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Health policy making under information constraints: An evaluation of the policy responses to the economic crisis in Greece

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ABSTRACT

Introduction: Cost consolidation in the highly fragmented and inefficient Greek health care system was necessary. However, policies introduced were partly formed in a context of insufficient information. Expenditure data from a consumption point of view were lacking and the depth of the political and structural problems was of unknown magnitude to the supervisory authorities.
Methods: Drawing upon relevant literature and evidence from the newly implemented OECD System of Health Accounts, the paper evaluates the health policy responses to the economic crisis in Greece. The discussion and recommendations are also of interest to other countries where data sources are not reliable or decisions are based on preliminary data and projections.
Results: Between 2009 and 2012, across-the-board cuts have resulted in a decline in public health expenditure for inpatient care by 8.6%, for pharmaceuticals by 42.3% and for outpatient care by 34.6%. Further cuts are expected from the ongoing reforms but more structural changes are needed.
Conclusion: Cost-containment was not well targeted and expenditure cuts were not always addressed to the real reasons of the pre-crisis cost explosion. Policy responses were restricted to quick and easy fiscal adjustment, ignoring the need for substantial structural reforms or individuals' right to access health care irrespective of their financial capacity. Developing appropriate information infrastructure, restructuring and consolidating the hospital sector and moving toward a tax-based national health insurance could offer valuable benefits to the system.

1. Introduction

The Memorandum of Understanding (MoU) between the "Troika" of the European Commission (EC), European Central Bank (ECB) and International Monetary Fund (IMF) and the Greek Government required severe cuts in public expenditure, painful across-the-board salary cuts to boost competitiveness and serious tax hikes to collect revenue [1]. In a Eurozone country like Greece, where devaluation was not an option and reliance on the ECB to buy government bonds not legislated, raising taxes and cutting public expenditure were the only possible fiscal policy tools, despite warnings that austerity measures can only deepen economic slump [2,3]. A "fair" fiscal adjustment,

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however, could provide the double dividend of enhancing the probability of success of the economic adjustment and promoting social cohesion [4].

During 2005–2009, health expenditure increase alone was responsible for 21% of the cumulative fiscal deficit in the Greek economy [5,6]. A sector consuming one-tenth of GDP and causing one-fifth of the national deficit is an obvious candidate for reform, especially when it is a negative outlier in most health system performance indicators [7]. Considering also that the financial crisis was evolving into a full-blown economic crisis, and potentially a health crisis, health reforms were required to allow the system to weather economic pressures with productivity gains and satisfy need-based demand.

It appears, however, that the negotiations were conducted among actors with different perceptions of the situation they were trying to resolve. On one hand, it was a problem of data availability, as there was no information about the financial flows into the system or about the financial and economic performance of public health care units. On the other, there was lack of knowledge, from the Troika's perspective, of the implicit rules under which the Greek health system operated for decades and the depth of political and structural problems inherited. Thus, there is a question of how targeted and effective were the policy responses to the economic crisis under these information constraints. Data from the recently implemented OECD System of Health Accounts (SHA) [6,8,9] allows an assessment of the "prescription" mandated by the Troika.

2. Health expenditure revealed

When the negotiations for the Economic Adjustment Program (EAP) started in 2010, the Troika was under the impression that Greece was among the very big spenders as EUROSTAT and OECD reported figures well in excess of 10% of GDP as far back as 2005 [10]. Health expenditure data were not issued by the Greek Statistical Service in 2009 and were replaced by OECD estimates for 2010 based on previous data of dubious quality.[1] At the same time, analysis of health expenditure by activity, lacking a SHA, was not available and meaningful analysis was therefore impossible.

As shown in Fig. 1, Total Current Health Expenditure (TCHE) in Greece before 2005 was slightly over the Eurozone average.[2] There was also significant reliance on out-of-pocket payments[3] as General Government Current Health Expenditure, including Social Security, (GGCHE) was more than one percentage point lower that the Eurozone average. Between 2005 and 2009, when GDP rose by 19.7% (from €193bn to €231.1bn), TCHE increased by 41.5% (from €16.4bn to €23.2bn) and GGCHE by 66% (from €9.7bn to €16.1bn), a performance unparalleled by any other sector with significant public activity. Figures on TCHE and GGCHE by function of care—inpatient, pharmaceutical, outpatient and other services—that are used throughout the paper are shown in Table 1.

