY network in their

19 Official Government Gazette No. 38/Issue A'/17-2-2014.
20 Official Government Gazette No. 115/Issue A'/7-8-2017.

sector; (b) specialized ambulatory care for all patients referred by the TOMYs in their sector; (c) diagnostic and laboratory tests; (d) regulation of referrals to hospitals; (e) community mental health; (f) tele and outreach backup of the TOMYs; and (g) coordination of 24-hour access to out-of-hours care. The general referral hospitals will each work with one or more PHC sectors and be responsible for around-the-clock response to emergencies, specialized outpatient and inpatient care for patients referred by the TOMYs and the specialist ambulatory care units, and tele and outreach backup. PHC training is to be enhanced by the establishment of academic primary care units (connected with medical and nursing university schools in order to provide education and training to PHC personnel); significantly strengthening the role of midwives; and defining the role of private sector primary care providers on the basis of accessibility and population health needs (i.e. private GPs will be contracted to provide required services in regions where TOMYs cannot cover the whole population). Further, social inclusion is becoming mandatory with the initiation of monthly public hearings – including dialogue with local authorities, patient associations and health-care providers – aiming to improve the quality of services, broaden the channels of voice and enhance community development. A number of areas were chosen for implementation on the basis of three major factors: (i) access to current health services; (ii) per capita income; and (iii) accumulated health needs. Starting at the end of 2017, the first TOMYs have been established in various regions as part of the roll-out process. It is planned that 239 TOMYs will be established throughout the country; as of June 2018, around 100 TOMYs were in operation.

The expectation is better access to quality health care and reduction of unmet health needs; tackling major risk factors for health; improving the health status of the population and increasing time spent in good health; and more rational and efficient use of existing services and resources by decreasing unnecessary hospital admittances through well-organized referral processes. Nevertheless, it is never easy to introduce a new concept for health care in an existing network of services. A significant challenge is related to a false and distorted perception about the notion of primary care, not just among the population and even more so among health professionals. Teamwork, health promotion activities, community empowerment and prevention programmes exist in the margins of care, mainly because of a lack of adequate training in pre- and post-graduate studies (see also section 4.1). Another danger for this reform is the absence of experience among health professionals concerning teamwork for outward activities. Furthermore, the lack of well-defined procedures and coordination of processes in the delivery of care in different settings (i.e. hospitals, health centres and TOMYs) could reduce the system's response to patients' needs and cause further disappointment and mistrust. There are also administrative challenges arising from the need to identify suitable premises and overcome delays in their certification process.

Last but not least, recruitment is a fundamental problem. In contrast to other health professionals (nurses, health visitors, social workers) whose applications are enough to cover all slots announced in TOMYs, doctors appear less interested in working in TOMYs and have not responded in great numbers to the announcement of related new posts. This has a few possible explanations: (a) the low number of available GPs in the country, in both absolute numbers and as a percentage; (b) strong lobbying from certain groups of doctors against the proposed TOMY contracting strategy of the Ministry of Health; (c) less favourable employment conditions re duration of contracts and lack of longer-term contracts; and (d) perceived uncertainty of the project's future. These challenges are highlighted by technical issues. The referral system is largely based on the electronic medical record which is not yet operational, therefore there is a risk of delay in full implementation. Moreover, some clinical guidelines

have been developed but there remains the challenge of training personnel to incorporate their content into everyday practice. This requires both appropriate training and proper transformation of their content into user-friendly processes. In collaboration with the Ministry of Health, professional associations and international experts, the SCUC initiative has initiated the development of two guidelines for primary care: one on acute respiratory infections and one on urinary tract infections. These are both very common conditions treated at PHC level.

3.2 Public health interventions at local level

The public health system in Greece carries out epidemiological monitoring and infectious disease control as well as environmental health control, health promotion and disease prevention at community level. The system consists of a centralized service within the Ministry of Health, a grid of services at regional and local levels and a number of public health organizations under the auspices of the Ministry of Health. The latter operate as autonomous bodies and provide laboratory, research, educational and statistical support.

Traditionally, public health services in Greece have taken a back seat in favour of the development of secondary health-care services. Public health doctors have a low status within ESY and have always been difficult to recruit, resulting in severe understaffing at all levels of public health services. This situation is exacerbated by the failure to implement the first National Action Plan for Public Health (2008–2012). Developed by the National Public Health Council (ESYDY), this emphasized 16 major health hazards: substance abuse, cancer, sexual health, diet and nutrition, alcohol consumption, cardiovascular diseases, environmental health, smoking, vehicle accidents, oral health, infectious diseases, travel health, rare diseases, HIV/AIDS, antimicrobial resistance and nosocomial infections.

Other than information campaigns on the dangers of substance abuse, tobacco use and alcohol consumption, there are no specific national strategies to address risk factors for disease. In addition, the lack of an official national prevention and population-based or systematic screening programme for treatable cancers – following the WHO best-buy interventions – has had negative effects on the population's health. Moreover, disease management is far from effective. Primary care is neither well developed nor well organized and there are no community outreach services (e.g. cardiometabolic risk detection and stratification). Only a small percentage of the population receives screening services. The services delivered by rural primary care services are unilaterally oriented towards acute health problems, and rarely engage in prevention, health promotion, long-term care and rehabilitation. Furthermore, chronic disease management is usually fragmented, with the main focus on prescribing. Duplication of tests and prescriptions is common because of poor information transfer between providers, while integration and continuity of care is largely absent (Economou et al., 2017).

PHC and public health should be seen through the prism of their interconnectedness: effective public health services are an essential component of an effective PHC system. If the goals of the new PHC reform are to create a modern, effective and people-centred ESY and to succeed in improving population health outcomes, it is essential that existing public health services centred on the control and prevention of communicable diseases are transformed to focus on reducing the incidence and prevalence of noncommunicable diseases (NCDs). This requires new approaches that address all the root causes of

these diseases, including the social determinants of health and environmental and behavioural risk factors. It also requires a comprehensive aligned health system response as recommended by WHO, including effective intersectoral policies and governance arrangements; a preventative-oriented and integrated approach to service provision; an interdisciplinary working culture of health professionals; and suitable financial and non-monetary incentives.

Based on the above approach, and in the context of the SCUC initiative, a team of local experts were requested to develop a national public health strategy/strategic plan for 2017–2021 in line with the Health 2020 European health policy framework and the Sustainable Development Goals. Consistent with the WHO framework for essential public health operations (EPHOs), the Plan (SCUC, 2017a) recognizes seven public health reform axes: (i) bridging PHC delivery with public health initiatives and actions; (ii) prevention and control of NCDs (including smoking, obesity, physical exercise, road traffic accidents, occupational and environmental health); (iii) addressing social inequalities and access to health-care services; (iv) addressing antimicrobial resistance; (v) management of vaccines; (vi) health emergencies; and (vii) reorganization and governance of services by promoting research on public health, strengthening the public health directorates of the regions, upgrading education in public health and creating a public health workforce matrix.

To date, no legislative initiative has been undertaken in order to implement the whole or certain proposals of the Plan. However, a new national institute for public health is planned, with a mandate to cover NCDs and individual and collective risk factors. Furthermore, Law 4486/2017 shows a positive evolution in that TOMYs are tasked with performing a basket of public health services for individuals and families. Also, the development of measures and actions to promote health in the workplace, in schools and generally throughout the community – including vaccinations, screening and specialized preventive care, occupational medical care, social medicine and public health care, health promotion and helping to improve lifestyles, and management of chronic diseases.

3.3 Mental health care

Since the establishment of ESY in 1983, four milestones stand out in mental health care. In accordance with European Regulations 815/84 and 4130/88, the first period (1984–1990) saw the training of mental health professionals; creation of a decentralized community network of preventive, specialized treatment and rehabilitation services; deinstitutionalization of patients in psychiatric hospitals; and reductions in admissions to psychiatric hospitals. The second revolved around the reform projects Leros I and II (1990–1994) which introduced interventions to improve conditions in the Leros mental hospital and discharge patients to placements in community hostels. The third milestone was the introduction of progressive legislation on the development and modernization of mental health services (Law 2716/1999). This legislation established sectoral mental health committees and created infrastructure in the community, including psychiatric departments in hospitals; mental health centres; child guidance centres; day care centres; home care services; vocational training workshops; mobile units; social cooperatives to increase working opportunities for people with mental illness; and crisis management units.

The fourth and most significant milestone for the deinstitutionalization of mental health services and the development of community-based services were the Psychargos I (1997–2001) and II (2001–2010)

programmes. These prioritized social inclusion, social cohesion and destigmatization, with the main objective of developing services within the community to enable patients to be supported within their own family environments and maintain their social activities through every possible means. Particular policies focused on prevention and rehabilitation; restructuring and strengthening of PHC; ambulatory care; deinstitutionalization and closure of mental hospitals; psychosocial rehabilitation and housing services; continuity of care; and harnessing voluntary assistance from the community for the promotion of mental health.

An ex-post evaluation of Psychargos I and II using qualitative methods reported a number of positive and negative elements of the reform. The positive aspects included: (a) reduction of hospital-based long-stay accommodation; (b) a vast increase in the number of new mental health services across the country, including day centres, community mental health centres, psychiatric units in general hospitals and children's mental health centres; (c) positive changes in public attitudes towards mental illness and patients and in mental health staff's attitudes towards person-centred care; (d) service users gaining empowerment to express themselves and to defend their rights by participating in mental health organizations and institutions; and (e) service users gaining increased opportunities for vocational training through establishment of social enterprises and paid work. The negative aspects include: (i) significant shortages of staff and services in several parts of the country, particularly rural areas, resulting in inequities in the development of services between different areas and inadequate provision on the ground; (ii) incomplete sectoral framework and lack of coordination between mental health services and central government, local authorities, social services and other relevant public sector organizations; (iii) absence of evaluation and monitoring of provided services, quality assurance and clinical governance systems; (iv) deinstitutionalized patients resettled in community services representing only a small proportion of people with mental ill health, with a larger number of people still living with their families, homeless, in poverty or in private clinics with questionable quality standards; (v) gaps in specialist mental health services (e.g. those for children, adolescents, people with autistic spectrum disorders, intellectual disabilities or eating disorders) and forensic psychiatric services; (vi) lack of information about locally available services and poor information flow between different services; (vii) lack of thoughtful planning and implementation; (viii) only partial achievement of the aim to introduce psychiatric services in general hospitals; and (ix) lack of a population-based approach to the mental health system, without clear evidence for assessing the needs of local populations and no clear understanding at local level of the components necessary for a comprehensive system of care.

Furthermore, a quantitative evaluation of the achievement rate of the targets set in the Psychargos I and II programmes revealed strengths and weaknesses. Positive developments were the closure of five mental hospitals and exceeding the target numbers of sheltered apartments by 211%, Alzheimer's centres by 180% and day centres by 95%. Negative developments were not only the limited capacity of the more than 60 NGOs providing mostly residential and day care, but also the numbers of missed targets for boarding houses (89% of target), sociovocational rehabilitation units (69%), outreach teams (68%), general hospital psychiatric and child psychiatric units (55%), guest houses (52%), community mental health centres (43%) and social enterprises (33%). None of the projected drug and alcohol abuse centres was established (Economou et al., 2017).

The findings of the external evaluation of Psychargos I and II led the Greek Government to launch the Psychargos III programme in November 2011 in order to continue strengthening mental health care

reforms until 2020 (Ministry of Health and Social Solidarity, 2011). The new plan is based on three pillars: (i) actions for the abolition of institutional care and further development of mental health structures in the community at sectoral level (territorial sectors based on geographical and population characteristics) with allocation of available mental facilities to provide mental health services to a defined catchment area; (ii) actions for the prevention and promotion of mental health among the general population and promotion of social integration for people with mental disabilities; and (iii) actions that would reorganize the psychiatric care system, including sectoral allocation of services, monitoring, evaluation, research activities and staff training.

Recent legislation on administrative reform of mental health services (Law 4461/ 2017)[21] provides for the establishment of a number of scientific and administrative committees, councils (both regional and sectoral) and coordination bodies in order to achieve better coordination of mental health services, greater citizen participation in mental health policy decision-making, and protection of the rights of users of mental health services. After adoption of this law, the Ministry of Health requested WHO Regional Office for Europe to provide technical assistance in the area of mental health reforms and specifically related to the assessment of mental health services developed with structural funds in recent years. A report was produced and submitted to the Ministry of Health, with policy recommendations on the way forward in quality assurance for mental health services in Greece (Chisholm & Caldas-Almeida, 2017). Given that there is currently no way to monitor performance and quality improvement properly at any level of the mental health care system, the report highlighted the necessity for a close follow-up on the evaluation of mental health services in Greece and continuous support in capacity building for health policy-makers. Furthermore, mental health reform has received considerable financial support from structural funds in recent years (see section 2.5). This could raise concerns about the sustainability of future reform gains.

3.4 Emergency medical services

Emergency care services in the Greek health system are provided by the emergency departments of hospitals and the National Centre for Emergency Care (EKAV). In theory, health centres in the primary care network are also responsible for the provision of 24-hour services, but lack of capacity means that they actually function as referral points for patients, who are transferred to hospitals by EKAV ambulances. In fact, EKAV is responsible for the provision of first aid and emergency medical care as well as transportation to health-care units. There is no unified national triage system to guide patients to the appropriate point of care, and triage approaches vary in rural health centres, hospital emergency departments and the EKAV dispatch service (WHO Regional Office for Europe, 2017a).

Greece has 423 emergency departments – 303 in rural or urban health centres and 120 in regional and large hospitals throughout the country; 22 of the latter are in Athens (WHO Regional Office for Europe, 2017a). In most major cities, access to emergency departments is guaranteed around the clock on a rotating basis. Particularly in urban areas, these departments experience pervasive and persistent overcrowding. In the absence of an adequate primary care network and gatekeeping system, patients

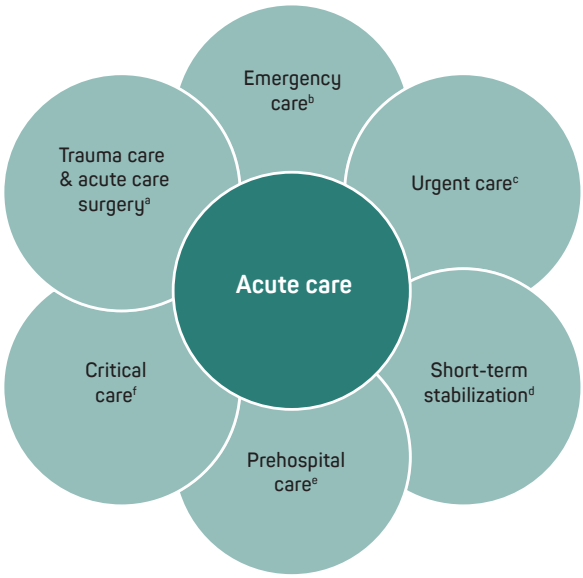
21 Official Government Gazette No. 38/Issue A'/28-3-2017.

are used to seeking out emergency departments as the entry point to the health system. The lack of prestige of family medicine and the aforementioned structural characteristics of the health system have led to a general perception in the population that specialists are best positioned to care for patients across the spectrum of health problems. Limited capacities in health centres further impact their ability to provide adequate services on site and mean increased inflows for emergency departments at larger hospitals and a greater burden for use of EKAV ambulance services. Also, the overarching lack of coordination in the absence of a national triage system leads to inefficient use of these capacities (WHO Regional Office for Europe, 2017a). Older analyses have shown that about one third of the cases seen at emergency departments should have been treated at primary care level (Economou et al., 2017). Overall, over-reliance on emergency care for patients who do not require it poses a threat to patient safety (e.g. via exposure to nosocomial infections); increases the burden on health professionals at hospital level; impacts overall quality of care (both for the services and due to spillover effects within hospitals); and is a major source of inefficiency in the system.

