# The Impact of Economic Crisis on Health of Greek Population and National Health System

Chrysi Papadeli<sup>1\*</sup>, Adamantia Filippou<sup>2</sup>, Agisilaos Krachtis<sup>3</sup>, Dimitrios Korsavvidis<sup>4</sup>, Ioannis Papadelis<sup>5</sup>

<sup>1</sup>School of Dentistry, Faculty of Health Sciences, Aristotle University of Thessaloniki.

Thessaloniki, Greece

<sup>2</sup> General Dentist, Aristotle University of Thessaloniki. Thessaloniki, Greece

<sup>3</sup>General Doctor, Faculty of Health Sciences, School of Medicine, Aristotle University of Thessaloniki Thessaloniki, Greece

<sup>4</sup> Student, Department of History and Archaeology, Aristotle University of Thessaloniki Thessaloniki, Greece

> <sup>5</sup> Ph.D., School of Education West Macedonia Greece

\*Corresponding author's email: chrysapapadeli [AT] gmail.com

#### ABSTRACT----

PURPOSE: In this paper, we investigate the impact of the economic crisis on Greece's National Health System and population health. Also included is a critical assessment of the health policies implemented, as compared with other countries, and positive proposals.

METHODS: We used data from international, European, and Greek databases to conduct a literature review and to compile statistics.

RESULTS: Greece spent less on health in 2012 than it did in 2007, as money from the health sector was used for another spending. During the period 2010-2015, both the Physical Health Index and the Mental Health Index showed a significant decline.

Policy planning for health financing has become increasingly important since the crisis. In some countries, targeted policies are being implemented to protect the poor and avoid adverse employment effects.

CONCLUSIONS: A time of financial crisis tends to require more, not less, resources for health systems to meet the greater need for health care and increase reliance on publicly funded services.

During the financial crisis, fiscal and health policies differed between countries, reflecting policy decisions.

In achieving fiscal balance, it is important not to sacrifice financial protection, access, efficiency, quality, health outcomes, or equality.

Keywords--- Economic crisis, Health crisis, Greece, Health system

# 1. INTRODUCTION

Every economic crisis reduces the Gross National Product (GNP), causes a loss of family and personal income for workers, increases unemployment and precarious work, worsens housing and working conditions, reduces social benefits and insurance coverage, and hampers the functioning of health services and citizens' access to them[1].

# 2. PURPOSE

The aim of the study was to investigate we investigate the impact of the economic crisis on Greece's National Health System and population health. Also included is a critical assessment of the health policies implemented, as compared with other countries, and positive proposals.

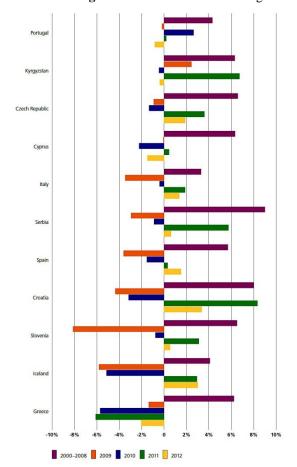
## 3. METHODS

We used data and articles from 2007-2018 from international, European, and Greek databases to conduct a literature review and to compile statistics.

# 4. ECONOMIC CRISIS AND AUSTERITY

Since 2007, the share of people in the second poorest tertile at risk of poverty or social exclusion has increased on average across the EU and has risen sharply in Greece, Ireland, Italy, Lithuania, Malta, Spain, Ireland, Italy, Lithuania, Malta, and the United Kingdom. Income inequality has risen faster since the crisis than in the previous decade[2].

Since 2007 Greece has been in a protracted economic crisis with negative GDP growth and rising public debt. In Greece, the six-year recession (2007-2013) resulted in a -26.3% or €66 billion drop in national income, the dislocation of the country's productive base, and a quarter of the economy shrinking.



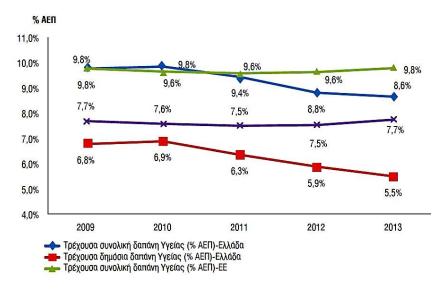
**Figure 1**. Countries with declining GDP (2008-2012)

Source: Thomson et al. (2014) based on WHO (2014).

Note: Countries ranked from low to high by largest overall decline in GDP between 2008 and 2012.