Out of the total €38.1bn added to the public debt from 2005 to 2009, which was the all-time peak year for both health expenditure (10% of GDP) and fiscal deficit (15.6% of GDP), €6.4bn (or 16.8%) was an increase in public expenditure for health. This increase was different from the one observed in most Eurozone countries during 2008–2009 as a countercyclical response to the financial crisis of 2008. In 2012, the GDP of Greece was almost back to 2005 levels. Likewise, during 2009–2012 TCHE and GGCHE decreased by 24.1% and 25.5% respectively. Horizontal cuts imposed by the MoU resulted in a decrease of total inpatient expenditure by 3.5%, pharmaceutical by 30.8% and outpatient expenditure by 42.4% (Table 1). In Greece, unlike most of the Eurozone countries where the level of health expenditure was maintained, health care became part of the fiscal adjustment.

3. The true factors behind the increase of public health expenditure

The factors behind the significant increase (66%) of public health expenditure during the "bubble" years of 2005–2009 are aligned to the way health policy evolved until then and the reasons that brought Greece to the edge of financial collapse. A careful consideration of all health reform attempts over the last 30 years reveals that key policies in all reforms were not implemented[4] and important priority areas were largely ignored.[5] In addition, many of the policies introduced were followed by significant unintended consequences for the benefit of the private sector [12] or led to a significant fragmentation of the system [13].

Imitating clientelistic practices of the wider political economy [14], the health system evolved in a context of patronage and favoritism [12,15–17]. In the absence of policy planning and learning from past failures, benefits forgone in resource allocation decisions have constantly been valued on the basis of political and private interest. Between 2005 and 2009, the conservative party tried to reform the administrative framework of the system (Laws 3329/05 and 3370/05), the pharmaceutical market (Law 3457/06), the hospital procurement model (Law 3580/07) and the employment terms of hospital doctors in the public sector (Law 3754/09). In a country, however, where political success is only "measured" in terms of the ability to maintain and support *status quo*, the economic consequences of these policies, as evidenced in the following section, were disastrous. The funds wasted during these years could have funded necessary interventions that were subsequently axed due to the economic crisis. The depth to which cronyism permeated all echelons of the system and

[1] OECD data for the years 2009–2011 have now been updated based on the SHA. For 2012 preliminary data are available.

[2] Average values were based on the following Eurozone countries: Austria, Belgium, Estonia, Finland, France, Germany, Ireland, Italy, Luxemburg, Netherlands, Portugal, Slovakia, Slovenia, and Spain.

[3] Consisting 94.3% of private payments.

[4] Such policies include the unification of sickness funds, development of primary care, changes in hospital financing methods, administrative decentralization and reforms in physicians' employment status.

[5] Priority areas were the development of an SHA, stimulation of the off-patent competition, rationalization of the number and composition of physicians, development of monitoring mechanisms of the quality and efficiency as well as a health technology assessment.