In 2016, WHO Regional Office for Europe launched an initiative in collaboration with the Ministry of Health, and supported by international experts in the field of health systems and emergency care provision, with the goal of documenting and evaluating the status quo of emergency care in Greece in order to better understand the background for introducing integrated care approaches in the system (WHO Regional Office for Europe, 2017a). The mission confirmed previous findings: that a large share of emergency care patients could have been treated at primary care level; and that this is particularly true for chronic patients who take up emergency services either due to inadequate management of their conditions (typically carried out in primary care) or for services that would otherwise have been provided at primary care level (e.g. filling of prescriptions, follow-up care). The mission identified no systematic registration of patients at emergency departments to enable an analysis of whether they could have been treated better elsewhere. While the emergency departments of large hospitals do report numbers of visits, there is not sufficient granularity of data for more in-depth understanding of the composition of patients receiving care (e.g. demographic and epidemiological elements) or the characteristics of the care they receive (e.g. waiting times). This lack of information hampers needs assessment and capacity planning and is further perpetuated by the lack of information technology applications, including electronic registration systems in many emergency departments and the lagging implementation of the patient electronic health record. EKAV's data structures for coordinating emergency calls could build the basis for improvements in this direction, in the form of a centralized system for emergency response.

The WHO initiative´s group of experts formulated recommendations based on Hirshon´s model for acute care (Fig. 7) and grouped around five axes: (i) establishing out-of-hours primary care services; (ii) re-profiling emergency medical services as specialized services; (iii) reorganizing hospitals; (iv) reinforcing connectors and interfaces; and (v) building learning networks of primary care providers. A number of initiatives falling under the first two axes have emerged, including pilots and regulatory measures. The primary care reform and (lagging) initiative to institute an electronic patient record with a unique identifier are expected to contribute to achieving the goals set out in the last two axes. A prerequisite for many recommendations is the development of a clear unified national triage system. Alongside WHO´s suggestions, the EKAV model and older Ministry of Health guidelines on the functioning of hospitals (2010) could be used as a basis to develop such a system.

Fig. 7. Domains in acute care



Source: Hirshon et al., 2013.

[a] Treatment of individuals with acute surgical needs, such as life-threatening injuries, acute appendicitis or strangulated hernias.

[b] Treatment of individuals with acute life- or limb-threatening medical and potentially surgical needs, such as acute myocardial infarctions or acute cerebrovascular accidents, or evaluation of patients with abdominal pain.

[c] Ambulatory care in a facility delivering medical care outside a hospital emergency department, usually on an unscheduled, walk-in basis. Examples include evaluation of an injured ankle or fever in a child.

[d] Treatment of individuals with acute needs before delivery of definitive treatment. Examples include administering intravenous fluids to a critically injured patient before transfer to an operating room.

[e] Care provided in the community until the patient arrives at a formal health-care facility capable of giving definitive care. Examples include delivery of care by ambulance personnel or evaluation of acute health problems by local health-care providers.

[f] Specialized care of patients whose conditions are life-threatening and who require comprehensive care and constant monitoring, usually in intensive care units. Examples are patients with severe respiratory problems requiring endotracheal intubation and patients with seizures caused by cerebral malaria.

Alongside a series of other recommendations on restructuring PHC to ensure safeguarding of progressivity of service delivery and mitigate inappropriate absorption of cases by emergency departments, the report asserts that around-the-clock availability of primary care services will be crucial to ensure progressivity of treatment. It also supports the idea that out-of-hours primary care services be located in existing urban and rural units of the national PHC network. To fulfil their role, out-of-hours service delivery units require a minimum of diagnostic equipment and, ideally, telemedicine applications to connect with specialists when required. A pilot in this direction was launched in July 2017 at the Alexandra Avenue Health Centre in Athens.[22] This primary care centre provides emergency services around the clock to patients in its general catchment area. Unpublished data from the centre show a high level of demand and further support the need for primary care structures with around-the-clock diagnostic, laboratory and treatment services. The vast majority of patients who visited the Centre for emergencies were treated at that level and only a minimal fraction had to be referred to the hospital. However, the fact that

22 Official Government Gazette No. 1974/Issue B'/7-6-2017.

physician services are available around the clock, but laboratory and imaging services close at 21.00, creates challenges for patients who require diagnostics between 21.00 and the morning shift. The pilot appears to be working well, suggesting that potential endorsement from policy-makers to expand the model and open similar structures elsewhere in Athens and other urban areas merits consideration (health centres with availability around the clock exist in rural and semi-rural areas).

To strengthen the functioning and understanding of emergency services as specialized services, WHO recommended the institutionalization of emergency medicine as a medical (sub)specialty in line with EU specifications. In the current system, emergency departments are staffed by specialists who rotate through the emergency department. This may contribute to higher rates of admissions, detracts from specialist care for patients who need it and prevents a rounded view on emergency cases. Given the mid-term nature of this measure, an interim solution of providing EKAV training to all staff working in emergency departments was also proposed to ensure the smooth running of reformed emergency departments. Investment in public awareness campaigns about appropriate levels of care and related options for entry to the system were also advised in order to increase the connectedness of providers across levels of care and enhance information systems to facilitate these goals.

In September 2018, a ministerial decision was signed regulating the composition and renaming of medical specialties and defining their duration and content.[23] Among other changes, this establishes a new subspecialty for emergency medicine, explicitly in order to cover the needs of restructured emergency care provision.[24] WHO also endorsed reconsideration of staffing requirements for emergency departments, focusing on a requirement for experience in emergency care. A ministerial decision on the organization, functioning and staffing of emergency departments of ESY hospitals[25] instituted independent emergency department teams consisting of one director, two specialists and trainee doctors. Physicians working in primary care structures can also provide services in these departments in order to ensure adequate staffing levels. In the absence of an institutionalized specialty for emergency medicine, the Decision specifies that eligible physicians (including GPs) would have to provide proof of experience in emergency care. Implementation of the Decision appears slow and anecdotal evidence suggests that hospital specialists are sceptical about the effectiveness of the new teams given the lack of adequate training in emergency medicine and the resulting impact on their work burden.

23 Official Government Gazette No. 4138/Issue B΄/20-09-2018.

24 It is too soon to evaluate the course of implementation for this decision but objections had been voiced by the Hellenic Hospital Doctors Association (OENGE).

25 Official Government Gazette No. 1907/Issue B'/1-6-2017.

4. Quality and safety of health care

Despite universal acknowledgement of its importance in health systems, there is varied understanding of the term quality of care and what it encompasses. Definitions of the concept vary by discipline, level of analysis and the specific context for which they were developed and evolve along health systems thinking and the prevailing paradigm of best practice. In 2015, WHO's framework for integrated care defined good quality care as, "care that is safe, effective, people-centred, timely, efficient, equitable and integrated" (WHO, 2015).

4.1 Care coordination

Current understanding of what constitutes good quality care includes the dimension of integration. There is no unifying, universally accepted definition of integrated care in the international literature (WHO Regional Office for Europe, 2016). In an early position paper on what the idea entails, WHO defined integrated care as:

> ... a concept bringing together inputs, delivery, management and organization of services related to diagnosis, treatment, care, rehabilitation and health promotion. Integration is a means to improve services in relation to access, quality, user satisfaction and efficiency (Gröne & Garcia-Barbero, 2001).

While horizontal coordination refers to strategies linking similar levels of care (e.g. overcoming professional and departmental boundaries) and vertical coordination refers to different levels of care (e.g. primary, secondary, tertiary), integrated care considers the patient experience (continuity) and encompasses technological, managerial and economic aspects of service provision (SCUC, 2017b).

Integrated care is a stated goal of the Greek Government but the foundations for its achievement are still being realized. Historically, the Greek system has shown weak coordination: the primary care system has not been developed fully and patients face problems with access, continuity of care and coordination, as well as comprehensiveness of services. Currently there is no gatekeeping mechanism that manages the referral system and overall disease management is weak, with implications for both quality of care and efficiency (e.g. duplication of diagnostics, see sections 4.3 and 4.4) (Economou et al., 2017). Recent work on the level of integration of services within primary care found below-average correlation to best practice and confirmed the elements of fragmentation and inefficiency, particularly when assessing existing patient-care pathways (Sifaki-Pistolla et al., 2017).

Published in January 2016, the related ministerial decisions on sectorization defined primary care areas and networks and set the foundation for the new organizational units across the country. Furthermore, the new primary care law (see section 3.1) emphasizes three of the main tenets of good coordination practice: (i) establishment of multidisciplinary teams at local level; (ii) introduction of a referral system; and (iii) management and processing of information through the use of a common electronic medical record system. Physicians in the PHC team are intended to act as coordinators of care, thereby ensuring continuity and enabling the management of common health problems at the appropriate level of progressivity (local).

A ministerial decision on establishment and implementation of the referral system for access to health centres, public structures of secondary and tertiary care and EOPYY-contracted providers was issued in April 2018. This details the system of referrals available to gatekeeping GPs, their time of validity and content; it was modified in June 2018 (Ministry of Health, 2018a & 2018b). Nevertheless, finalization and implementation of the common electronic medical record has been slow at best (European Commission, 2017) even though it is a critical component for success of the new PHC network. The effectiveness of these measures in improving care coordination will have to be evaluated as the fundamental reform of primary care rolls out. Indeed, it is important to establish and maintain monitoring mechanisms to ensure that reform targets are met.

Beyond primary care reform, an expert study commissioned by the Ministry of Health in collaboration with WHO proposed a strategy for inviting local integrated care pilots based on international best practice. While recognizing that resource constraints will dictate a generous implementation timeframe the report stresses that, among other things, investment in integrated care would contribute to relieving the persistent pressures facing acute care delivery in a longer-term perspective. Finally, it highlights that building capacity at a local level will enable faster and more flexible responses to individual patients' needs (SCUC, 2017b).

4.2 Quality and safety of hospital care

Traditionally, Greek patients have been dissatisfied with the quality of health care they receive, regardless of level of care. The 2014 Eurobarometer survey reported that only 26% of respondents assessed the quality of hospital care as good and 73% thought that it was worse than in other EU Member States. With 78% believing that patients could deteriorate in health while under hospital care, Greece ranked second to last among the EU-28. With no national quality management infrastructure or routinely used indicators to monitor hospital performance (or even primary care services), standard indicators to gauge the quality of acute hospital care (e.g. case-fatality rates for acute myocardial infarction or ischaemic stroke) are not available for Greece. In 2010, every public hospital with a capacity of more than 400 beds was required to establish a quality committee to adopt benchmarking criteria and accreditation procedures for the improvement of service quality. However, there is no unified data collection or public reporting framework to enable monitoring and evidence-based policy formulation (Economou et al., 2017).

Despite the lack of policy and strategy on national health-care quality and systematic application of quality assurance programmes, efforts to improve quality by regulating structures and processes of care

have increased in recent years, and are not always limited to the hospital context. In collaboration with professional associations, the Ministry of Health has intensified efforts to develop and disseminate clinical practice guidelines (e.g. for major chronic conditions) under the guidance of KESY. Nursing protocols, mainly regarding primary care, have been developed by the nursing faculties of Greek universities in collaboration with YPEs. It is not yet clear whether these efforts have changed the levels of awareness and use of guidelines and protocols, which had previously been found to be weak. Finally, the National Quality Infrastructure System (ESYP), a private liability company operating in the public interest, is responsible for monitoring quality of care and managing the accreditation and certification[26] of medical facilities. The National Evaluation Centre of Quality and Technology in Health (EKAPTY) is responsible for certification, quality control and research on medical devices (Economou et al., 2017).

A number of priority areas could be considered further. One area of growing concern is the frequency of hospital-acquired infections: studies show high rates of device-associated infections in intensive care as well as wide variation in the total number of infection cases per hospital. Patient safety is another important area requiring concerted action. Greece has no central national authority to which medical errors can be reported, and ad hoc reporting identifies only a small number of adverse events. Proposals to address this issue range from implementation of nationwide mandatory reporting, with subsequent publication of data, to voluntary reporting and quality assurance efforts that protect the confidentiality of error-related data (Economou et al., 2017).

Caesarian deliveries are another area flagged for action in the context of improving quality and safety. These account for around one in every two births in Greece, an incidence that is among the highest in Europe. Overreliance on caesarean sections can have negative implications for patient safety, quality of care, financial protection for households and health system efficiency. In 2016, the Ministry of Health committed to addressing the problem and initiated expert consultation, including an international multidisciplinary team (SCUC, 2016a). Although obstetric and gynaecology services are provided in more public hospitals than in registered private providers, only one public hospital is among the top 10 providers in terms of birth volumes (and none are among the top five). Obstetric and gynaecology specialists from public hospitals reported that only 30% of vaginal births were performed with epidural anaesthesia due to the lack of anaesthesiologists, while private providers have dedicated anaesthesiology teams. Also, high informal payments for obstetric services in public hospitals nullify potential financial incentives for patients to choose the public system.

Given the respective fee-for-service and KEN-DRG payment mechanisms, caesarean sections generally provide financial incentives for professionals, providers and the payers. For example, EOPYY has a financial incentive to promote contracts with private providers because they are less costly for EOPYY than public providers. Both physicians and patients are further motivated by convenience incentives: planned (scheduled) deliveries are very prominent as they fit the organization of care (most obstetric and gynaecology specialists work privately) and ensure that patients have a choice of delivery venue (which cannot be guaranteed in the rotating emergency availability of major hospitals). Finally,

26 Accreditation and certification and supervision are quality strategies intended to encourage health-care organizations' compliance with published standards through external assessment. Accreditation reflects a systematic multidisciplinary peer assessment of hospitals against published standards; certification usually relates to the standards of the International Organization for Standardization (ISO).

physicians interviewed during the mission explained that these high numbers could be attributed largely to defensive medicine and practitioners' wish to avoid difficult complications of vaginal deliveries. Based on the mission's limited sample size, the situation as described above seemed to be acceptable to both providers and patients.