In May 2010, to address its debt consolidation problem, it received loans from the EU, the European Central Bank, and the IMF and was placed under fiscal surveillance. To obtain the loan, the lenders required a fiscal adjustment from the lenders which included, inter alia, significant reductions in public expenditure[3].

Figure 2: Current Total Health Expenditure and Current Public Health Expenditure as % of GDP, Greece, EU (2009-2013)



Πηγή: Σύστημα Λογαριασμών Υγείας (ΣΛΥ) 2013, ΕΛ.ΣΤΑΤ., 2015, OECD, Health Data, 2015, επεξεργασία στοιχείων ΙΟΒΕ

\*Ευρωπαϊκή Ένωση-23: (μη διαθέσιμα στοιχεία για Βουλγαρία, Κροατία, Κύπρος, Ρουμανία και Μάλτα)

The two main challenges facing European health systems were to be sustainable and affordable. One of the consequences of fiscal adjustment has been an increase in private participation in the financing of health systems. The public share of total health expenditure fell in 24 countries between 2007 and 2012, both in absolute terms and as a share of government spending. Many countries reported automatic reductions in revenues from compulsory health insurance as a result of unemployment and falling wages (reduction of the health ministry budget, reduction or freezing of public budget transfers to insurance schemes)[4].

A health system can be fiscally balanced but inadequate. Health coverage has three dimensions. The share of the population eligible for publicly funded health services, the range of services covered, and the extent to which people have to pay for these services at the point of use.

Severe and prolonged cuts are particularly dangerous. Economic crises are a threat to both health and the health system's performance. They increase people's need for health care but make it harder for them to access the care they need. Increased need and demand for public services clash with austerity and privatization policies.

Outsourcing of health services to individuals usually increases the role of out-of-pocket payments in the health system (direct payments for non-covered services and user fees for covered services). Cost shifting may delay care, increase financial hardship with catastrophic costs, exacerbate health inequities, reduce fairness in the financing, and make the health care system less transparent

Coverage restrictions may provide a degree of short-term fiscal relief, but could increase the long-term costs of health systems. In times of economic crisis, public deficits and unemployment limit social security resources and reduce the funding of health facilities, both public and private, making it more difficult to access and use basic benefits such as medicines, vaccinations, nursing care, etc., which increases morbidity and mortality rates[5]

The IMF often shifts part of its development assistance for health to debt repayment6.

In Greece, public spending on health was lower in 2012 than in 2007 as they received money from the health sector to finance spending in other sectors. IMF policies have resulted in the migration of health professionals, reduced epidemiological vigilance and prevention measures, changes in urbanization and migration patterns weakened social protection networks and large social inequalities[7.]

The crisis has demonstrated the importance of health financing policy design. Health financing policy can exacerbate or mitigate the threat posed by an economic shock and is critical for building health system resilience. Some countries adopted targeted policies to protect poorer people or to avoid adverse employment effects.

# Strategies that may yield savings and efficiency gains in the crisis period include:

- Strengthening policies on drug supply, pricing, and generic substitution.
- Reducing inflated wages and service prices.
- Strengthening the implementation of hospital restructuring.
- Merger of health insurance funds and cost-effective primary care.
- Improve information systems to promote efficiency.
- Address fragmented mergers and acquisitions.

Health systems, in general, require more, not fewer resources in a period of economic crisis to cope with a greater need for health care and greater reliance on publicly funded services.

Social policies can reduce periods of unemployment, provide safety nets for people out of work and mitigate the negative effects of job losses on health.

Strengthening health financing policy design and creating fiscal space for health without reducing efficiency can include measures such as:

- better enforcement of tax and contribution collection
- raising or abolishing ceilings on social security contributions
- broadening the contribution base to include non-wage sources of income
- the introduction or extension of public health taxes
- targeting the wealthiest households for cuts in tax subsidies or increases in contribution rates

It is important to achieve fiscal balance but not at the expense of economic protection, access, efficiency, quality, quality, health outcomes, and equity.

The EU and IMF economic adjustment programs put strong pressure for rapid savings and at the same time required countries to create electronic health registers, develop clinical guidelines, introduce DRGs and move care from hospitals to primary care, usually within two years. Some reforms such as reducing health budgets, reducing the public share of total health spending, across-the-board cuts in staff and public health institutions, increasing health insurance contribution rates, increasing user fees, failed to address inefficiencies, creating gaps in public health, led to unintended consequences and added to the cost of the health system. According to the Memorandum, by 2012 public health expenditure in Greece should be equal to or less than 6% of GDP, while public expenditure on medicines should be almost halved to 1% of GDP.