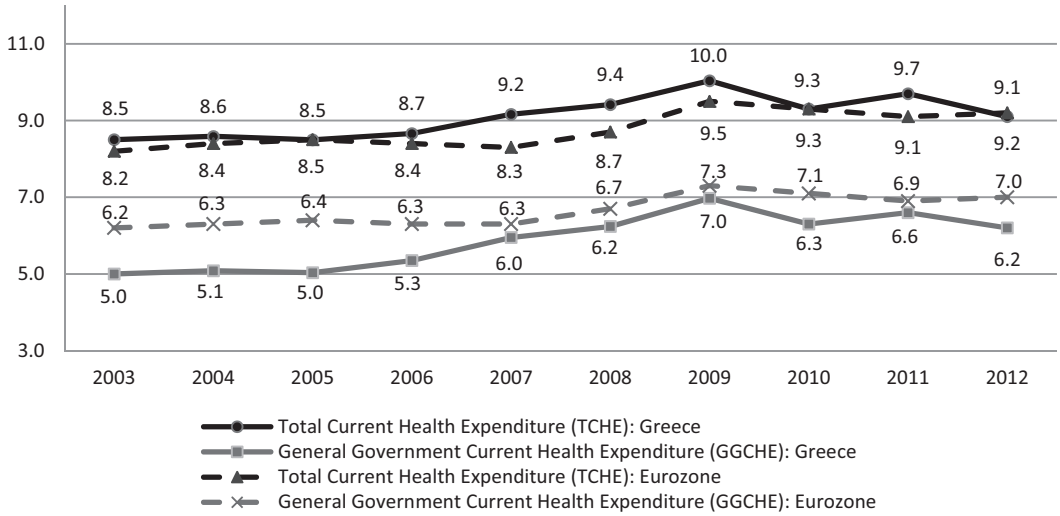

Fig. 1. Total Current Health Expenditure (TCHE) and General Government Current Health Expenditure (GGCHE) in Greece and the Eurozone, 2003–2012 (% GDP).
Sources: OECD Health Data, 2013 [11]; Center for Health Services Management and Evaluation, University of Athens, 2014 [6,8]; ELSTAT, 2014 [9].

society as well as the depth of the political and structural problems inherited by decades of neglect in health policy planning were unknown to the Troika.

4. Evaluating the health policy responses to the economic crisis

The System of Health Accounts, proposed by the OECD, was first applied in 2003. Greece was the last among 35 countries to adopt it in 2012. The SHA allows for a "*systematic description of the financial flows related to the consumption of health care goods and services*" [18]. In the absence of a developed SHA in Greece, limited or no official data were available on the decomposition of health expenditure by type of health care services, by financing agent and by provider. Using new evidence from the SHA, this section evaluates the policy measures introduced after the first Economic Adjustment Program (EAP) in the main functions of health care—inpatient, outpatient and pharmaceutical.

4.1. Inpatient expenditure (hospital and inpatient pharmaceutical)

During the negotiations for the first EAP, apart from the absence of a SHA, there were also no systematically collected economic and financial data for public health care units that could inform decision making. It was not until February 2011 that such a system would become available as a prerequisite of the MoU. There was, however, scattered evidence in academic literature and the national press highlighting the level of waste in inpatient expenditure. Indicative is a study published in 2010 reporting that 30–40% of non-salary cost in public hospitals was waste due to the fragmented and outdated procurement system. This was responsible for a 47% increase of inpatient pharmaceutical expenditure during 2005–2008 and 300–500% higher prices for medical supplies compared to Northern Europe [19]. Considering that there were no financial or other efficiency incentives for hospitals and physicians,

Table 1
Public and Private Health Expenditure by Function of Care (2003–2012), in billion € and as % of Total Current Health Expenditure (TCHE).

Year	Inpatient curative				Pharmaceutical and other medical non-durables				Out-patient curative care and ancillary services				Other services			
	Public		Private		Public		Private		Public		Private		Public		Private	
	Billion €	%	Billion €	%	Billion €	%	Billion €	%	Billion €	%	Billion €	%	Billion €	%	Billion €	%
2003	4.3	29.2	1.1	7.1	2.2	14.9	1.0	6.8	1.5	10.2	3.8	25.8	0.7	4.7	0.2	1.4
2004	4.5	28.3	1.2	7.5	2.5	15.7	1.1	6.9	1.6	10.1	4.0	25.2	0.8	5.0	0.2	1.3
2005	4.3	26.2	1.2	7.3	3.0	18.3	1.1	6.7	1.6	9.8	4.1	25.0	0.8	4.9	0.3	1.8
2006	4.8	26.7	1.3	7.2	3.6	20.0	1.2	6.7	1.8	10.0	4.2	23.3	0.9	5.0	0.2	1.1
2007	5.9	28.8	1.4	6.8	4.2	20.5	1.3	6.3	2.0	9.8	4.3	21.0	1.1	5.4	0.3	1.5
2008	6.5	29.7	1.4	6.4	4.6	21.0	1.4	6.4	2.3	10.5	4.3	19.6	1.1	5.0	0.3	1.4
2009	7.0	30.2	1.5	6.5	5.2	22.4	1.3	5.6	2.6	11.2	4.0	17.2	1.3	5.6	0.3	1.3
2010	6.0	28.8	1.6	7.7	4.6	22.1	1.4	6.7	2.3	11.1	3.4	16.3	1.2	5.8	0.3	1.4
2011	6.3	31.5	1.7	8.5	4.0	20.0	1.4	7.0	2.2	11.0	3.0	15.0	1.2	6.0	0.2	1.0
2012	6.4	36.4	1.8	10.2	3.0	17.0	1.5	8.5	1.7	9.7	2.1	11.9	0.9	5.1	0.2	1.1

