

## ANALYSIS OF THE GREEK AND MACEDONIAN HEALTHCARE SYSTEM'S RESILIENCE AND FUTURE DIRECTIONS

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**Abstract:** The Greek healthcare system is founded on the principles of universality and accessibility, ensuring almost universal health coverage through the National Organization for the Provision of Health Services, the primary health insurer. This system is centrally regulated by the Ministry of Health and offers a comprehensive benefits package covering preventive, primary, and secondary healthcare. Despite significant reforms aimed at enhancing primary healthcare, including the introduction of personal physicians and expanded local health units, challenges persist, particularly in remote and low-income areas, where unmet medical needs are significantly higher than the EU average. Economic constraints and the impact of the COVID-19 pandemic have further strained the system, leading to increased mortality rates and a decline in life expectancy. Preventable deaths, primarily from lung cancer and ischemic heart disease, have highlighted the need for more robust health education and preventive measures. The government has responded with initiatives such as the national tobacco control plan and stronger anti-smoking legislation, yet gaps in the availability of services like smoking cessation programs remain. The effectiveness of Greece's healthcare system is underscored by its resilience and the dedication of healthcare professionals. Investments in infrastructure, technology, and human resources, along with international collaborations, are critical to overcoming current challenges. Future improvements are anticipated through enhanced preventive health measures, modernization of facilities, and stronger health integration. This comprehensive approach aims to build a more resilient, equitable, and efficient healthcare system, ensuring high-quality care and universal access for all citizens.

**Keywords:** Greek Healthcare System, Universal Health Coverage, Primary Healthcare Reforms, COVID-19 Impact, Preventive Health Measures.

### 1. INTRODUCTION

Greece is a Mediterranean country in the southeast part of Europe or south of Balkan Peninsula. It is a state, whose social order and political context derive from its rich history, cultural heritage and geopolitical position. At the heart of Greek society lies a deep sense of community, where family and social ties play a central role in everyday life, but despite this the country still faces issues such as gender equality, immigration and social justice. (Hatzadony, 1996)

In recent decades, Greece has been subject to significant political and socioeconomic challenges, especially since the 2008 global financial crisis. The economic recession exposed deep-seated structural problems in the Greek economy, resulting in the introduction of austerity measures and bailout programs, but also deepened the urban-rural divide. These challenges are testing the resilience of Greek society and institutions, further shaping its political landscape. All this leads to a situation of social tension, as a result of which problems such as immediacy and access to health care, education and housing issues become focal points of public debate and activism. The rate of the Gross Domestic Product per capita also testifies to the financial difficulties. It recorded an upward trend to a maximum of US\$ 32,128 in 2008, but since then, as a result of the financial crisis of the same year, GDP recorded a significant decline with US\$ 20,277 per capita, according to the latest data from 2021. In this context, the unemployment rate moves along a similar path, i.e. 2008 can again be taken as a year of turning point when the rate of 7.8% rises very quickly with a peak in 2013 when it was 27.5%, so unemployment tends to decrease with the latest data from 2021, when it was 14.7%. (Stylianidis et al., 2019)

The population of Greece is about 10.4 million inhabitants and the health care of this country focuses on a universal approach in ensuring the well-being of each one of its citizens. Globally, the health status of the population of Greece in recent years has been greatly influenced by the COVID-19 pandemic, which, among other things has led to a significant reduction in life expectancy. (Kampouraki et al., 2023)

In 2020, the main cause of death in Greece were many diseases of the heart and cancer, a large percentage of deaths were simultaneously attributed to COVID-19, but it is important to note that there are also numerous patients whose lives ended simply because of the interruption of health services during the pandemic - such as ambulatory patient care, cancellation of elective operations, etc. At its core, the health care system is based on the principle of providing complete health care for all, regardless of socioeconomic status. Although the healthcare system in Greece is guided by many principles, this does not make it immune to the many challenges it faces. Economic restrictions, limited resources and administrative inefficiencies represent obstacles on the way to obtaining high-quality health care. (Kousi et al., 2021)

Healthcare professionals in Greece show resilience and dedication in their efforts to meet the needs of the patient and the community as a whole. In recent years, Greece has undertaken reforms aimed at improving the efficiency and sustainability of its health system. Investments in technology, infrastructure and health personnel are aimed at improving the conditions for the delivery of health care and to deal with new problems that threaten the system. As Greece continues to pay attention to the complex healthcare system, it remains focused on maintaining the principles of universality and equity in healthcare delivery. (Lionis et al., 2017)

## 2. MATERIALS AND METHODS

The data sources in this research paper mainly come from many research papers. In order to ensure quality and reliable data, they are subject to a prior validation process. The data profile is finalized in September 2023, based on data available up to the first half of September 2023. We hereby ensure that the information presented reflects the most current data available at the time of finalization. The materials and information used are initially read, analyzed and presented in a descriptive, written form.