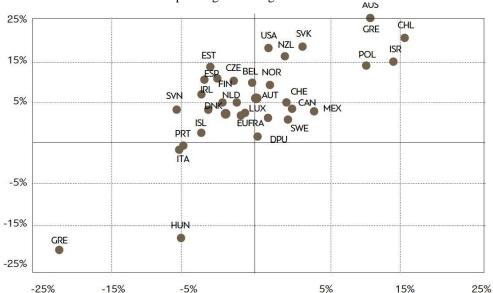


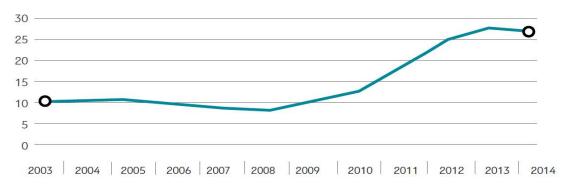
Figure 3. Variation in GDP and social spending according to the OECD from 2007/08 to 2012/13

Πηγή: ΟΟΣΑ, 2014

In Greece's health sector, public spending in 2015 is now below the targets set under the loan agreements, while the biggest problem of the system is a large number of uninsured, which is approaching 27% of the total population, compared to 5% in 2009. In countries that finance health care from general tax revenues, it may be considered unfair that the uninsured contribute to these revenues through excise taxes - effectively subsidizing the health care costs of the insured - but are still excluded from coverage. Youth and the long-term unemployed were particularly affected. In 2013, overall unemployment levels were the highest in Spain and Greece (almost 25%)[8.]

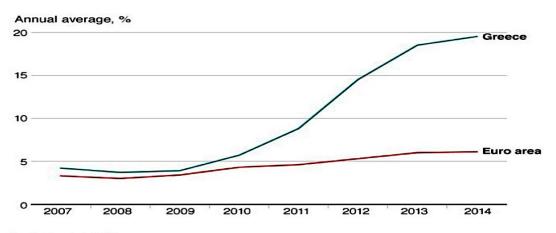
Greeks became 40% poorer between 2008 and 2015, while incomes in 2014 fell below their level in 2003. The risk of poverty for the whole population, pensioners, unemployed, self-employed has increased significantly in Greece since 2009. There has been a decline in the Greek population after 2010, due to a decrease in fertility and an increase in migration[9].

**Figure 4.** The unemployment rate in Greece (2003 - 2014)



Πηγή: Ελληνική Στατιστική Αρχή, 2015

Figure 5. Long-term unemployment

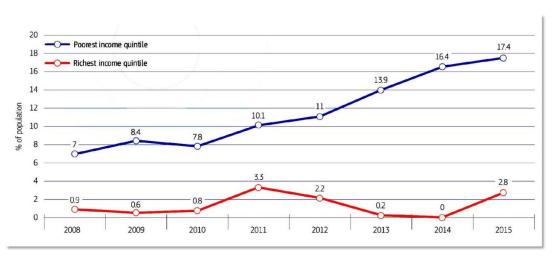


Πηγή: Eurostat, 2015

Demand for public health care increased while health sector revenues declined due to falling or lost incomes and this led to an increase in unmet need for health care, with the emergence of catastrophic out-of-pocket costs and mental health disorders.

An OECD report published in May 2015 found that the gap between high and low incomes is widening. Greece is the worst-performing country in the euro area and the second-worst in the EU, just below the UK[10].

The relationship between health, lifestyle, and social class is dramatically destabilizing in conditions of deep economic crisis where large parts of the middle class are rapidly proletarianizing and parts of the working class are marginalizing, so that 'built structures' are disintegrating



**Figure 6.** There is a growing inequality gap in self-reported unmet health care needs due to cost.

Πηγή: State of Health in the EU / Greece Country Health Profile 2017

Δεδομένα από Καρανικολό και Κεντηκελένη, 2016.

#### 5. RESULTS

#### 5.1 HEALTH AND CRISIS

Several causes of mortality and morbidity related to mental health, substance abuse, and infectious diseases show clear upward trends Kondilis et al. (2013)[12]. The economic recession and its consequences, i.e. unemployment, poverty and social exclusion, homelessness, and insecurity, significantly impact population health and health services in Greece. The Physical Health Index decreases significantly in the period 2013-2015 for both men and women. Regarding the Mental Health Index, there is a significant decrease in the period 2010-2015 for both genders. Also, in 2015 the Mental Health Index is significantly decreased compared to 2008 and 2010[10.]