Sources: Center for Health Services Management and Evaluation, University of Athens, 2014 [6,8]; ELSTAT, 2014 [9].

soaring hospital budget deficits were reimbursed by the government. In a review of the Greek health care system published in 2010, the author reports that in 2007 hospital debts were €2.8bn despite policy attempts to curb them [20].

Due to the excessive level of waste in inpatient expenditure, cost consolidation in public hospitals could result in significant savings without harming the quality of care provided and patients' access to health care services. According to the SHA data, public expenditure for inpatient services, which accounts for almost half of public health expenditure, rose by 62.8% during 2005–2009, increasing from €4.3bn to €7bn. The salary bill for public hospitals, which had increased by 17% between 2003 and 2008, had a further 15% increase peaking at €3.1bn in 2010. A possible explanation of this significant increase in the wage bill is the promotion in 2008 of all associate directors to the grade of director with considerable salary and related overtime payment rises.[6]

The policy responses according to the EAP included rationalization of hospital procurement of health technologies through central tendering, a gradual move toward a DRG-based reimbursement method for hospitals and across-the-board salary cuts. Early evidence in the procurement of pharmaceuticals and medical supplies indicates significant cost savings [21]. However, the effective implementation of the DRG system is still an ongoing process [22] and centralized electronic procurement and utilization control are only now approaching full implementation [16].

The search for immediate efficiency gains in the form of expenditure cuts was limited to the "easy" solution of across-the-board cuts in medicines and supplies. These resulted in 8.6% reduction of inpatient curative expenditure, from €7bn in 2009 to €6.4bn in 2012 and a 39.2% decrease of hospital pharmaceutical expenditure from €1.25bn to €0.76bn. However, shortages in medicines [23] and disruptions in the provision of health care, in surgeries for example [24], have also been reported. Similarly, horizontal salary cuts in health professionals were imposed without considering the composition of managerial and health professionals and their remuneration with devastating effects for nursing personnel [25].[7] Instead, important policies, such as reorganization and merging of hospitals or changes in management practices, have been overlooked due to the political cost.

4.2. Outpatient expenditure

Another function of care for which reliable economic or utilization data were unavailable during the negotiations with the Troika was outpatient care. The academic literature, however, had repeatedly reported significant fragmentation in primary health care,[8] its great dependence on the private sector, often leading to supplier-induced demand, and its disconnect from secondary and tertiary care, which poses a significant burden to hospitals [20]. Furthermore, financing of certain ambulatory services, like dental care, relied almost solely on out-of-pocket payments.

After 2010, in a context where public outpatient expenditure was of unknown magnitude but certainly low and, unable to yield significant cost-savings, the Greek government, at the instigation of the Troika, saw ambulatory care as a means to raise revenue through cost-sharing arrangements. Fees to outpatient departments of public hospitals increased from €3 to €5 and were planned to rise further to €25. The law was withdrawn immediately after implementation due to widespread opposition, in the face of the burden salary cuts and tax hikes had already imposed on household budgets and the ailing social protection network. In addition, the introduction of afternoon outpatient clinics to public hospitals came at a cost ranging from €30 to €90 depending on physician's grade, soon to be reduced to €25–€72. The most substantial policy reform, which had constantly been failing over the last 30 years, was the unification of the biggest Social Insurance funds.