The mission issued a number of preliminary policy recommendations which the Ministry of Health has taken into account. These include licensing obstetrical facilities at different levels of care; introducing nationally approved, evidence-based guidelines and protocols related to labour; ensuring that both providers and the public are educated on vaginal and operative deliveries; promoting PHC – including the roles of family doctors, nurses and midwives in prenatal and postnatal care; increasing the role of midwives; defining the data to be collected for monitoring and pathways of public reporting; introducing facility-level protocols and monitoring mechanisms in line with WHO standards; protecting patients against fraud and corruption (mostly informal payments); defining a common contracting framework for public and private hospitals to reduce caesarean sections; and developing a universal childbirth tariff that assures a minimum package of services. The recommendation on strengthening the role of midwives has already been codified in the new law on PHC (Article 12 on midwifery care in PHC). The project activity in this area has significantly accelerated the process for KESY's official approval of national clinical guidelines and patient consent in obstetrics and gynaecology. A follow-up study compared EOPYY data before (2016) and after (2017) circulation of the aforementioned recommendations and subsequent discussions in parliament. These showed transitory marginal differences in the rates of natural births and caesarean sections. The study concluded that lasting significant reductions in the number of caesarean sections will be difficult to realize without fundamental changes in the contracting and organization of obstetrical care services, as well as education and training of service providers and pregnant women (SCUC, 2018a).

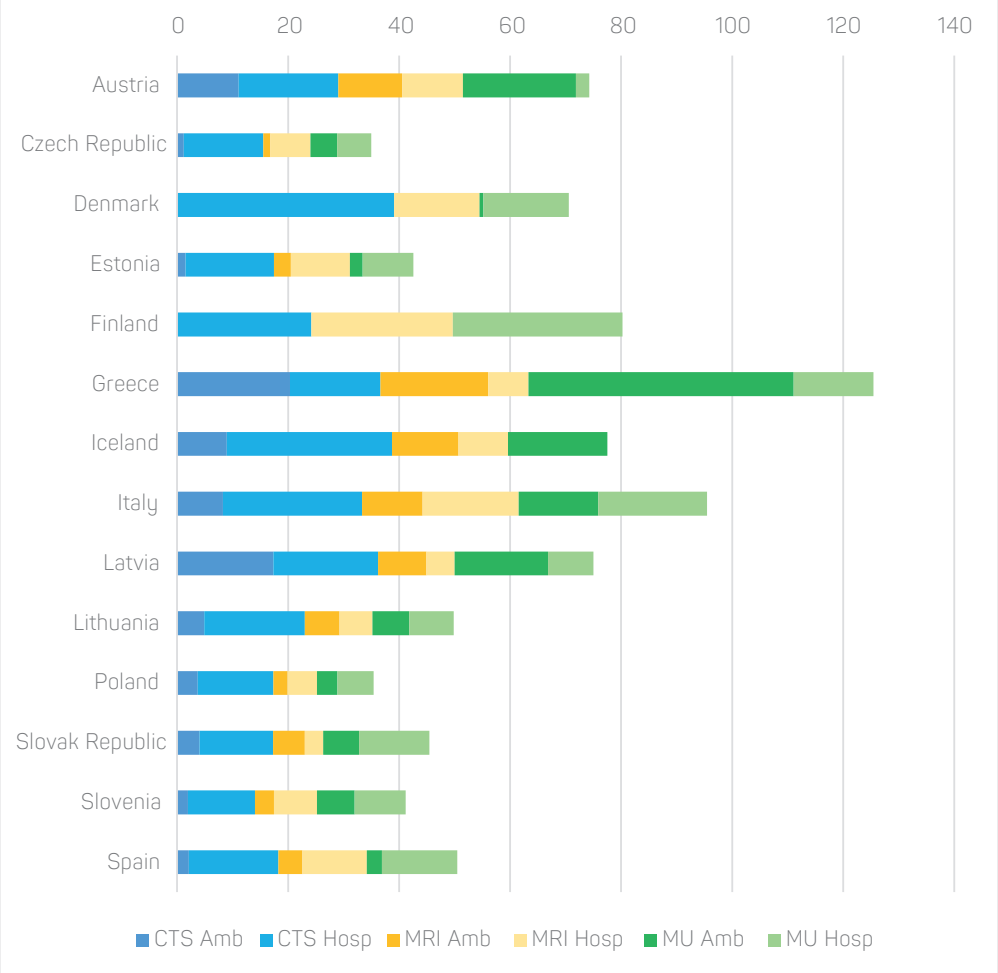
4.3 Use of diagnostic tests

Traditionally, the Greek health system has faced issues with the rational use of health technologies, including certain types of pharmaceuticals and medical devices. The challenge extends to the acquisition and distribution of high value capital equipment for advanced diagnostics. This is problematic in terms of high expenditures and waste and in the context of patient safety. Financial targets set within the EAP have limited public expenditure on diagnostic tests to €302 million annually until 2018 and recent reform efforts have attempted to address the issue.

The availability of high value capital equipment has increased in the majority of European countries over the last decade. Greece is among the EU countries with the highest number of CT and MRI scanners (36.6 and 26.6 per million population in 2016, respectively; see also Fig. 8) (WHO Regional Office for Europe, 2017b). Most of this equipment is owned by ambulatory care providers in the private sector and concentrated in urban areas. Indeed, the private sector is the sole provider in some small cities and island areas. It is important to note here that, since the 2016 legislation, uninsured people have access to public providers but not private providers contracted with EOPYY, such as ambulatory diagnostic imaging laboratories. Given the distribution of advanced diagnostic technology described earlier, barriers to equity of care persist (see section 2.3).

Investment in such advanced diagnostic imaging equipment has not been the result of concerted evidence-based planning efforts. Demographic criteria were introduced in 2010 but abolished in 2013. Under the SCUC initiative (see introduction), a background study was commissioned to take stock of the current situation, incorporating comparative data from other countries, and issue recommendations for future planning and purchasing of relevant equipment (WHO Regional Office for Europe, 2017b). The study recognized the importance of evidence-based decisions for the planning, procurement and management of advanced diagnostic equipment in the public sector. It recommends strategic planning based on needs assessment for medical devices at all levels of the health-care system based on guidance developed by WHO (WHO, 2011) and the broad involvement of relevant stakeholders in the decision-making process. The guidance encompasses elements spanning baseline information on health service requirements, availability and related resources (human and financial) to implementation. The report also proposes that functional and technical specifications – as well as the terms and conditions for warranty, maintenance and user training – should be run centrally in order to guarantee the best quality and cost outcomes. It is also stressed that strategic investment planning and management, including equipment acquisition, distribution, performance, maintenance procedures and safety are essential and should be reorganized.

Fig. 8. Number of CT scanners, MRI scanners and MUs per million population in Greece and selected European countries, 2016 (or latest available year)



Source: OECD, 2018.

Furthermore, no policy can be implemented and monitored without appropriate data systems. In the area of high value capital equipment there is no centrally available information on maintenance, age and actual use. Although a number of different sources – including EKAPTY, Greek Atomic Energy Commission (EEAE) and professional societies – collect and report related information to international sources, these were developed for other individual purposes and not to provide a comprehensive central overview of the equipment installed in Greece. Finally, EOPYY's current reimbursement pricing approach does not adequately distinguish on the basis of the technological status of the diagnostic equipment. This fosters the well-established practice of using outdated and not always well-maintained technologies, often imported at lower cost from other countries. In combination with the lack of adequate and consistent quality controls regarding the age and stage of maintenance of diagnostic equipment, this further jeopardizes the quality and safety of services (WHO Regional Office for Europe, 2017b).

Regarding utilization, numbers of advanced imaging tests dropped significantly between 2008 and 2013 but have since remained relatively stable and still high in international comparisons (SCUC, 2016b). EOPYY data[27] indicate that diagnostic tests are overused in some areas but underused in others, even when the technology is available (SCUC, 2017c). Before the crisis, a confluence of factors was creating an environment conducive to high levels of inefficiency and waste in prescribing diagnostic tests: private sector dominance in diagnostics delivery; fragmentation of the SHI system and the resulting limitations in negotiating power (together leading to high and outdated unit prices for diagnostic tests); unsophisticated payment mechanisms (e.g. fees for service for SHI-contracted physicians); as well as a lack of clinical guidelines and prescription monitoring. This created an incentive structure in which all encouraged overconsumption (European Commission, 2017). Lack of communication between providers further increased the duplication of diagnostic tests and pharmaceutical prescriptions.

As part of the Greek EAP, and to achieve its financial targets, a number of measures were introduced to curb overprescribing and encourage rational use of diagnostic tests.

- A national e-prescription system was introduced in 2010 to monitor pharmaceutical consumption and referrals for clinical examinations and tests (Law 3892/2010).[28] The e-prescription system covers more than 98% of the country. Recent analyses demonstrate the monitoring system's usefulness for enabling future evidence-based policies.

- A clawback mechanism was introduced in 2013 with the aim of recouping EOPYY expenditure exceeding the predetermined ceiling from contracted private providers such as diagnostic centres.

- In 2014, monthly ceilings on diagnostic and laboratory tests were imposed on doctors contracting with EOPYY alongside limits on the number of consultations and expenditure on services prescribed (adjusted in line with the specialty, number of patients, region and month of the year). It is necessary to monitor this measure to assess its impact on access to publicly funded health care, not least because there is evidence that it has introduced a new form of informal payments (see also section 2.3).

27 EOPYY's data represent only part of the acts reimbursed by the organization. Those covered fully out of pocket or by private insurance remain unknown.

28 Official Government Gazette No. 189/Issue A'/4.11.2010.

- EOPYY took a number of initiatives to reduce expenditure on diagnostics between 2013 and 2015. These include: endorsing price revisions for a number of tests and procedures and the introduction of additional discounts on a sliding scale; removing from the e-prescribing system specific codes for diagnostic examinations that were flagged for duplication, outdated or not separately priced; in collaboration with the Ministry of Health and following consultation with professional associations, adopting 30 protocols for diagnostic tests to ensure appropriate indication-based reimbursement of diagnostic tests and medical procedures; and matching of referral rights for diagnostic tests to medical specialty (latter rules were revised in 2016 and again in 2018) (EOPYY, 2015).

- A ministerial decision of December 2015 introduced price cuts on all laboratory tests (by 43% for the 51 tests with the highest spending contribution; by 9% for all other laboratory tests), on MRI tests (by 18%) and positon emission tomography (PET) scans (by 10%). The press release announcing the decision mentions the government's strategic commitment to strengthen diagnostic capacities of public health care structures (Ministry of Health, 2015). This is mirrored in the establishment of the Central Laboratory for the first YPE in 2016 to serve all primary care structures in the jurisdiction without patient co-payments.[29]

- In 2016, a ministerial decision on prescribing diagnostic tests established ceilings for certain diagnostic tests under certain conditions for each medical specialty, linked to warning mechanisms from EOPYY when these ceilings are exceeded.

Documented successes from the measures highlighted above are primarily attributable to the price reductions rather than significant progress in volume containment (SCUC, 2016b). Despite encouraging first steps towards implementation of prescribing protocols, the prescription of diagnostic tests is still not based on clinical guidelines and best practices. Beyond posing a threat to patient safety, unnecessary examinations not only constitute a financial burden for the public system but may also impact financial protection: tests require a 15% co-payment when carried out at EOPYY-contracted private providers and need to be paid fully out of pocket at non-contracted diagnostic centres. As already highlighted, issues of accessibility persist as uninsured people have access to ESY providers but not to private diagnostic centres contracted by EOPYY. Finally, inequalities may be exacerbated further by the practice observed in certain diagnostic centres which makes services directly available to those paying fully out of pocket but allows substantial waiting times for EOPYY-covered services, probably in an attempt to mitigate clawback effects.

29 Given the nature of patient co-payments (percentage share of price), price cuts correspond to a reduction in burden for patients (and an increase in burden for providers, especially small and medium-size enterprises). Additional co-payments which had been imposed on advanced medical imaging were abolished in 2015.

4.4 Use of medicines in the context of curbing pharmaceutical expenditure

The EAP identified provision of pharmaceuticals and related expenditure as an area requiring significant changes to enable cost containment. Hard expenditure ceilings were set on a receding scale: pharmaceutical expenditure should not exceed €2.44 billion in 2013, €2 billion in 2014 and €1.94 billion in 2015–2017 (Economou et al., 2017). Exceeding these limits would trigger clawback mechanisms from pharmaceutical companies to even out the difference (Ministerial Decision Γ5/63587/2015).[30,31] A broad spectrum of measures have been implemented to reach these targets and rationalize pharmaceutical care in recent years, including price reductions, increased volume-based rebates (e.g. clawbacks imposed on private pharmacies and on pharmaceutical companies for both inpatient and outpatient drugs), modification of user charges and, to some extent, approaches to support consumption control (Economou et al. 2017). Specific examples are described and divided by rationale in the following paragraphs.

- VAT on medicines was reduced from 11% to 6.5% in 2011. Subsequently, this was further reduced to 6%, increased to 13% and even to 23% for certain medicines in 2015 (for the latter, general VAT rate rose another percentage point to 24% in 2016).

- A positive, a negative and an over-the-counter (OTC) list were established in 2011 and 2012 to formalize, and in some cases restrict, reimbursability of pharmaceutical products. As OTC medicines, some of those on the list require user charges; some were previously covered in the public system.

- A new external reference pricing system was introduced for reimbursable drugs on the positive list in 2012. This required prices to be set at the average of the three lowest prices for the same product in EU Member States (Souliotis et al., 2016).

- Automatic clawback from the pharmaceutical industry in the form of quarterly returns was instituted in 2012 and triggered if pharmaceutical expenditure exceeds the ceilings mandated in the EAP. The calculation period was adjusted to six months in 2015 (see above).

- In an attempt to increase the efficiency and evidence-based nature of pricing, responsibility for the pricing of medicines was transferred from the General Secretariat of Commerce to the National Organization for Medicines (EOF) in 2013. Responsibility for all other aspects of pharmaceutical regulation was passed to the Ministry of Health.

30 Official Government Gazette No. 1803/Issue B´/20-08-2015.

31 Rebates are calculated on the basis of sales volume. The clawback is determined on a six-month basis and distributed among pharmaceutical companies and marketing authorization holders based on market share in the calculation period. Later modifications to the ministerial decisions introduced growth share as a distribution criterion, as well as certain exemptions for generics.

- In 2010 and 2011, purchasing strategies for ESY hospitals were also revised to enhance efficiency: introduction of price caps to contain procurement prices for medicines; tendering based on active substance; and a list of medicines to be procured centrally.

- Rates of co-payments in the form of percentage shares (co-insurance) for some medicines were introduced or raised in 2011, increasing the average proportion of patients' cost sharing for pharmaceuticals from 13% in 2012 to 18% in 2013. The co-insurance rate for an outpatient drug prescription varies between 0% (exemptions) and 25% (typical charge), depending on the health condition and population group. Additional user charges apply: patients must pay a fee of €1 per prescription and also cover the difference between the retail price and the reference price defined by external reference pricing reimbursed by health insurance. This is capped at €20 (Law B64/16-01-2014 & amendment Γ5/41797/3-6-2015). People who are uninsured, in poverty or in some other vulnerable groups are exempted from the co-payment.