The Hellas Health V survey was conducted in 2013, showing that the percentage of the Greek population declaring to suffer from a chronic disease is 55.5%, which is much higher than in previous years[13.]

Papadeli et al. 2022 have mentioned in their study that Greece has the biggest rate of unfulfilled needs for medical and dental care, with the situation worsening in single-parent families and rural areas nowadays than the rest of E.U[14]

Unemployment and economic insecurity increase the risk of mental health problems. People experiencing increased economic difficulties were 3 times more likely to have serious psychopathology. Employed people had the lowest incidence of severe psychopathology, while unemployed people were twice as likely to experience it and 2.5 times more likely to have ideas of life unworthiness. The rate of depression increased significantly, rising from 3% in 2010 to 9.4% in 2013, the rate of senile and pre-senile organic psychotic states increased by 77%, emotional psychoses by 34%, co-morbid alcohol dependence by 51%, and drug dependence by 33%.

Greece shows a stable number of suicides until 2008, and only in the years 2008-2011, there is an increase in the suicide rate by 27%, which can be associated with the country's entry into the period of economic crisis[13].

It was found that suicide rates were inversely correlated with the number of mental health specialists, primary health care specialists, and public mental health facilities[15.]

In addition to the increase in tuberculosis cases and deaths from influenza, in crisis Greece, according to the CDC, a reemergence of malaria and cases of West Nile virus were recorded in 2010. HIV infection among intravenous drug users increased by more than 1,000% in 2011, due to the discontinuation of the free syringe distribution programme [10].

# 5.2 HEALTH SYSTEM AND CRISIS

The resources that finance the Greek Health Care System come from the State Budget, the Social Insurance Organisations (OKA), and the private sector, through private insurance companies and private payments.

In the period 2005-2009, huge deficits were accumulated in the budgets of the NHS and the Health Funds.

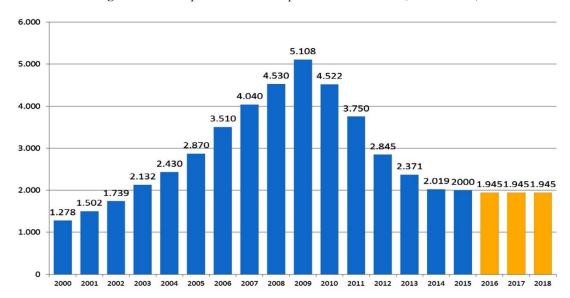
For many years, health expenditure has been growing faster than GDP. Between 2005 and 2009, GDP grew by 19.7%, while total health expenditure (GERD) increased by 45% and public health expenditure (PES) by 73% to reach 9.8% of GDP in 2009[16].

10,5 9,5 8,5 7,5 6,5 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013

Figure 7. Total Health Expenditure in Greece (% of GDP) (2000-2013)

Πηγή: ΟΟΣΑ & Ελληνική Στατιστική Αρχή, 2013

Characteristic of the management of the period in the course of pharmaceutical expenditure, which in the above period shows an increase of more than 80%[17].



**Figure 8.** Public pharmaceutical expenditure 2000-2018 (EUR million)

From 2009 to 2012, while spending in the EU and the eurozone has been increasing, it has been decreasing in Greece. Most of the cuts have been borne by NHS workers, followed by medicines and hospital supplies.

# The main reasons for the restraint in health expenditure are:

- The creation of the EOPYY, gradually pooled the resources of all health insurance organizations.
- The electronic prescription of medicines and referral for paraclinical examinations and interventions in the pharmaceutical market, from price regulation to the introduction of rebates and closed budgets.
- The contraction of economic activity.
- Rising unemployment and declining consumption have resulted in a reduction in resources and consequent health budgets of about 60%.

The largest pre-crisis increase is in hospital expenditure. The share of private expenditure fell during the crisis by about 15% in Greece but is still one of the highest in the OECD. The share of annual household income for health expenditure is five times higher in the lowest income category than in the highest.

Health insurance coverage in 2013 has fallen by 21% during the economic crisis, covering 79% of the population from 100% [18.]

During the economic crisis, there has been a significant decrease in total pharmaceutical expenditure, mainly public expenditure. The reduction in public pharmaceutical expenditure has also been a burden on patients, whose share of the cost of medicines has increased from 12.8% in January 2012 to 29.3% in July 2014, and has stabilized at 25% in 2015, when incomes had fallen by around 30%.