According to the Greek SHA, the increase in health expenditure during 2003–2009 was also reflected in outpatient expenditure. This increase, however, was problematic, as households were contributing throughout this period 65–75% of the total €5.3–€6.5bn spent on outpatient care. From 2009 and onwards, the already negligible contribution of Social Insurance and Government to primary care expenditure was further affected by horizontal cuts imposed by the MoU, totaling a 34.6% decline. However, a more careful interpretation of this trend is needed. Between 2009 and 2012, outpatient expenditure decreased by €2.8bn, 67.9% of which was a decrease in out-of-pocket payments. That possibly implies that individuals delay or forgo the use of primary care services because of its increasing cost and the impact of the economic crisis to household budgets. This is supported by evidence from the 2011 Ministry of Health Report [26] reporting a 10.8% decrease in the number of visits to outpatient hospital departments, a change not compensated by an increase in the demand for private sector services.

Outpatient and preventive care could play an important role during the economic crisis protecting the population from the negative health effects of unemployment and economic distress and insuring that immediate health needs would not be forgone due to financial difficulties. Instead of ensuring and facilitating access to primary care, the government used it to raise revenues. Policies that should have been in the center of policy agenda since 2010 are only now being introduced. Free access to primary care for the uninsured that meet certain income criteria was implemented in September of 2013 and the reform of primary health care to standards resembling those of the British NHS passed Parliament in February of 2014. It was only in June 2014,

[6] The then Minister gave an "electoral" bonus to the close-to-retirement upper tier of hospital doctors, at a huge cost and also disrupting the line of command in all clinical departments.

[7] In 2009, Greece had the lowest number of nurses per thousand population in Eurozone (3.3 with OECD average at 8.4) and their remuneration was again among the lowest. In 2014, a strong tendency to emigrate is already noted.

[8] Which at the time was delivered through four different structures: NHS, social insurance funds, private sector and local authorities.

that full coverage to the uninsured was extended to hospital and pharmaceutical care.

4.3. Pharmaceutical expenditure (outpatient)

Unlike inpatient and outpatient expenditure, for which no official data were available before the first EAP, figures for pharmaceutical expenditure were reported by the OECD. Therefore, the level of public pharmaceutical expenditure and its driving factors were already known. According to the OECD [7], in 2009, Greece was first in the Eurozone in per capita pharmaceutical expenditure (€677)[9] and its annual average growth rate since 2000 (11.1%). Public pharmaceutical expenditure, as a percentage of GDP, and consumption of antibiotics were also the largest. In addition, high prices for generics, set at 90% of originators' price, lack of policies to encourage generic prescribing and dispensing as well as physicians' brand loyalty, created limited incentives for generic penetration into the market.

Despite the absence of accurate data, evidence pointed toward the potential for fiscal consolidation through increasing generic and off-patent market competition and appropriate financial and non-financial incentives to physicians and pharmacists. A 20% reduction to the prices of pharmaceuticals, prior to the first EAP, and further price cuts to generic and off-patent drugs as well as a reduction to the mark-ups for wholesalers and pharmacies post-EAP, were the main cost-containing policies introduced by the Greek government. A recent paper evaluating the pharmaceutical reforms during the economic crisis [27], acknowledged that policies that could yield immediate economic benefit, like tendering for outpatient pharmaceuticals, were not considered, while internal reference pricing, which aimed to be the main governmental policy, was later dropped. Similarly, policies that could encourage prescription and consumption of generics, like prescribing by international nonproprietary names and generic substitution, were not implemented until 2012 and in a way that did not guarantee their effectiveness.[10]

As the data from the SHA comes in, it is evident that during 2005–2009 public pharmaceutical expenditure increased by 73.3%, from €3bn to €5.2bn. The importance of the very fast increase and the level of public health expenditure, however, had been underestimated by the Troika experts involved in the negotiations. According to a major EU study [28], TCHE for the year 2010 was approximated at 10.5% of GDP,[11] of which 17.1% (€4bn) was public pharmaceutical expenditure. With the SHA figures, however, it is evident that public pharmaceutical expenditure was, for the same year, €600m more than estimated, as Greece was spending 9.4% of GDP on TCHE, 22.5% of which was public pharmaceutical expenditure. Between 2010 and 2012, public pharmaceutical expenditure decreased by 34.8% (from €4.6bn to €3bn) indicating that the lack of dependable health expenditure statistics would have made both sides involved in the debate much more careful in identifying the sources of waste and more decisive in introducing policies to control it.

