

# Athens Journal of Health

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Special Issue on Health Economics

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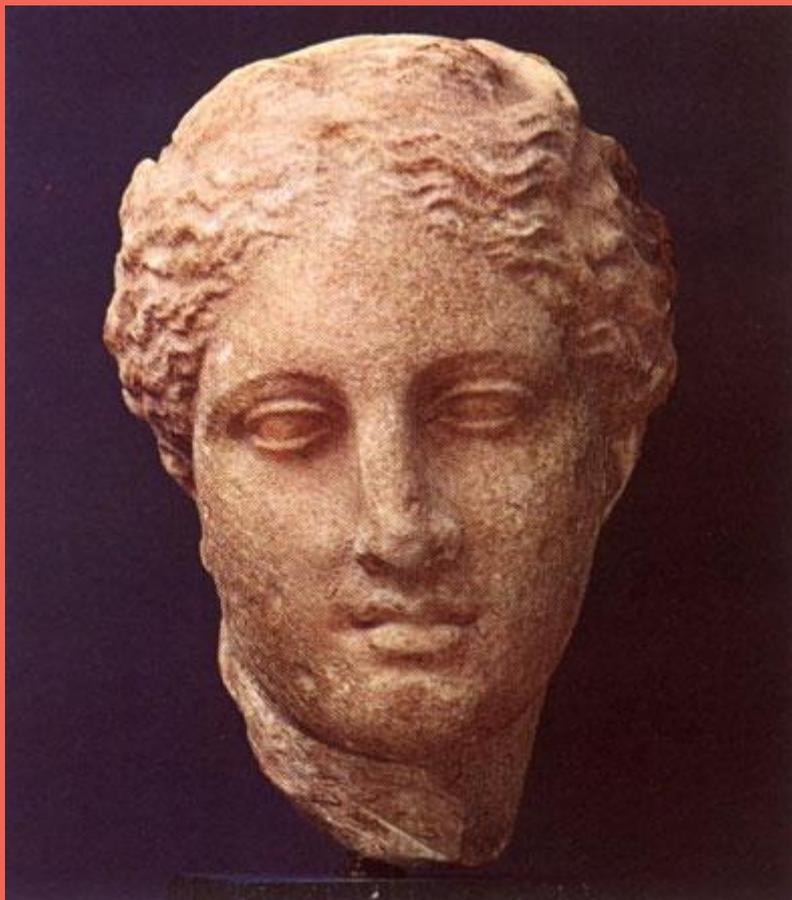
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### **Head of Health Hygeia – Daughter of Asclepius**

The exhibit of the National Archaeological Museum No. 3602 is ancient Greek sculpture showing the head of the goddess Hygeia. Found in 1900 or 1901 in the French excavations at Tegea. The marble head is very well preserved, and retains all the features. It was built by the ancient Greek sculptor *Scopas*.



## **President's Message**

The Athens Institute for Education and Research (ATINER) is pleased to announce the publication of a number of peer reviewed, open access journals of original research work. Most of the articles will be selected from the numerous papers that have been presented at the various annual international academic conferences organized by the different research divisions and units of the Athens Institute for Education and Research. The plethora of papers presented every year will enable the editorial board of each journal to select the best, and in so doing produce a top quality academic journal. In addition to papers presented, ATINER will encourage the independent submission of papers to be evaluated for publication.

The current issue is the first from the third volume of the *Athens Journal of Health* published by the [Health Sciences Research Division](#) of the Athens Institute for Education and Research (ATINER).

The Head of the [Health Sciences Research Division](#) is member of the Editorial Advisory Board. The Academic Members of the research unit are members of the Editorial Board and will assist the editor and the Editorial Advisory Board with the peer reviewing of all submitted papers. Currently, the academic members of the five research units consist of over 100 international experts from about 50 countries.