- Measures to increase the penetration of generics were introduced, including: mandatory active substance/international nonproprietary name (INN) prescribing (with a few exceptions), a minimum of 50% generics to be prescribed in public hospitals and mandatory generic substitution in pharmacies. Furthermore, the price of a generic cannot exceed 65% of the originator price. In June 2018, Law 4549/2018[32] introduced additional measures to incentivize use of generics, including no cost sharing for vulnerable groups.

- An e-prescription system was established in 2010 and became compulsory in 2012, to enable monitoring of physician-prescribing behaviour and pharmacists' dispensing patterns. The e-prescribing system was also intended to facilitate guideline-based prescribing and enhance transparency. In some cases, technical problems with the system have imposed access barriers (e.g. consumables for diabetes; patients bearing additional prescription fee when physicians need to issue two prescriptions instead of one).

- The development of prescription guidelines for physicians was initiated in 2012, based on international standards. The Committee on the Monitoring of Pharmaceutical Expenditure, together with development of diagnostic and therapeutic protocols and of a patient registry were reinstated in the Ministry of Health in 2017. Efforts for the creation of evidence-based guidance have intensified as part of KESY's activities.

- Prescribing budgets for individual physicians were introduced in 2014. The rules were amended in 2015 to base the pharmaceutical expenditure allowance on the physician's specialty, number of patients, geographical region and season. Limits are calculated on the basis of historical data on pharmaceutical consumption across the country.

- HTA was institutionalized in 2018 (see section 4.5) with the potential to inform evidence-based pricing and reimbursement policies and further optimize resource allocation.

32 Official Government Gazette No. 105/Issue A'/14-6-2018.

- The Ministry of Health announced measures to prohibit dispensing of antibiotics without a prescription in early 2018. This is common practice in other European countries and mainly aims to safeguard public health in the context of rising concerns regarding antimicrobial resistance. It can also contribute to lower expenditures for patients.

Overall, these measures appear to have been effective in curbing pharmaceutical expenditure. Between 2011 and 2015, public pharmaceutical expenditure fell by 56.4% (Economou et al., 2017). The new reference pricing system has resulted in reductions of the reimbursable price of drugs by up to 70%. Measures to increase generic penetration in hospitals led to an increase in the value of generics prescribed for inpatients from 26% of the total hospital pharmaceutical expenditure in 2012 to 31% in 2014 (Economou et al., 2017). Despite related efforts, one characteristic of the Greek pharmaceutical market is higher reliance on on-patent medicines (largely stemming from a limited number of international companies) compared to other European countries. In 2015, the market share by volume of non-protected pharmaceutical products amounted to 65.9% (33.5% off-patent and 32.4% generics) in Greece and 81.1% (22% off-patent and 59.1% generics) in the EU (Economou et al., 2017).

Comparison of sales volume and sales value in the period 2009–2015 shows that the decrease in overall turnover mainly reflects decreases in prices in response to the relevant reforms, and only a small reduction in volume. This raises concerns about measures targeting rationalization of the structure and volume of prescriptions, such as the e-prescribing system. In the same period, direct payments for medical goods (e.g. pharmaceuticals and devices) almost doubled, increasing from 6.7% of current health expenditure in 2009 to 13.0% in 2015, and attributable to stricter reimbursement and increases in user charges (Economou et al., 2017). Indeed, cost sharing for pharmaceuticals constitutes the largest share of OOP expenditure and is a particular burden for the poorest quintiles of the population (see also section 2.4). As such, future pharmaceutical policy should aim to strike a balance between ensuring the long-term sustainability of positive results of reform efforts to date while refocusing on financial protection, with a particular emphasis on vulnerable groups. In May 2017, Greece took the initiative to create an alliance of southern EU Member States aiming to explore strategies to enable joint price negotiations with the pharmaceutical industry and was among a number of European countries signing the resulting Valletta Declaration. Recognizing the need for sustainable and implementable solutions regarding short-, mid- and long-term pharmaceutical policy, the Minister of Health convened a permanent bipartisan parliamentary committee on the issue in May 2018 (Ministry of Health, 2018c).

4.5 Innovation – HTA

An overall strategy for fostering and managing innovation in the health-care system entails identification of opportunities for relevant technological and organizational innovation, managing their diffusion and evaluating their impact. HTA is one of the most commonly used tools to support these processes; among the various definitions listed by WHO, EUnetHTA defines this as:

> … a multidisciplinary process that summarises information about the medical, social, economic and ethical issues related to the use of a health technology in a systematic, transparent, unbiased, robust manner. Its aim is to inform the formulation of safe, effective, health policies that are patient-focused and seek to achieve best value. (WHO, 2018)

As such, HTA is both a quality assurance tool and a way to support efficiency: aiming to enable patient care using technologies that bring added benefit for patients while ensuring that public funds are not wasted on applications that do not. Its contribution to efficiency has been shown in other countries (e.g. Guthrie et al., 2015).

HTA has been gaining importance as a policy-informing tool, particularly in its application for high-priced medicines (Vogler, Paris & Panteli, 2018). The definition of health technologies ranges from the simplest medical device to complex organizational units for the delivery of care, but most formal evidence-based systems at national level have been developed for the evaluation of pharmaceuticals (Panteli et al., 2016). This was catalysed in European countries with the EU Transparency Directive (89/105/EEC), which aims to ensure the transparency of pricing and reimbursement procedures for pharmaceuticals. Related HTA programmes at national level have evolved organically and resulted in varying applications. Some countries use HTA primarily to steer decisions about levels of reimbursement and/or price, others use HTA-based processes to determine whether (and under what conditions) a medicine will be covered by public funds (Panteli et al., 2016).

For a long time, Greece was one of the few EU countries without a formal process for evaluating health technologies (neither medicines nor medical devices). The Positive Reimbursement List Committee, an independent committee of the Ministry of Health, held responsible authority for final assessment and recommendation on the reimbursement of medicines. The Committee was appointed by ministerial decision and consisted of nine members: one professor of pharmacy, one professor of medicine, one EOF representative, one KESY representative, one hospital pharmacist, and four EOPYY members (Kani, Kourafalos & Litsa, 2017). No formal criteria were defined for determining reimbursement (e.g. no requirement or set methodology for economic evaluations), other than the fact that a new medicine had to be reimbursed in other EU countries before it could be eligible for inclusion in the positive reimbursement list in Greece (Panteli et al., 2016). In recent years, pricing of reimbursed pharmaceuticals has been based solely on an external reference pricing system introduced in 2012, with the prices of new drugs set as the average of the three lowest prices in EU Member States (see section 4.4).

The memorandum of understanding for Greece's EAP includes a provision for the foundation of an organization for HTA by the end of 2017. Given HTA's potential to enable efficient use of resources, this should be viewed in conjunction with its institutionalization at European level as set out in the directive on the application of patients' rights in cross-border health care:

> … the Union shall support and facilitate cooperation and the exchange of scientific information among Member States within a voluntary network connecting national authorities or bodies responsible for health technology assessment designated by the Member States. (Article 15, Directive 2011/24 EU)

Representatives from the Ministry of Health, EOPYY and academia have represented Greece in the implementing collaborative initiatives: the European Network for Health Technology Assessment (EUnetHTA) Joint Actions.

Setting up a national HTA mechanism is a complicated resource-intensive exercise that requires a given timeframe to mature effectively (Drummond et al., 2008). As with other reform efforts, the tight schedule

foreseen in the EAP led to the introduction of legislation at the beginning of 2018. This presented an initial step and interim solution for creation of a fully-fledged HTA system by creating the Committee for the Evaluation and Reimbursement of Medicinal Products for Human Use (Evaluation Committee). Articles 247–256 of Law 4512/2018[33] set out its composition, remit, criteria, process and conflict of interest requirements. As an instrument of the Ministry of Health, the Committee acts in an advisory role for the Minister of Health, who retains jurisdiction for final decision-making on which medicines will enter or exit the positive list, but needs to justify decisions that diverge from the Committee's recommendations. The tasks of the Committee are not limited to new medicines as the legislation includes the possibility of reviewing the entire catalogue of the current positive list.

The Committee[34] comprises 11 members, selected by the Ministry of Health on the basis of qualifications and mix of expertise following a formal application process. Law 4512/2018 also foresees a technical secretariat consisting of ten members of staff with relevant skills to support the work of the Committee. The criteria (clinical benefit compared to existing alternatives and under consideration of severity and burden of disease, effect on mortality, morbidity and safety; reliability of the evidence base; cost-effectiveness ratio; budget impact) and methods of evaluation set out in Article 249, were developed on the basis of international experience, not least solicited through Greece's participation in the EUnetHTA initiatives. Specifically, the Portuguese HTA system served as the basis for conceptualization of the new provisions (SCUC, 2016c). The Committee can commission academic or other research institutions to perform the technical assessment of the scientific evidence (depending on the case and their expertise) and then base its evaluation on this assessment. The Law also establishes a Committee for the Negotiation of Pharmaceutical Prices (Article 254) comprising nine members and based at EOPYY. This not only negotiates the prices or discounts for reimbursed medicines, but also bears responsibility for assessing the budget impact of all medicines that have received positive recommendations from the Evaluation Committee. Following an application process initiated in early spring 2018, the first Evaluation Committee was appointed by ministerial decree on 26 June 2018, with a three-year tenure.[35]

Relevant stakeholders in the Greek health system raised different concerns about the new legal provisions. The pharmaceutical industry cited the Committee's lack of independence (selected by the Minister of Health, who also has the power to change its composition) and the potential review of the established positive list based on what they perceive as a perfunctory consideration of clinical effectiveness rather than overall therapeutic value. Patients were also sceptical about the direct dependence on the Ministry of Health and, most importantly, that patients themselves are not represented meaningfully on the Committee or in the evaluation process. Indeed, independence and broad involvement of stakeholders are both key characteristics of good practice for national HTA programmes (Drummond et al., 2008). Ministerial initiative and guidance may be necessary to introduce the first steps but further development of the HTA process on the basis of the newly instituted structures is expected to continue considering internationally derived best practice along these lines.

33 Official Government Gazette No. 5/Issue A'/17-1-2018.

34 No A1b/G.P.: oik. 48052, Official Government Gazette, No 365/ Issue YODD/26-6-2018.

35 Official Government Gazette No. 365/26-6-2018.

In all likelihood, the direction of future efforts related to HTA in Greece will also be shaped by developments at European level. On 31 January 2018 the European Commission issued a proposal for regulation mandating joint assessments of clinical elements (effectiveness and safety) at EU level, while leaving the consideration of other domains (e.g. economic and organizational impact) to national authorities. The proposal was based on an impact assessment and subsequent consultation process. The impact assessment was based on evidence from EUnetHTA activities in previous years, which showed that collaboration in producing joint methodologies and assessments can improve both the quality and quantity of produced assessments while avoiding duplication of work. However, evaluative research on these collaborative activities also highlighted challenges, particularly in aligning the joint HTA process with national needs and processes. This primarily concerned the timely availability of joint assessments; relevance of each jointly selected topic for individual HTA agencies; and difficulties integrating jointly produced reports in national templates and procedures (Panteli & Edwards, 2018).

It is important to set up and maintain the structures in order to take full advantage of potential changes at European level. From a system perspective, the narrow focus of the newly established committee on pharmaceuticals is not unique, as several countries do not apply HTA for (all) medical devices or other types of technologies. However, the gradual inclusion of other types of technologies – primarily medical devices and diagnostics (see next section) – merits consideration, regardless of European developments. In May 2018, an expert group convened under the SCUC initiative made recommendations on establishing an HTA sub-committee dedicated to medical devices, stressing the importance of stakeholder involvement and capacity building. Currently, medical devices and diagnostics are reimbursed following ministerial decrees based on positive recommendations by the managing boards of both EOPYY and the KESY, without systematic evaluation of their (cost) effectiveness (Kani, Kourafalos & Litsa, 2017).

5. Human resources for health

5.1 National strategy on HRH

The ESY faces serious problems concerning HRH (Economou et al., 2018b). Indeed, the ESY and the private sector share the basic characteristic of quantitative and qualitative imbalances between health professions and specialties. Among EU countries, Greece holds the highest density per capita of doctors and dentists and the lowest density per capita of nurses and midwives. There are also shortages in specific specialties (e.g. accident and emergency medicine, general practice, occupational medicine, geriatric medicine and intensive care). There are also concerns about an ageing workforce and gender imbalances in the ESY which, if not adequately managed, may lead to long-term shortages. Reimbursement of physicians (fee-for-service) and private sector supplier-induced demand may act as push factors for the oversupply of some medical specialists (e.g. in paediatrics, gynaecology and obstetrics). Also, inadequate medical-specialty planning is made worse by a lack of sufficient nurses and other health professionals, particularly in specialties such as gerontology, community nursing, health visiting, chronic disease management and public health.

The lack of HRH planning and significant maldistribution of health professionals is another major problem. The latter has led to understaffing in PHC and an overabundance of specialists. Greece has no effective planning for the health workforce and the lack of specific policy levers or collaboration to match the needs of the health sector to the output of the education sector has led to a supply-driven system. There are inequalities in the geographical distribution of health professionals between urban and rural areas and financial incentives have not been effective in supporting recruitment and retention of physicians, nurses and other health professionals in remote areas. Greece has no national HRH database and existing data are derived from multiple sources which are not updated, raising concerns about accuracy. There is a lack of data regarding many categories of health professionals and especially distribution (e.g. geographical, sectoral, age and gender, skills). Moreover there is no national system for tracking graduates of health professions education programmes (inflows), other exits (outflows) or existing stock.

In addition, the health sector is characterized by inefficient human resources management tools for timely and objective processes for selecting and appointing staff: substantive staff evaluation; a culture of accountability; motivation schemes and performance incentives; possibilities for professional development or recognition in the workplace; and teamwork, negotiation and conflict management within and between facilities and other sector departments that PHC and public health require.

The long-standing dominance of the medical profession and shortages of nurses have led to expensive and inefficient substitution of nurses' work in delivering patient care. The resulting demotivation in the

nursing workforce leads to retention problems. Hence, there is a need to reorient tasks between these professions; increase efficiency; and develop multidisciplinary teams to address diverse population health needs, increasingly complex illness, disability, mental health problems and frailty.

Pre-service education and health professional education are considered to be of high quality in most institutions in Greece but there is a growing need to reorient curricula so as to match the population's health profile. Recent initiatives have reoriented pre-service and postgraduate education objectives and the corresponding curricula to match health policies and population health requirements (e.g. community nursing, general medicine, public health, geriatrics and gerontology, oncology and, lately, emergency care). Further strengthening and coordination would be beneficial. While there is no obligation for doctors to maintain skills or knowledge after obtaining their licence to practice, there is a voluntary framework for continuing professional development (CPD) for all health professionals. Physicians have a legal framework for compulsory CPD but no specific CPD implementation framework setting out the rules or process control. Currently, CPD relies on a voluntary moral obligation supported by conferences, seminars, scientific days and postgraduate courses organized by health professional universities and professional associations. This jeopardizes quality of service provision.