## 3. RESULTS AND DISCUSSION

The Greek health system is based on the concept of universality and accessibility of health services for all citizens. The coverage of health services is almost universal, where citizens and residents have access to preventive, primary and secondary health care. Illegal migrants are only entitled to access to emergency care. (Economou, 2010)

Health care services are available to all citizens and legal residents, but migrants only have access to emergency care. The national health system gives packages for preventive, primary and secondary health care. (Alacron, 2022) This health system provides almost universal coverage and a unique package of benefits. The National Health System (NHS) is financed through a single health insurer, the National Organization for the Provision of Health Services (NOOZU), together with significant funding from the government budget. The Ministry of Health is responsible for broad regulations of the entire system. The NHS offers a standardized package of benefits that covers preventive, primary and secondary health problems. The private sector mainly provides health care at the primary level, outpatient, specialist and diagnostic services. Spending on the health sector is rising, but still relatively low compared to most other EU countries. Through the years, healthcare spending in Greece its lower than the average in the EU, especially since extensive measures to control costs and efficiency were implemented after the global financial crisis in 2008. (Mayridoglou et al., 2022; Pierrakos et al., 2023)

Private paying in Greece is among the highest in the EU. Despite the fact that there is some co-financing for diagnostic and laboratory testing, medications, and visits to other private providers that are contracted by EOPYY, the majority costs are direct payments. The costs of visits to private (outpatient) specialists are also significant, i.e., they exceed 40% of the total costs of the household. (Baeten et al., 2018; Siskou et al., 2008)

The doctors who will accept these jobs have the status of private doctors with a contract with the Public Health System (PHC) willing to work in a private practice the rest of the time. In addition, full-time doctors working in PHI hospitals will be allowed to have private practice or deliver services through contracts with private providers. These measures are disputed and not supported by many medical unions. (Moghri et al., 2017) Teleconsultations has increased during the pandemic. Greece has EDIT, a program that aims to improve ease of access to health services on Greek islands and in remote and underdeveloped regions. (Bouabida et al., 2022)

A large percent of deaths in Greece can be credited to behavioral risk factors, 22% of all deaths are attributed to smoking, while poor nutrition (little fruits and vegetables, high intake of salt and sugar) is responsible for 15% of the deaths and 5% of the cases are due to air pollution, i.e., exposure to PM particles and Ozone. An additional 3% of deaths are due to alcohol consumption, and 2% to insufficient physical activity. The population with a lower socioeconomic status is usually more susceptible to the above risk factors. (Tzortzi et al., 2021)

#### 4. COMPARISON WITH THE HEALTHCARE SYSTEM IN MACEDONIA: SIMILARITIES AND DIFFERENCES

Death rate per 1000 inhabitants - according to the last data available for both countries - as of 2019, Greece recorded 11.7 deaths per 1000 inhabitants, while R. Macedonia - 9.8. Considering the impact of the COVID-19 pandemic on mortality, the death rate in R.M. in 2020 it rises to 12.4, while no data is available for Greece.

Rate of live births per 1000 inhabitants - the last available data is from 2020. They provide an insight into the birth rate of both countries, according to which it is concluded that there is a continuous decline in it since the 1970s (in R. Macedonia - 23.2 live births, while R. Greece - 16.5), until today (R. Macedonia - 9.2, R. Greece - 7.9).

Costs attributable to the Public Health Sector in relation to the total health costs - Macedonia - 64.1%, while in Greece 61.8% of the costs in 2020 belonged to the Public Health Service. We can conclude that in both countries there is a similar percentage representation of state expenses in the entire health system. Doctors of general medicine per 10,000 inhabitants - according to the latest available data from 2019 R. Macedonia has twice as many OM doctors per 10,000 inhabitants (10), compared to Rs. Greece (4.5). This similarity between the two states is also visible in previous years. Number of hospitals - according to the latest data from 2013, there are 290 hospitals in Greece, while in Macedonia 66. This is probably due to the larger area and the larger population of Greece.

Percentage of children vaccinated against smallpox - in 2019, the percentage of vaccinated children in Greece is 97%, while in Macedonia it is 75%. Decrease in the percentage of vaccinated children in Macedonia has been observed since 2013 until today, while in Greece there is a tendency of continuous increase over the year.

Percentage of children vaccinated against Pertussis - again, the last available data is from 2019, when the vaccination rate in Macedonia is 92%, while in Greece it is 99%. In Greece, there is a slight and continuous increase, while in Macedonia, the level of vaccination has stagnated with slight or insignificant fluctuations in the percentage. Deaths due to respiratory diseases per 100 000 inhabitants - the curves of the two countries plot approximately the same values over the years. The last available information is from 2020 when Greece had 1.34 and Macedonia 1.15 deaths per 100,000 citizens.

Deaths due to Diabetes Mellitus per 100 000 inhabitants - the curve of R. Macedonia records a constant increase, with occasional peaks, the last of which is described in 2020 with 0.83 deaths, in contrast to Greece, where the number of deaths does not have large variations and in 2020 it recorded 0.12 cases per 100,000 inhabitants.

#### 5. CONCLUSION

Based on the current state of the health care system in Greece and its challenges, it can be concluded that there is an opportunity for its development and improvement. Despite facing significant challenges, including the impact of the COVID-19 pandemic and systemic issues such as affordability and infrastructure, Greece has the potential to transform its healthcare system into one that is more resilient, equitable and efficient.

One potential avenue for development is through increased investment in health infrastructure, technology and human resources. By modernizing facilities, renewing medical equipment and expanding health staff, Greece can improve its health system and provide high-quality care to the population. In addition, there is a perceived need to focus on preventive health measures and public health initiatives. By promoting healthy lifestyles, implementing disease prevention programs and prioritizing early detection and intervention, Greece can reduce the burden of so-called "chronic diseases" and improve the general health outcomes of the population.

In addition, greater cooperation and coordination between different parties, including government institutions, health care providers, social organizations and international partners, is essential. Through joint efforts to address systemic challenges, improve processes and efficiently use resources, Greece can create an integrated and patient-oriented healthcare system. By embracing innovation, investing in infrastructure and human capital, putting prevention at the forefront and supporting collaboration, Greece can pave the way to a health system that better meets the needs of its population and ensures equal access to quality care for all.

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