5. Discussion

In the five years from the onset of the crisis, the Greek health sector has shed a substantial part of unnecessary expenditure. Cuts in pharmaceutical prices, hospital costs and bogus payments for unneeded care have cut more than 24% of total health expenditure. However, evidence suggests that this reduction was not targeted and that expenditure cuts were not all addressed to the real reasons of the pre-crisis cost explosion. Policy responses were only focused on quick and easy fiscal adjustment, ignoring the need for structural reforms or individuals' right to access health care irrespective of their ability to pay.

Designing targeted, comprehensive, and effective health policies certainly depends on data availability, which in the case of Greece was limited. Health policy responses during the economic crisis should be judged bearing this in mind, but given the evidence presented, more efficient and equitable structural reforms could have been initiated. This can be a lesson for future policy interventions, especially in countries where data sources are not always reliable, or where decisions are based on preliminary data or projections. It is true that certain measures, such as e-prescribing and e-monitoring, have been successful in cutting excess and even fraudulent prescribing. Further progress is expected from the policies now being implemented. However, there are other policies that are also of higher importance.

The main direction in which health policy should be moving toward is the revamping of financing away from employment contributions-based social insurance, to tax-based National Health Insurance. Unemployment currently at 27% is not expected to drop significantly for many years, making employer–employee contributions an inadequate base for health insurance. Another major area is hospital restructuring and consolidation. A study outlining the main areas of this restructuring was presented by the Health Minister in May 2011,[12] but it is only now being tried and only in the Athens area. One of the main proposals in the study was the creation of Emergency and Accident Units operating on a 24/7 basis in main hospitals. Emergency care is perhaps the main "dark hole" in the Greek health system, resulting even in deaths when necessary care is not available at the critical time and place.[13]

In addition, the "convenient" lack of economic and financial data in health care seems to have come to an end. Greece, however, should insist on further reform as information about clinical quality is still lacking. Clinical process

[9] This figure was available prior the implementation of the SHA in Greece.

[10] Physicians were allowed to suggest a particular branded drug in their prescription and there were no financial incentives to pharmacists for generic substitution.

[11] The fifth highest figure among the 27 EU countries included in the analysis.

[12] http://platon.cc.uoa.gr/ reconweb/new2/.

[13] A study is currently being carried out, financed by the pharmaceutical industry.

and outcomes measurement could offer substantial benefits to the health care system. Patients could make informed decisions about their treatment pathway, which also provides an indirect way of driving quality in health care [29] and clinical practitioners could also be informed about their performance [30]. Such information would also offer better value for money as, on one hand, it would enable the assessment of hospitals' and providers' performance and on the other to design advanced payment methods, like pay-for-performance, or implement financial and non-financial incentives [31]. A first step in that direction could be the implementation of a central database providing record linkage of patients admitted to inpatient and outpatient services. Such a policy would allow the study of the complex relationship between patient outcomes and health care utilization.

There is still a long way to go to transform the Greek health system into an efficient, equitable and sustainable system. This transformation, however, needs to be directed by transparent and evidence-based decisions. Creating the appropriate information-related infrastructure, such as HTA, Socio-Economic Evaluation, Quality Measurement and Patient Satisfaction as well as Empowerment Guidelines will assist consumers, clinicians and policymakers in a wide range of decisions. Perhaps, the tragedy of the economic crisis will prove to have at least one "silver lining" allowing for a better health system in the future.

Conflicts of interest

The Greek SHA was developed by the Centre of Health Systems Management and Evaluation (CHESME) of the University of Athens in collaboration with the Hellenic Statistical Authority and the Ministry of Health. These three bodies had signed a MoU for the implementation of the SHA and CHESME gained financing aid through EU funds. No funding source had a role in the preparation of this paper or in the decision to submit it for publication. The authors declare that they have no competing interests.

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