In the past, ministry of health policy with an impact on HRH strategy has been influenced by the medical associations. Decentralization is an active policy issue but the ministry retains policy control of the health sector and YPEs have limited responsibilities. The Ministry's recent implementation of structural reform of the ESY is fundamental for reorienting the Greek health-care sector towards a people-centred system, and will impact on HRH. However, there remains a lack of HRH planning capability at both ministry and regional levels.

According to the diagnostics presented above, and in the context of the second phase of the SCUC initiative, a national strategic plan is under preparation with the aim of formulating objectives and goals in order to progress and build an evidence-based HRH strategy for Greece. The core recommendations include those set out below (Economou et al., 2018b).

Strategic objective 1. Improve HRH planning, data collection, analysis and reporting mechanism and registries.

a. Quantify HRH needs in terms of predicted needs and workloads rather than by population or facility-based norms (estimated number, category and qualification of health workers required to meet public health goals and population health needs).

b. Strengthen HRH data collection and develop robust registries for health workforce flows and CPD.

c. Monitor and report on core indicators of HRH productivity and quality of care at institutional level in order to improve processes and outputs.

Strategic objective 2. Achieve appropriate numbers and types of health professionals in post and equitable distribution of those professionals.

a. Strengthen recruitment to address shortages of health professionals at all levels, improve recruitment processes and retention in remote geographical areas (e.g. islands, rural remote areas.

b. Transform professional, technical and vocational education and training with the aim of ensuring necessary numbers of graduates with a given skill set as well as the quality of those human resources (in order to enable implementation of the national health plan).

c. Introduce a systematic procedure on CPD for all health-care professionals and national relicensing assessments.

d. Develop a systematic plan to support government priorities and attract health professionals in PHC and public health.

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

a. Improve working conditions, wage levels and establish a meritocratic reward system.

b. Introduce policies to reduce migration of health professionals and increase retention of highly skilled professionals.

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

a. Improve intersectoral dialogue and alignment among relevant ministries (e.g. health, education, finance, labour) and, for example, professional associations and the private sector.

b. Improve institutional capacity within the Ministry of Health in order to implement the HRH strategy.

c. Strengthen HRH administrative and management capacities at national and regional levels in order to implement an array of systems, policies and practices and to support performance of health workers.

d. Improve HRH capacity at decentralized levels – support decentralization of services.

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

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

b. Ensure ongoing review of financial commitments regarding sustainable HRH funding.

c. Monitor budget expenditure on HRH (who, how and when).

d. Include economic evaluation in the HRH research agenda.

The aim of the HRH strategy is provision of a strategic framework, concrete policies and recommendations in order to better support and enable a sustainable, flexible and forward-looking workforce capable of achieving the vision of the health system and the policy framework of the PHC reform and the public health plan. This includes the provision of accessible, equitable and high-quality patient-centred care close to the community and based on the needs of the population.

5.2 Working hours legislation

In 2013, the European Commission supported a complaint filed by a number of Greek medical associations regarding the working hours of ESY physicians. Referred to the European Court of Justice, the complaint argued that national Greek legislation obliged doctors (interns and specialists) to work an average of between 60 and 93 hours per week, as well as work regularly for up to 32 consecutive hours without being entitled to either the minimum daily and weekly rest periods or the equivalent periods of compensatory rest (European Court of Justice, 2015). These conditions persisted even though the regular timeline for transposing EU directives into national law had long elapsed. In December 2015, the Court ruled in favour of the plaintiffs, condemning Greece's lack of adherence to the EU Working Time Directive (EWTD; 2003/88/EC).

Under the main provisions of the EU Working Time Directive (2003/88/EC), average weekly working time cannot exceed 48 hours. In addition, all workers are entitled to a minimum rest of 11 consecutive hours in each 24-hour period and 24 hours minimum uninterrupted rest in each seven-day period, as well as 11 hours daily rest. The Court ruling highlighted two main issues in conflict with EU rules: (i) Greek law had the effect of making it possible to impose a working week exceeding the 48-hour limit as it did not entail clear provisions ensuring that the on-call hours actually spent by doctors at the hospital do not result in that limit being exceeded; and (ii) by providing that the 24-hour rest period granted to doctors after each active period on call can be postponed until a week after the period on call was completed, it violated provisions regarding minimum daily or equivalent compensatory rest (Judgment in Case C-180/14; European Commission v Hellenic Republic).[36]

36 Full documentation of the legal process can be obtained from the online database of ECJ case law (CURIA, 2018).

From a procedural perspective, if the European Court of Justice issues a verdict of failure to fulfil obligations, the Member State concerned must comply with the judgment without delay. If the Commission considers that this requirement has not been met, it may bring a further action seeking financial penalties. To pre-empt such action, a working group comprising relevant experts and WHO staff was established at the Ministry of Health in 2016 to initiate efforts to prepare legislation harmonizing the Greek regulatory framework with EU provisions (SCUC, 2017c). The process leading to the final draft of the law included analysing and updating the out-of-hours duty system in Greece; analysing the costs of doctors' out-of-hours duties across the country; and scenario modelling of new regulatory mechanisms, with particular focus on the application of new provisions to the working hours of future TOMYs (see section 3.1). Subsequently, the Ministry of Health opened consultations on the draft law. The OENGE voiced fundamental opposition to the proposed changes. The draft law was submitted to Parliament in September 2017 and published in the official Government Gazette on 17 November (Law 4498/2017).[37]

Next to harmonization with the EU legal framework, the stated aims of the law are to enhance working conditions for doctors and, consequently, improve quality of care and reduce the likelihood of medical error. In short, Law 4498/2017 foresees: seven hours of regular working time on a daily basis, five days per week for ESY and TOMY doctors; a maximum of 48 hours working time per week including out-of-hours/on-call service, calculated as an average over four-month periods; an absolute maximum of 60 hours per week if physicians freely opt out of the 48-hour restriction – this measure is to be in place for a transitional period of three years, until current staffing shortages are adequately addressed, to ensure the operation of service delivery; and annual leave of no less than four weeks. It also regulates the particulars of the distribution, staffing and remuneration of out-of-hours/on-call services. Finally, it defines the basis for organizing working time (maximum of 12 hours per day at the place of work) and daily rest periods (12 consecutive hours per day, 48 hours per week). As with the maximum hours of work per week, it is possible to diverge from the latter provision as long as it is compensated by equivalent periods of rest immediately after.

The OENGE mainly opposed the law for not being protective enough (e.g. by calculating the average weekly working hours over four-month periods, including opt-out provisions and thus "individualizing" working conditions, changing the remuneration of on-call periods) and the legislative process for being too expedient to allow for meaningful contributions by important stakeholders. It is evident that a revision of the working conditions of ESY physicians was necessary and that the staffing crisis in the ESY restricts the possibilities for reform. However, the short intervening period means that it is not yet easy to evaluate the effects of this law.

37 Official Government Gazette No. 172/Issue A'/16-11-2017.

6. Role of patients

6.1 Patient experience and voice

User groups and consumer associations in Greece are relatively weak, since they usually represent the narrow interests of a particular group of patients. The very large population groups of health beneficiaries or patients are not represented by any powerful organization but by many small disease-specific self-help groups (e.g. for renal disease, cancer or thalassaemia). While these lack any institutional role in health-care planning and regulation, in specific circumstances the Ministry of Health may ask such groups to submit their own proposals for specific health issues. Furthermore, there is no information accessible to the population on costs or quality of services, medical errors, patient satisfaction, hospital clinical outcomes, hospital waiting times or comparative information about the quality of different providers (Economou et al., 2017).

Until recently, there was no officially developed tool for conducting patient experience/user satisfaction surveys in the Greek public health care units, although in all Eurobarometer surveys Greek patients are among those expressing one of the lowest levels of satisfaction with health-care services provided. Given the high importance of the PHC reorganization, the WHO Project Office in Athens launched an initiative to develop three questionnaires concerning patients' experiences with: (i) GPs/family doctors; (ii) specialists in health centres; and (iii) specialists in hospital outpatient departments. The three questionnaires have already been finalized and guidelines for conducting this type of survey annually have been developed for health managers (Economou et al., 2018c).

The Ministry of Health's commitment to establish a continuous feedback mechanism to assess the quality of services provided and measure the impact of reform initiatives listening to patients' voices is reflected in Article 20 of Law 4486/2017. This is dedicated to accountability and social control of public health care units, and stipulates that social control should be carried out, inter alia, through surveys by which citizens evaluate the services they have received. Also, the results of those surveys should be taken into account in the decision-making process on the provision of services, as part of the people-centred approach.

6.2 Hospital patient rights protection offices

Under Article 60 of Law 4368/2016,[38] an office for the protection of health services recipients' rights is established in every hospital and is responsible for the protection of patients' rights within the hospital and for examining relevant complaints from citizens. Ministerial Decision No. A3d/G.P.oik.10976/10-2-2017[39] defines the organizational and operational framework of such offices operating in public hospitals. These offices replaced the former citizen support offices (Article 9 of Law 3868/2010)[40] in order to provide better information and orientation on the provision of health services and equal and universal access to the public health care system, taking account especially of the needs of vulnerable social groups (e.g. minors, prisoners, people with mental illness, asylum seekers, refugees and migrants, uninsured patients and their relatives) by clarifying their health services and pharmaceutical coverage procedures, and by regulating collection and handling of their complaints.

The objectives of such institutions are: (a) the provision of health services on the basis of equal and universal access, without any kind of discrimination; (b) embedding in the health system the necessary culture of respect for the dignity and rights of patients as well as evidence-based and quality health care; and (c) facilitation of communication between health service recipients, health-care professionals and hospital administration, which is essential for their proper functioning and for upgrading staff working conditions. In particular, taking into account the need for quality health services and special care of vulnerable social groups, institution of the offices for the protection of health services recipients' rights intends to: (a) inform patients about in-hospital procedures and the rights of health service recipients; (b) inform uninsured patients and their relatives about their health and pharmaceutical coverage procedures in a timely manner; (c) monitor the overall service received by patients within the hospital or in its outpatient departments; (d) collect and handle patients' complaints; (e) facilitate reporting to competent authorities; (f) intervene in relevant hospital services to achieve smooth settlement of disputes; (g) facilitate smooth communication between health-care professionals and health service recipients; (h) inform hospital staff in relation to best practices based on legislation and medical ethics; and (i) facilitate continuous improvement of reception procedures and services for recipients, and safeguard their rights.

It has to be noted that the offices are not yet fully operational. Most of the issues they currently address relate mainly to delays in appointments, unavailability of specialists, lack of materials, breaches of hospital rules and, more rarely, to informal payments, entitlements and quality of services (SCUC, 2018b).

38 Official Government Gazette No. 21/Issue A'/21-2-2016.
39 Official Government Gazette No. 662/Issue B'/2-3-2017.
40 Official Government Gazette No. 129/Issue A'/3-8-2010.

7. Governance

7.1 Transparency and accountability

A number of institutions are tasked with combating corruption and ensuring transparency and accountability in public administration and the health-care sector in Greece. These include the General Inspector of Public Administration; the Inspectorate of Health and Welfare (SEYYP); the Greek Ombudsman's Department for Social Protection, Health and Welfare; and the Health Expenditure Control Service (YPEDYFKA) – the agency that monitors health expenditures of social insurance funds. Some of the reforms introduced after 2010 have a direct effect on transparency and accountability, including those on mandatory e-prescribing and e-referral systems for doctors contracted with the ESY and EOPYY. Moreover, a comprehensive range of effective measures has been implemented to increase monitoring and the transparency of financial transactions within the health system: for example, development of the price monitoring tool for the collection and analysis of tenders and technical specifications published by hospitals. The Diavgeia (Clarity) programme is another initiative that promotes transparency and openness in the Greek Government and its policies. Introduced in 2010, this requires all ministries, public institutions, regulatory authorities and local governments to publish their decisions online.

Although the aforementioned initiatives increase the transparency of public administration, there have been only a few steps to empower citizens and to strengthen their participation in health policy-making and priority setting. Regional health boards require participation from members of the public but were never established. Also, the representation of various groups of citizens within KESY is not relevant since KESY has never functioned as a consultative body in health-policy planning. In addition, the inclusion of one representative for insurees and one for pensioners on EOPYY's administrative board cannot be considered adequate representation of members of all the health insurance funds that merged into EOPYY. It is true to say that consultation through the Greek open government website (www.opengov.gr) is a more efficient way for people to express their opinions, rather than a formal process of effective public participation. It is also indicative that the various public satisfaction surveys concerning health services have never been taken into account in health policy-making. As a consequence, decision-making on the public financing of various health-sector functions has not taken account of citizens' views (see also section 6.1).

Yet some positive steps have been made recently: a special article in the new law on PHC is dedicated to accountability and social control of public health care units. Article 20 stipulates that social oversight should be carried out through a procedure for hearing social organizations and members of the public so that the regional coordinator may record and respond promptly to their concerns in the presence of the rest of the management board for the relevant sector. Hearings should take place sometime in the first ten days of every month, with publicity rules and a record of proceedings. The public hearing procedure

has already started, with public hospitals presenting their activities and performance indicators. Furthermore, every YPE publishes an annual activity report including, inter alia, data concerning the efficiency of its primary care and hospital units.

The 100 actions plan should also be mentioned as it is an important governance instrument that makes government commitments to policy directions transparent and provides a strategic frame for policy measures and decisions. It has been developed through open dialogue and consultation, part of which was supported by WHO through a series of public policy dialogues. Preparing for, and implementing, the 100 actions plan coincides with the Ministry of Health's changing role: moving from a reactive mode of decision-making (focused on emergency and pressing policy issues) towards a more proactive and forward-looking approach. This will enable the Ministry to become a lead player in steering, guiding and supporting the provision of services in strategic, coherent and aligned directions.

7.2 Procurement and negotiating capacity

High levels of waste in the hospital setting had been attributed to the fragmented and outdated procurement system. Hence, in 2012 and 2013 there were substantial changes to procurement and monitoring, as well as hospital structure and payments. A uniform product-coding system was introduced in 2012, together with the establishment of a common registry for medical supplies to enable a more transparent and efficient procurement system. However, computerization, integration and consolidation of information technology systems and centralization of information have not yet been achieved for all hospitals. In May 2017, Law 4472 replaced the Health Procurement Committee (EPY) by establishing the National Central Authority of Health Procurements (EKAPY) with responsibility for national procurement policy and the annual supply of products and services to public providers. The EKAPY incorporated the previous structure's duties of unifying hospitals' annual tenders with the aim of reducing procurement costs; improving payment time; making medical requests uniform; transferring redundant materials from one hospital to another; and improving management of expired products. The adoption of more effective procurement policies, e-auctions, tendering and renegotiation of contracts with suppliers have led to substantial reductions in hospital spending (Economou et al., 2017). This was also supported by older reform measures, such as establishment of the Pricing Observatory for Medical Supplies in 2009.