## 6. DISCUSSION

Demographic aging of the population accounts for up to 40% of the increase in service consumption and health expenditure, as the incidence and deaths from cardiovascular and neoplasms remain high, while chronic diseases and metabolic syndromes are constantly increasing. These factors call for reforms in the way care is organized. In a positive direction would be the following measures:

- Focus on health promotion, public health services, and primary care.
- Prevention and screening strategies (primary and secondary prevention).
- Use of new technology and knowledge to enhance day-care, emergency medicine, rehabilitation, and home care.
- Consolidating expenditure by integrating private expenditure and overpayments into the reimbursement system in the form of co-insurance, with the level of co-insurance being determined inversely according to need, relieving vulnerable groups such as the elderly, the chronically ill, and the unemployed from the burden of private payments.
- Establish an annual global budget for both total expenditures on primary health care and individual global budgets for the expenditure of family doctors, pediatricians, doctors of other specialties, and pharmaceutical care.
- Strengthening methods for the efficient use of resources and the application of appropriate technology for a single package of benefits for all insured persons, will ensure that adequate and appropriate services are provided to meet the need for health services, thereby eliminating inequalities between insurance funds.

#### 7. CONCLUSION

The Alma-Ata Declaration (WHO, 1978), which three decades ago proposed the development of the health sector based on primary health care, the promotion of health and the strengthening of public health policies, the promotion of policies to eliminate inequalities, with a commitment to the criteria of equity, social justice and 'health for all, emphasizing the social determinants of health, by mobilizing the community and intersectoral action and the development of social capital, is still relevant.

#### 8. REFERENCES

- 1. Stuckler N, Sanjay M. Politics of life and death. How the crisis affects human health [M. Myron, ed.] Athens: Psychogios Publications; 2014.
- 2. Rawdanowic L, Wurzel E, and Christensen A. The Equity Implications of Fiscal Consolidations. OECD Economics Department Working Papers, No 1013. Paris, OECD? 2013.
- 3. Kyriopoulos G, Athanassakis K, Pavi E. Economic crisis and health. A political economy essay on the reconstruction of the health sector. A: Kastaniotis Publications; 2012.
- 4. Thomson S, Figueras J, Evetovits T, et al. Economic crisis, health systems, and health in Europe: impact and implications for policy. World Health Organization, Europe; 2015.
- 5. Appleby J. The credit crisis and health care. BMJ. 2008;. 337:1022-1024
- 6. Ooms G, Schrecker T. Expenditure ceilings, multilateral financial institutions, and the health of poor populations. 21-27; 365 (9473):1821-3.
- 7. Navarro V. The world situation and WHO. Lancet. 2004; 363:1321-1323.
- 8. Hellenic Statistical Authority. Living conditions in Greece. Athens: Hellenic Republic, Hellenic Statistical Authority; 2015.
- 9. Hellenic Statistical Authority. Greece: Life and Health Expectancy 2012. Life expectancy and life expectancy at birth and death. 2015.
- 10. Health of Greeks in Crisis. A mapping of the health situation of Greeks and the country's health structures. Institute of Social and Preventive Medicine, March; 2016.
- 11. Marmot M, Wilkinson G, et al. Social determinants of health Oxford University Press, Oxford? 1999.
- 12. Kondilis E, Giannakopoulos S, Gavana M, Ierodiakonou I, Waitzkin H, Benos A. Crisis and Opportunities. economic crisis, restrictive policies and the population's health and health care: the Greek Case. Am J Public Health; 2013.
- 13. Hellas Health V. Health Survey of the Greek Population. The Greek National Health Survey: Institute of Social and Preventive Medicine in collaboration with the Centre for Health Services Studies of the Medical School of the University of Athens. 2013.
- 14. Papadeli Ch.,Filippou Ad.,Krachtis Ag.,Tilaveridis I.,Dental care for children with disabilities: the experience of parents-carers after the financial crisis in Greece (a quality study) in Thessaloniki,Asian Journal of Dental studies,2022
- 15. Yiotakos O, Tsouvelas C, Kontaxakis V. Suicide and mental health services in Greece. Psychiatry. 2012; 23(1): 29-38.
- 16. OECD. Society at a Glance 2014 Highlights. OECD. 2014.
- 17. IOBE, Health Expenditure and Health Policy in Greece under the Memorandum. Athens, September; 2011.
- 18. OECD. Health at a glance 2015. 2015.