Since the creation of the EOPYY, the procurement of health-care supplies for primary care has been planned at regional level. Regional programmes for goods and services have to be adopted by coordination committees for procurement, under the Ministry of Health. These are responsible for assigning a contracting authority and the tender mechanism for each type of procurement. The committees can choose public or private contractors in line with the objective of achieving economies of scale and overall efficiency.

Manufacturers or suppliers require adequate negotiating capacities if there is to be effective introduction of measures that are increasingly reliant on negotiations between payers (insurers and hospitals). For instance, Law 4512/2018 established a Committee for the Negotiation of Pharmaceutical Prices (Negotiation Committee, Article 254), comprising nine members and based at EOPYY. Alongside negotiating the prices or discounts of reimbursed medicines, this is responsible for assessing the budget impact of all medicines that have received positive recommendations from the Evaluation Committee

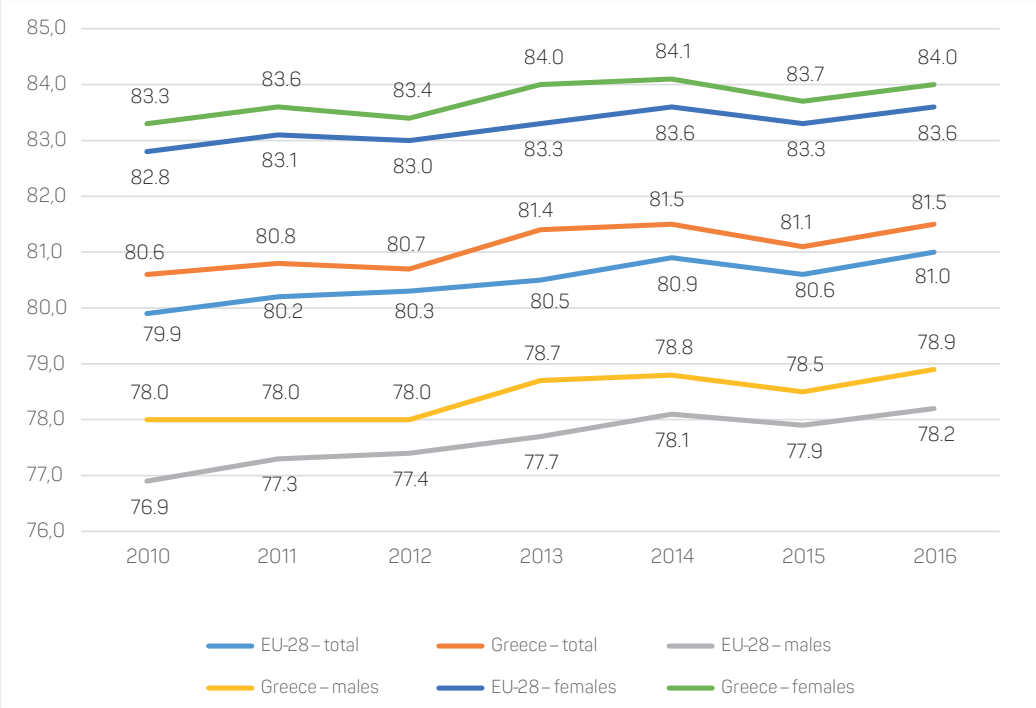
at the Ministry of Health. Experience with limited negotiated power in the past prompted the Ministry of Health, in collaboration with WHO, to launch an initiative on strengthening capacities for negotiation. This was implemented in close collaboration with the Health Technologies and Pharmaceuticals programme in WHO Regional Office for Europe and the London School of Economics, which has developed specific training courses for negotiating committees in several countries in the past. Greek experts and policy-makers participated in a WHO regional capacity building workshop on medicine negotiations and strategic procurement. A similar workshop was organized in Athens in March 2018 to build capacities of a critical mass of Greek experts involved in medicine negotiations, HTA and other relevant areas (SCUC, 2017c). In the context of maintaining and expanding these skills, Greece can draw on its partnerships with related authorities in other countries, for example through the Network of Competent Authorities on Pricing and Reimbursement (NCAPR) and EUnetHTA (see section 4.5).

8. Health status of the population

It is difficult to assess the effects on the health status of the population arising from the reforms introduced in Greece in the context of the economic crisis. This is largely because it is difficult to estimate whether (and to what extent) an observed health effect is attributable to structural and procedural changes in the health system per se or to changes in the social determinants of health brought about by the economic crisis. Furthermore, it takes time for the impact of any given change on health to become apparent and there is still a lack of timely and relevant data in Greece. Considering these restrictions, the following section shows the trends of some health indicators after 2010 and presents a summary of targeted studies concerning self-reported health, mental health, suicide, infectious disease, infant health and cardiovascular disease. Its aim is to set the general frame for further reform considerations, rather than attribute any observed changes to individual reform measures introduced so far.

In 2016, life expectancy at birth reached 81.5 years in Greece, just above the EU-28 (all Member States) average (Fig. 9). As in other EU countries, there continues to be a substantial gender gap, with women living on average five years longer than men (84 years versus 78.9).

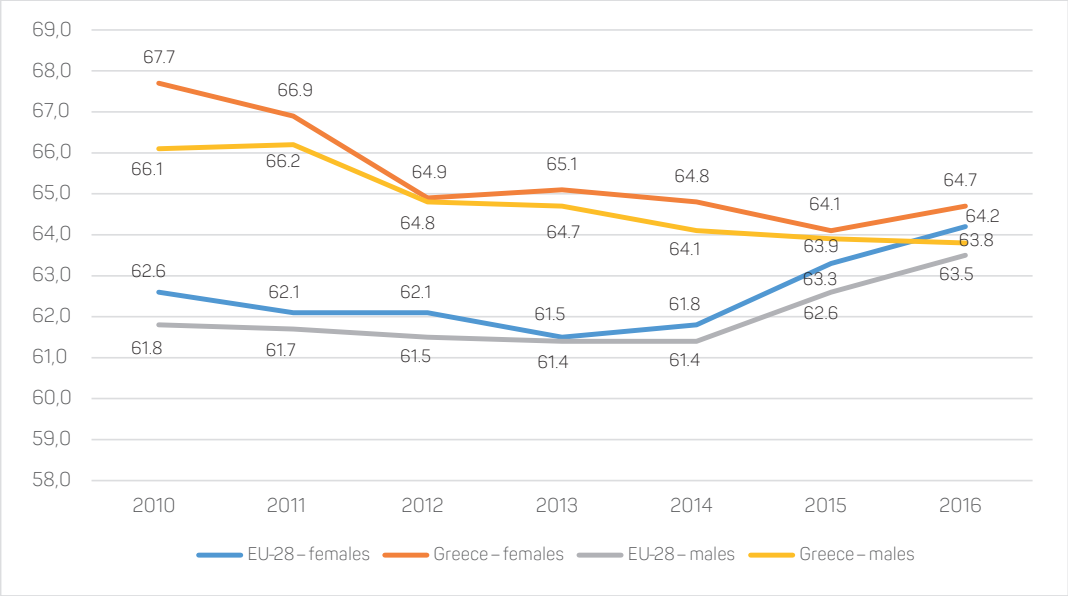
Fig. 9. Male and female life expectancy at birth in Greece and EU-28, 2010–2016



Source: Eurostat, 2018b.

However, in the same interval, time spent in good health largely decreased (Fig. 10). Between 2010 and 2016, healthy life expectancy in Greece decreased by 2.3 years for men and by 3.0 years for women. In contrast, the average healthy life expectancy in the EU-28 increased by 1.7 years for men and by 1.6 years for women.

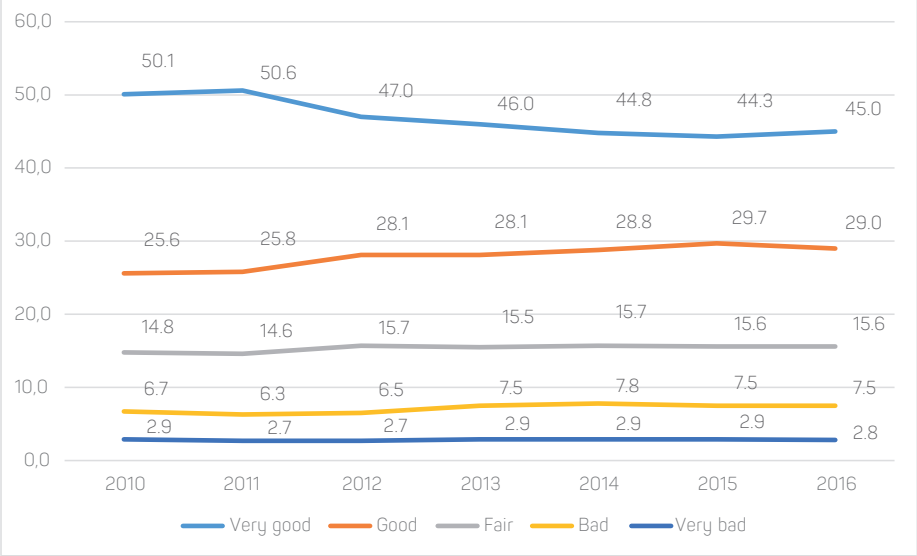
Fig. 10. Healthy life years in absolute value at birth, males and females, Greece and EU-28, 2010–2016



Source: Eurostat, 2018c.

Data also show changes in the self-perceived health of the Greek population (Fig. 11). Although the percentage of those declaring very bad, bad or fair health status is almost stable, there is a 5.1% decrease in those perceiving their health as very good.

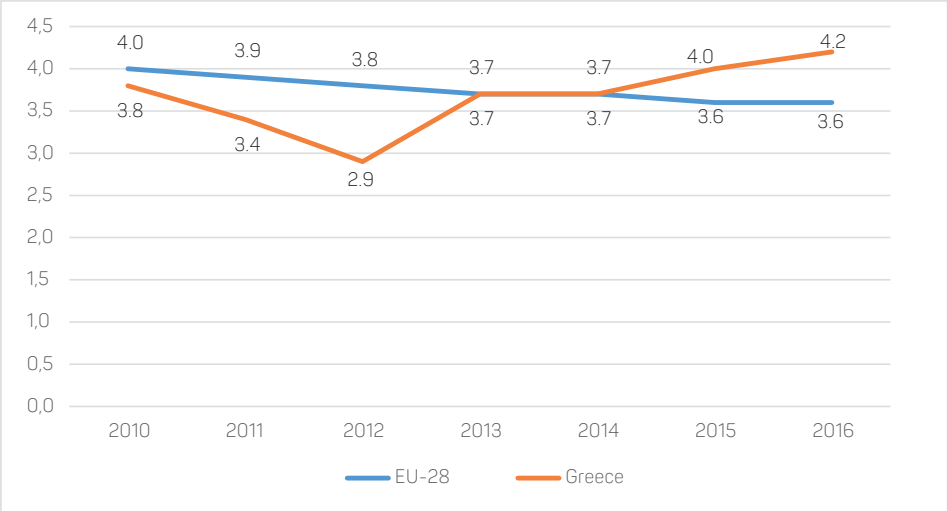
Fig. 11. Self-perceived health (% of population) in Greece, 2010–2016



Source: Eurostat, 2018d.

The infant mortality rate in Greece was declining for decades and was constantly below the EU-28 average. However, this trend was reversed after 2014 and in 2016 infant mortality reached 4.2 per 1000 live births, 0.6% above the EU-28 average (Fig. 12).

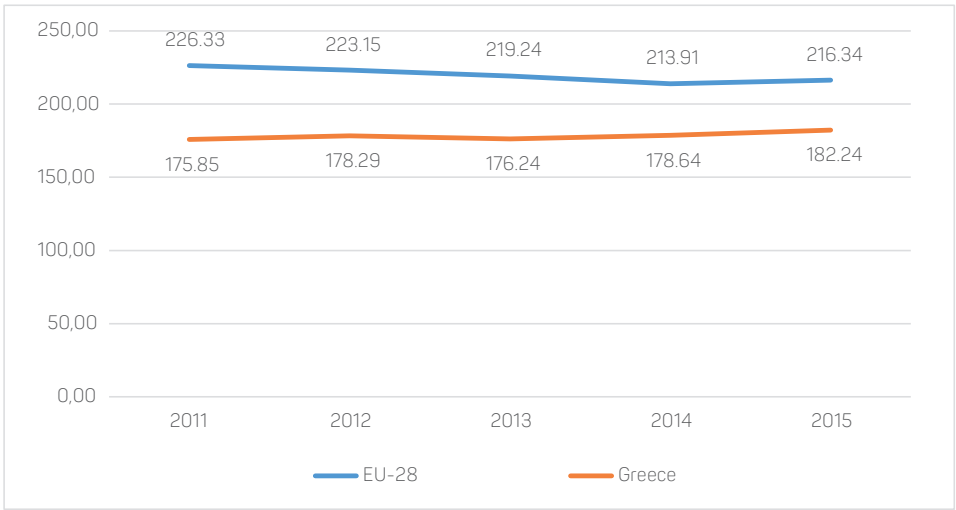
Fig. 12. Infant mortality per 1000 live births, Greece and EU-28, 2010–2016



Source: Eurostat, 2018e.

Preventable mortality is deaths which could have been avoided by good-quality health care and public health interventions focusing on wider determinants of public health (e.g. behaviour and lifestyle factors, socioeconomic status and environmental factors). This also increased slightly between 2011 and 2015 but remains below the EU-28 average (Fig. 13).

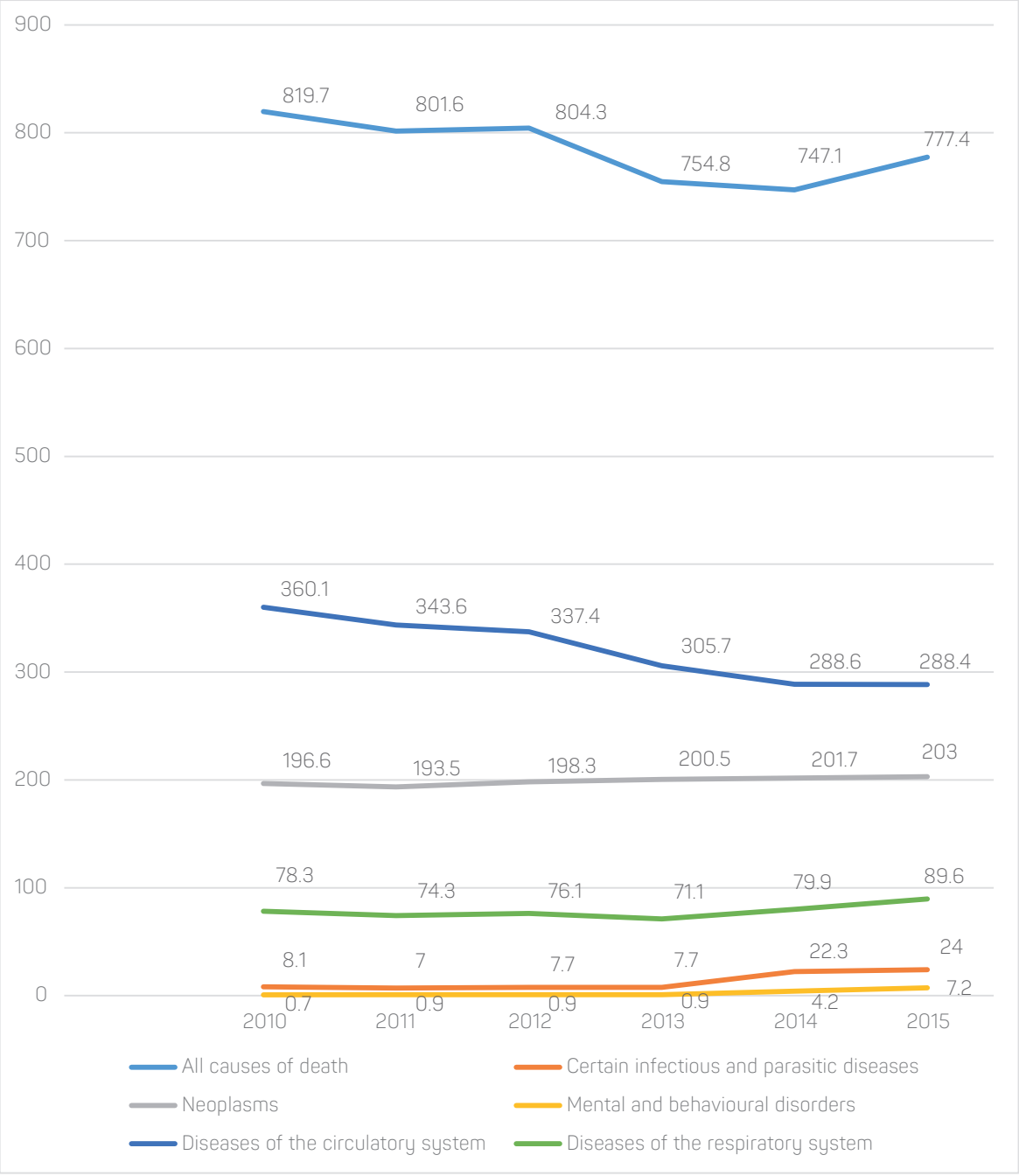
Fig. 13. Preventable mortality, deaths per 100 000 population, Greece and EU-28, 2011–2015



Source: Eurostat, 2018f.

All-cause mortality decreased in the period 2010–2014, but increased again in 2015 (Fig. 14). Diseases of the circulatory system remain the leading cause of death in Greece (accounting for 37.1% of all deaths) but decreased by 19.9% between 2010 and 2015. In contrast, the other two main causes of death in the Greek population – neoplasms and diseases of the respiratory system (accounting for 26.1% and 11.5% of all deaths, respectively) – showed an upward trend in the same period. It is also worth mentioning two other substantial increases in cause-specific mortality: (i) deaths from infectious and parasitic diseases; and (ii) deaths from mental and behavioural disorders (discussed further in the following paragraphs).

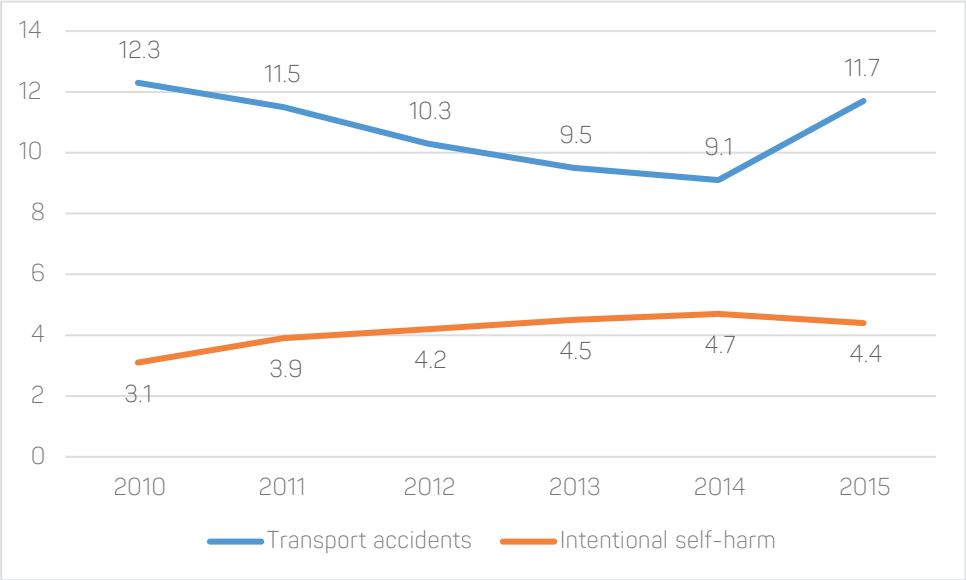
Fig. 14. Deaths per 100 000 population (standardized rates) in Greece, 2010–2015



Source: OECD, 2018.

Although the suicide mortality rate in Greece is among the lowest in the EU-28, an increasing trend was observed for the period 2010–2014, with a slight decrease in 2015 (Fig. 15). The opposite trend was recorded for motor vehicle accidents – these decreased during the period 2010–2014 and increased in 2015.

Fig. 15. Deaths from accidents and suicides per 100 000 population (standardized rates) in Greece, 2010–2015



Source: OECD, 2018.

Several studies investigating the effects on public health in Greece have been published since the onset of the economic crisis. In relation to self-reported health, studies find that higher percentages of older people, unemployed people, pensioners, homemakers and people with chronic disease (i.e. vulnerable groups) report poor self-rated health since the crisis started (Zavras et al., 2013; Vandoros et al., 2013). Mental health has also deteriorated. Between 2008 and 2011 the one-month prevalence rate of major depression increased from 3.3% to 8.2% (Economou et al., 2013a); and between 2009 and 2011 there was also a substantial increase in the prevalence of suicidal ideation and reported suicide attempts (Economou et al., 2013b). These developments in mental health, and the rise in the incidence of suicides, have been linked to the crisis and its consequences: high unemployment; poverty; state and household debt; cuts to benefits, entitlements and pensions; and increasing homelessness (Antonakakis & Collins, 2014; Christodoulou & Christodoulou, 2013; Madianos et al., 2014).

According to a study conducted in 2015, the overall mean suicide rate rose by 35% between 2010 and 2012 (from 3.37 to 4.56 per 100 000 population). The suicide mortality rate for men increased from 5.75 per 100 000 (2003–2010) to 7.43 (2011–2012) and from 1.17 per 100 000 to 1.55 for women. The increase in overall suicide mortality was significant in the 20–59 and over-60 age groups. Each additional percentage point of unemployment has been associated with a rise in suicides of 0.19 per 100 000 population among working-age men (Rachiotis et al., 2015). A multi-decade national analysis of suicide in Greece using monthly data found that selected austerity-related events corresponded to statistically significant increases in suicides overall, as well as for suicides among men and women

(Branas et al., 2015). The alarming trends in mental health and suicides are accompanied by restrictions in mental health services. A large number of community centres, psychosocial rehabilitation units and specialized establishments have suspended operations or reduced staff numbers since the onset of the crisis (see also section 3.3). Furthermore, Ministry of Health funding for mental health in 2011 was 20% lower than in 2010, and in 2012 was 55% lower than in 2011 (Anagnostopoulos & Soumaki, 2013).

The economic crisis also appears to impact infectious disease dynamics. Since 2010, Greece has suffered a high burden of different large-scale epidemics, including: increased mortality from influenza during the pandemic and first post-pandemic seasons; emergence and spread of West Nile virus; appearance of clusters of non-imported malaria; and an outbreak of HIV infections among people who inject drugs (Bonovas & Nilolopoulos, 2012). The reported number of HIV infections among injecting drug users rose from 15 in 2010 to 522 in 2012 (KEELPNO, 2012). Notified cases of tuberculosis in the Greek population rose from 261 in 2010 to 349 in 2012 (Spala, 2014). These results suggest that increasing socioeconomic disparities and difficulties (e.g. unemployment, extreme poverty, homelessness, stigma, discrimination, social isolation), budgetary constraints and inadequate policies for financing prevention and treatment as a consequence of the economic crisis have translated into heightened risk behaviours at individual level and impaired public health response at population level (Paraskevis et al., 2013).

Implications of the economic crisis have also been recorded for other diseases, such as otorhinolaryngological disorders. A study exploring possible occurrence variations within specific otorhinolaryngological morbidity between 2009 and 2011 using the outpatient database records of a large hospital in Crete found a significant increase in the diagnosis of two disorders (vertigo and tinnitus) that could be associated with increased social anxiety and distress, potentially caused by the economic crisis (Karatzanis et al., 2012).

Maternal and child health is an important area affected by the crisis. The stillbirth rate increased from 3.31 per 1000 live births in 2008 to 4.28 in 2009 and 4.36 in 2010 – an increase of 32% between 2008 and 2010 (Vlachadis & Kornarou, 2013). The live birth rate dropped to 10.45 per 1000 population in 2009, to 10.15 in 2010 and 9.39 in 2011 (Simou et al., 2013). These developments highlight the serious problem of barriers to access to high-quality maternal health-care services and programmes (compare also Fig. 12). In addition, a United Nations Children's Fund (UNICEF) report on the state of children in Greece reports that conditions for children have deteriorated in recent years as a result of a reduction in welfare benefits; rising parental unemployment; poverty; and insufficient access to health care. Welfare payments in 2011 were 4.9% lower than in 2009 and a significant number of children in Greece had no access to health care because their parents had lost their state social insurance coverage (UNICEF, 2014). Law 4368/2016 and Joint Ministerial Decision A3(g/GP/oik.25132) on access to health services for the uninsured served to address this problem (see section 2.3).

Economic crisis and austerity policies have also impacted on public health, health promotion and health risk factors. The limited health promotion and disease prevention initiatives were further constrained by austerity policies (Ifanti et al., 2013). An assessment of trends in health-related behaviours and cardiovascular risk factors within Greece before, at the outset of, and during the crisis indicates that fruit and vegetable consumption has decreased alarmingly, especially among those of lower socioeconomic status (Filippidis et al., 2014). Despite the overall decrease in cardiovascular mortality shown in Fig. 14, the increase in hospital admissions for cardiovascular diseases during the financial crisis is alarming. Two

studies conducted in a central hospital in Athens compared all admissions to the cardiology department during the pre-crisis (2003–2007) and crisis (2008–2012) periods. These revealed an increase in the number of admissions due to acute myocardial infarction (Papadimitriou, Samentzas & Trikas, 2014) and atrial fibrillation (Samentzas et al., 2014) in both sexes during the crisis period.

Most of the aforementioned studies on the health consequences of the crisis in Greece investigated short-term impacts on selected outcomes. A more recent study examined the impact on a key set of health indicators with longer follow-up, conducting interrupted time series analysis to compare trends in standardized mortality by cause before and during the crisis (Filippidis et al., 2017). The findings show that mortality from suicides and infant mortality increased during the crisis, while mortality from respiratory diseases and transport accidents decreased. In addition, the prevalence of smoking and sedentary lifestyle declined. Recent insights on Greece from the Global Burden of Disease Study (GBD Greece, 2018) exploring the period 2000–2016 show that many of the causes of death that increased in the period following the onset of the crisis are potentially responsive to care (e.g. HIV, neoplasms, cirrhosis, neurological disorders, chronic kidney disease, and most types of cardiovascular disease). Substantial changes in health loss indicators since 2010 support the interpretation that austerity measures compounded the country's pre-existing health burden. The study confirms the findings discussed in previous paragraphs and highlights that:

> … steep quantitative changes in mortality trends and qualitative changes in mortality causes with a rise in communicable, maternal, neonatal, and nutritional diseases since 2010 suggest that an effect of the abruptly reduced government health expenditure on population health is likely. (GBD Greece, 2018)

The core reform measures discussed in other sections of this report were largely introduced in the past few years and so it is impossible to begin to estimate their concrete effects on health outcomes. However, it is clear that it is necessary not only to develop and implement Health in All Policies, surveillance and monitoring systems and disease registries but also to reach beyond the health system and strengthen research in order to better clarify the causal mechanisms connecting socioeconomic factors with the mortality and morbidity of specific diseases.

9. Conclusions and policy recommendations

The previous sections have highlighted the achievements and challenges of recent reform efforts in a thematic manner. However, when looking at individual reform initiatives it is important to remember that the Greek health-care system has undergone huge changes in a very short period. Often, reform steps that were a prerequisite for further changes had no time to mature before new efforts had to be initiated. Sufficient time and experience with new models and structures are required before these can be fully evaluated and, to the extent necessary, optimized. The sustainability of reform gains, particularly those regarding universal health coverage, will need to be safeguarded and built upon following Greece's exit from the EAP mechanism.

- It can be argued that some positive steps have been made since 2015, including the legislation providing free access to care for uninsured Greeks and immigrants; abolition of some kinds of cost sharing; and institutionalization of the surgical list. These measures have resulted in a slight decrease in OOP payments: from 36.2% of total current health expenditure in 2014 to 34.3% in 2016. Furthermore, the latest EU-SILC data on self-reported unmet need for health care due to cost, distance or waiting time in the population indicate a decrease of 3.1% between 2016 and 2017.

- Several issues require further consideration, such as the structure of pharmaceutical copayments; ceiling on doctors' treatment activities; absence of real dental coverage; and persistence of informal payments.

    - Some barriers to access have not been eliminated. For example, uninsured people can access only public providers and not private providers contracted with EOPYY (e.g. diagnostic imaging laboratories) with the exception of family physicians. This continues to undermine equity in access, particularly in regions where public health care units are understaffed or face shortages of modern equipment, such as CT and MRI scanners. In addition, implementation of the KYPA that would allow migrants to access health services has been delayed and – although those with legal documentation can still access care – this might be a significant barrier for those without the necessary documents.

    - OOP payments continue to contribute to unmet need in the population, particularly for the most vulnerable groups. The rationale for certain modalities should be re-examined. For example, as designed, the €1 prescription fee has no potential comparative advantage for rationalization of the use of medicines.

    - Constant vigilance is required to correct unintended consequences of reform efforts. For example, new types of informal payments have emerged recently as patients seeking treatment

in some cases have to pay an additional under-the-table fee to EOPYY-contracted doctors, ranging from €10 to €20 for a service that is supposed to be free of user charges. This is the result of ceilings imposed on the activities of EOPYY-contracted doctors in 2014, including monthly ceilings on patient visits, prescribed pharmaceuticals and referrals for diagnostic and laboratory tests. Patients aiming to avoid applying to several doctors in order to find one who has not reached their visit and/or prescription limits, may have to resort to informal payments.

- EOPYY now acts as the sole purchaser of medicines and health-care services for all those insured. To some extent the implementation of a single-payer system has managed to constrain expenditure growth and to allocate resources more rationally. However, the creation of EOPYY has not been adequately supported at operational level: continuing understaffing and underfunding leads to delays in paying providers.

- Substantial pressures on both components of public financing in the Greek system (SHI and state budget) create justified concerns over the mid- and long-term adequacy of funding in the health system. However, fruitful reform efforts and sustainable gains (e.g. in the context of universal health coverage) require a sound financing base if they are to materialize. Increasing public spending on health care up to at least 6% of GDP (currently 5.2%) in the immediate future is a stated government goal. To ensure that this is achieved in a sustainable and predictable manner, both SHI and tax-based funds require further focus on improving collection and pooling.

- Excessive reliance on indirect taxes and high formal and informal OOP payments makes overall funding of the health sector regressive and inequitable. Adequate capacities at ministry level are necessary for rethinking appropriate reform policies and ongoing work in this direction should be continued.

- The new PHC system embodies the fundamental principles of WHO and is expected to result in better access to quality health care and more rational and efficient use of existing services and resources by reducing unnecessary hospital admittance through well-organized referral processes. Nevertheless, a number of challenges emerge for policy-makers to address: (i) teamwork, health-promotion activities, community empowerment and prevention programmes have traditionally existed in the margins of care in Greece; (ii) health professionals lack of experience of teamwork for outward activities; (iii) lack of well-defined procedures and coordination of processes in delivery of care in different settings; (iv) doctors' unwillingness to work in TOMYs; (v) difficulty in organizing and maintaining impetus for short-term training programmes on teamwork and work processes in primary care; (vi) electronic medical record is not yet fully operational; and (vii) some clinical guidelines have been developed but there is still the challenge of training personnel to incorporate their content into everyday practice. Possible solutions to some of these issues include: (a) building on work of local pioneers to further foster interdisciplinary teamwork; (b) ensuring integration of health promotion and disease prevention interventions at individual and community outreach level; (c) ensuring effective coordination internally (within TOMYs) and externally (e.g. with local community actors and other health services, especially health centres) based on collaborative rather than authoritative formats; (d) enhancing communication using cascading measures from national, to regional and municipal levels to help combat scepticism among the general public, local

communities and health professionals; and (e) redefining salary levels and employment contracts for TOMY staff and EOPYY-contracted practitioners to prevent differentiated incentives.

- Public health is underdeveloped. If the goals of the new PHC reform are to create a modern effective and people-centred ESY and to succeed in improving population health outcomes, it is essential that existing public health services – centred on the control and prevention of communicable diseases – are transformed to focus on reducing the incidence and prevalence of NCDs. This will require new approaches that address all the root causes of these diseases, including the social determinants of health, environmental factors and behavioural risk factors. The draft National Public Health Strategy/Strategic Plan for 2017–2021 has to be finalized and implemented.

- Mental health services are in a process of continuous reform. Despite some positive steps there is no effective means of monitoring performance and quality improvement at any level of the mental health care system in the country. Further action is needed. Community mental health structures should be enforced to ensure sustainability and provide quality services. Also, both preventive actions and actions for the promotion of good mental health among the general population should be strengthened (considering especially the negative effects on mental health arising from the current crisis). There should also be an emphasis on monitoring, evaluation, research activities and staff training. The recent law on administrative reform of mental health services calls for better coordination of mental health services; for citizens to have greater participation in mental health policy decision-making; and for the protection of the rights of users of mental health services. Furthermore, the initiative undertaken in the SCUC framework for developing quality assurance of mental health services should be supported in order to ensure close follow-up on evaluation of mental health services and continuous capacity building for the health policy-makers involved.

- In the absence of an adequate primary care network and gatekeeping system, patients routinely seek out emergency departments as the entry point to the health system. Indeed, many emergency care patients could have been treated at primary care level. Over-reliance on emergency care for patients who do not require it poses a threat to patient safety, increases the burden on health professionals at hospital level, impacts on overall quality of care and is a major source of inefficiency in the system. WHO recommendations to address these issues include restructuring and strengthening primary care; strengthening the independent specialized nature of emergency departments; institutionalizing emergency medicine as a specialty; and investing in awareness campaigns. The first three groups of recommendations are reflected in recent legislative or regulatory initiatives from the Ministry of Health, but implementation is largely pending.

- Integrated care is a stated goal of the Greek Government but the foundations for achieving this are still being built. Historically, coordination in the Greek system has been weak. However, as described above, the new primary care law emphasizes three of the main tenets of good coordination practice: (i) multidisciplinary teams at local level; (ii) adequate referral systems; and (iii) a common electronic medical record system. Physicians in the PHC team are meant to act as coordinators of care, thus ensuring continuity, and enable the management of common health problems at the appropriate level of progressivity (local). Pilots at community level should be reconsidered and enabled as much as possible.

- Traditionally, patients in Greece have been dissatisfied with the quality of their health care, whatever the level of care. There is no national quality management infrastructure or any routinely used indicators to monitor hospital performance (or primary care services, for that matter). However, recent activity in quality assurance for hospital care shows promise as efforts have been invested in better understanding and addressing the very high rates of caesarean sections, which may pose safety, equity and efficiency concerns. Also, increased efforts have been invested in developing clinical guidelines and systematizing accreditation of providers.

- For many years, Greece was one of the few EU countries without a formal process for evaluating health technologies (whether medicines or medical devices). The Committee for the Evaluation and Reimbursement of Medicinal Products for Human Use (Evaluation Committee) was established in 2018 as an early HTA mechanism, paving the way for institutionalization of HTA. Developments at the European level include current discussions on joint assessments for certain technologies and will present an opportunity for Greece to further engage this tool in decision-making (e.g. broadening the scope to include medical devices).

- Historically, investment in advanced diagnostic imaging equipment has not been the result of concerted evidence-based planning efforts. Greece is among the EU countries with the highest number of CT and MRI scanners per capita but most of this equipment is owned by ambulatory care providers in the private sector and concentrated in urban areas. This poses equity concerns as uninsured people do not have access to private providers and insurees incur co-payments for their use. Recent efforts by the Ministry of Health and WHO culminated in a number of recommendations to address the issue, mainly concerning strategic planning based on needs assessment for medical devices at all levels of the health-care system in line with the guidance developed by WHO and the broad involvement of relevant stakeholders in the decision-making process.

- As part of Greece's EAP, and to achieve its stated financial targets, a number of measures have been introduced to curb overprescribing and encourage rational use of diagnostic tests. These include the nationwide e-prescription system, which has been successfully rolled out; monthly prescribing caps for physicians using the e-prescribing system (requiring close monitoring to ensure that they do not introduce inequities and to address unintended consequences); price reductions; issuance of prescribing guidelines; and specification of referral rules. Documented successes in cost containment arising from these measures are primarily attributable to the price reductions rather than significant progress in volume containment.

- The EAP identified provision of pharmaceuticals and related expenditure as an area requiring significant changes to enable cost containment. A range of measures introduced in recent years include VAT reductions; introduction of external reference pricing; automatic clawbacks from the industry to balance out the budget; redesigning procurement for hospitals; increasing user charges; a range of measures to boost the penetration of generics; establishment of the e-prescription system; prescribing guidelines and budgets for physicians; and, most recently, institutionalization of HTA. Overall, these measures appear to have been effective in curbing pharmaceutical expenditure but their effects on the rational use of medicines remain unclear.

- Quantitative and qualitative imbalances between health professions and specialties are basic characteristics of HRH in Greece, as are a lack of HRH planning and maldistribution of health professionals across levels of care. A national plan is being prepared that includes objectives and goals of an evidence-based HRH strategy for Greece. Preliminary recommendations include changes in education, human resource management and reward packages (particularly for remote geographical areas), team composition, personnel planning and individual and institutional capacities.

- A recent legislative initiative aimed to harmonize working hours legislation for ESY doctors with EU requirements with the stated aims of enhancing working conditions for doctors and, consequently, improving quality of care and reducing the likelihood of medical error. This law foresees interim solutions until the staffing crisis has been addressed but was criticized heavily by the OENGE, mainly for not being protective enough. Close monitoring of the effects of the new framework is necessary to ensure that it meets the intended goals.

- Patient groups lack any institutional role in health-care planning and regulation in Greece. Until recently, there was no officially developed tool for conducting patient experience/user satisfaction surveys in Greek public health care units. Law 4486/2017 stipulates that social control should be carried out, inter alia, through surveys by which citizens evaluate the services they have received, and that the results of those surveys should be taken into account in the decision-making process for provision of services, as part of the people-centred approach. Implementation of these provisions is in progress. Furthermore, the commitment to empower the patient voice is also reflected in Law 4368/2016 that foresees an office for the protection of health services recipients' rights being established in every hospital. Such offices are responsible for the protection of patients' rights within the hospital and for examining relevant complaints from citizens. However, the offices are still at an early stage of implementation and do not operate at full capacity as they are currently established only in large hospitals in big cities.

- A comprehensive range of effective measures has been implemented to enhance monitoring and increase the transparency of financial transactions within the health system. For example, development of the price monitoring tool for collection and analysis of tenders and technical specifications published by hospitals. Also, the Clarity programme introduced in 2010 to promote the transparency and openness of the Greek Government and its policies. These initiatives increase the transparency of public administration but few steps have been taken to empower citizens and to strengthen their participation in health policy-making and priority setting. One relevant measure is the inclusion of a hearing procedure for social organizations and members of the public in the new primary care law.

- Substantial efforts have been invested in strengthening procurement processes for both primary and hospital care. Fragmentation of procurement had been identified as a major source of inefficiency in the health system. In hospitals, a uniform product-coding system and a common registry for medical supplies were introduced to enable a more transparent and efficient procurement system. The composition and remit of EKAPY were revised in 2017. There is evidence that effective procurement has led to savings in the hospital sector but the new, more centralized, procurement

processes applicable to primary care since the creation of EOPYY have not yet been evaluated in a similar manner.

- The introduction of measures with increasing reliance on negotiations between payers (insurers and hospitals) and manufacturers or suppliers requires adequate negotiating capacities if they are to be effective. In collaboration with WHO, the Ministry of Health has initiated a capacity-building effort to that end.

- Within the health status of the population it can be noted that life expectancy at birth continued to increase during the crisis years but time spent in good health largely decreased. Infant mortality rates had been declining for decades and were constantly below the EU-28 average but started to increase after 2014. Preventable, all-cause and cause-specific mortality all show changes in the crisis period, although to different extents and directions. In this context it is necessary not only to develop and implement Health in All Policies, surveillance and monitoring systems and disease registries but also to reach beyond the health system and strengthen research in order to better clarify the causal mechanisms connecting socioeconomic factors with the mortality and morbidity of specific diseases.

Box 1 summarizes suggestions for further action and future consideration. As mentioned in the introduction, the short intervening period between the introduction of most measures discussed and the report and its publication necessitate the qualitative nature of the analysis behind the current overview. More in-depth evaluations incorporating quantitative components are required to fully understand gains and challenges and should be carried out consistently further down the line (see also recommendations in Box 1). Looking ahead, there is a need for a more coherent, integrated and better-designed health reform plan that accounts more fully for population health needs and adopts a more sophisticated and strategic approach, particularly regarding resource allocation.

Box 1. Suggestions for future action

Financing, access to care and financial protection

- Increase public spending on health care to at least 6% of GDP by improving collection and pooling.
- Further address excessive reliance on OOP payments, especially informal payments.
- Reconsider structure of co-payments, especially for pharmaceuticals.
- Revisit process for determining benefit basket to increase transparency and appropriateness (e.g. dental coverage).
- Aim for well-designed coherent financing system in order to ensure sustainability of available funds and avoid unintended consequences (e.g. new types of informal payments).

Health-care provision

- Commit to full development of a strengthened primary care network.
- Focus on mechanisms necessary to enable coordinated delivery of care in different settings (e.g. electronic medical record and clinical guidelines).
- Reconsider payment mechanisms in primary care units by, inter alia, rethinking salary levels and employment contracts for TOMY staff and EOPYY-contracted practitioners to prevent differentiated incentives.
- Transform public health services to focus on reducing incidence and prevalence of NCDs by, inter alia, considering possibility of pay-for-performance mechanisms.
- Strengthen community mental health structures and focus on monitoring, evaluation, research and capacity building.
- Strengthen independent specialized nature of emergency departments.

Quality and safety of care

- Foster integrated care to build local-level capacity that enables faster and more flexible responses to individual patients' needs.
- Develop national quality management infrastructure and a set of agreed indicators to monitor performance and ensure capacity-building for their implementation.
- Ensure needs-based strategic purchasing of advanced diagnostic equipment.
- Continue efforts to rationalize utilization of diagnostic tests and medicines by focusing on prescribing guidelines and/or referral rules (e.g. EOPYY Patient Insurance Record).
- Monitor implementation of recent HTA provisions and continue work to develop independent HTA programme with a broader scope.

HRH

- Finalize and implement evidence-based HRH strategic plan, including:
  - changes in education
  - management and reward packages
  - personnel planning
  - individual and institutional capacities.

Box 1 (continued)

- Implement and monitor effects of working hours legislation in light of staffing shortages.
- Monitor and enhance staffing levels and capacities in important health-system structures such as Ministry of Health and EOPYY.

Role of patients

- Develop patient survey tools at different levels of care and establish clear feedback mechanisms to shape policy.
- Continuously support and strengthen established offices for the protection of health services recipients' rights.
- Further empower citizens and strengthen their participation in health policy-making and priority-setting (e.g. participation in Evaluation Committee).

Governance

- Focus on capacity building to meet demands of measures with increasing reliance on negotiations between payers (insurers and hospitals) and manufacturers or suppliers.
- Actively monitor and evaluate effects of restructured procurement systems.
- Strengthen e-governance in health-care sector alongside redoubled efforts to build a well-functioning unified health information system.

Health status of the population

- Develop and implement Health in All Policies, develop surveillance and monitoring systems and disease registries.
- Strengthen research in order to better clarify the causal mechanisms connecting socioeconomic factors with mortality and morbidity of specific diseases.

General

- Safeguard sustainability of reform gains, particularly regarding universal health coverage, and build on them following Greece's exit from the EAP mechanism.
- Remain vigilant to correct unintended consequences of reform efforts.
- Intensify efforts for in-depth quantitative evaluation of health system performance.
- Focus on a more coherent, integrated and better-designed health reform plan that accounts more fully for population health needs and adopts a more sophisticated and strategic approach, particularly regarding resource allocation.
- Consider potential of a new operating programme on health care, or at least a key objective or priority in future programming periods of EU funding.

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