**Gregory T. Papanikos**

**President**

**Athens Institute for Education and Research**



## Special Issue on Health Economics: An Introduction

Health economics is a rapidly growing sub-discipline which provides scientific evidence for informed policy choices and market decisions concerned with health and health care. Since Arrow's (1963) publication, *Uncertainty and the welfare economics of medical care* - which is considered a symbolic foundation of health economics - the sub-discipline has evolved into a multifaceted area of research with several fields of study and application. Its contribution to our understanding of health-related behaviours, mechanisms and policy choices is beyond doubt. Yet, with the challenges we are facing today and will in the near future, it seems that health economists will have even more to do to improve the well-being of nations. Firstly, all over the world people live longer and with the growing proportion of elders the governments and individuals experience more difficulties in financing the increasing demand for health services. These trends in longevity are accompanied by changing patterns of diseases with growing prevalence of chronic conditions which are usually costly in treatment. Secondly, the economic strains caused by the demographic changes are reinforced by dynamic technological progress in medicine which allows for diagnosing and treating conditions that could not be managed in the past. The progress in medicine brings new opportunities, however, the cost-effectiveness of the new technologies needs time to be properly verified which often turns out to be difficult in the presence of strong interest groups pressing for their rapid adoption. Thirdly, with easier access to information, we are more aware of the innovative technologies we could be treated with and demand more from health service providers and payers putting increasing pressure on health care budgets. All these issues result in growing health expenditure in the developed economies and bring more attention to the rationality of these spendings. There are other reasons for concern in developing countries, with a high proportion of out-of-pocket financing resulting in restricted access to services in low-income groups and shortages of human resources for health, to mention only some of the most pressing issues.

Clearly, the focus of health economics is not limited to the challenges mentioned above. The breadth and depth of the discipline includes a variety of topics. Four of them have been labelled a disciplinary "engine room" of health economics and these are defining and valuing health; determinants of health status not related to medical care; demand for health care; and supply of health care. The other four areas - market

analysis; microeconomic appraisal; planning, budgeting, regulation and monitoring; as well as the whole system evaluation - are considered as empirical fields of application (Williams 1987, Culyer and Newhouse 2000). This classification has been recently modified and developed in an impressive bibliometric review of four decades in health economics with topics such as efficiency and equity; public health; health and the economy; health statistics and econometrics; medical insurance; and human resources also included (Wagstaff and Culyer 2012).

In this special issue, the *Athens Journal of Health* focuses on the contemporary health economics issues with a variety of topics and perspectives. The first paper by Plantier et al. shows the potential efficiency gains achieved through the development of electronic health records in French surgical units. Using econometric models based on multi-centre data the authors convince that the widespread use of electronic devices results in better communication between medical staff and is associated with higher bed occupancy rates both in inpatient and outpatient services. The hospital market is also examined in the second paper wherein Pinto investigates the efficiency of acute care services in Italian public hospitals. Using the data envelopment analysis network models the author draws conclusions on the associations between hospitals size and their efficiency. The issue of human resources for health is subject to empirical investigation in the next two articles, which focus on developing countries. The paper by Asfaw et al. uses a regression analysis to model the determinants of length and the cost of visits associated with anti-retroviral therapy in Ethiopia. The authors show that the cost of a visit is 15 percent lower when delivered by a nurse or health officer as compared to a physician. With these results they contribute to the debate on task shifting which aims to improve the access and quality of services in limited resource settings. In the next paper, Kayani et al. assess the workload of women working in Pakistan's Lady Health Worker Programme. Using micro-level data collected in the city of Khanpur they argue that the allocation of workers should be optimized in order to balance their workload with the requirements of the underserved community. The results of this local evaluation urge for investigating more aggregated data or at least other communities to verify the programme's efficiency also in other circumstances. The problem of barriers in access to health services is analysed in the paper by Kim-Lu, with its focus on the vulnerable Asian population in the United States. Combining data from qualitative interviews with health experts and surveys collected among Koreans, she concludes that their

restricted access to health services is mainly associated with economic factors such as high self-employment rate and working in informal ethnic economy as well as with the design and organization of the health system. The paper by Stańczyk is the only one in this issue that takes a broad, international perspective. Using the econometric approach she models the health production function in the European Union's regions and identifies converging trends in the health status of the regions' populations. The convergence reflects catching-up trends among poorer regions which possibly result from the coherence policy in the EU as the author suggests.

These papers show that nowadays economic dilemmas in health systems remain one of the most pressing problems. The equity of access and efficiency of resource allocation in health systems is a great challenge in the era of the economic crisis experienced worldwide. With still growing proportion of GDP devoted to health care and tight budget constraints which health policy makers face, it is of crucial importance to convince the general public that the money spent on health is rather an investment than a cost. The role of health economics is to identify these actions which allow the use of scarce resources efficiently and equitably. The authors of the papers in this issue contribute to these efforts.

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## **References**

- Arrow KJ (1963) Uncertainty and the welfare economics of medical care. *American Economic Review* 53(5): 941-973.
- Culyer AJ, Newhouse JP (2000) Introduction: the state and scope of health economics. In *Handbook of health economics. Volume 1A*, (Eds.), AJ Culyer, JP Newhouse. pp. 1-8. Amsterdam: Elsevier.
- Wagstaff A, Culyer AJ (2012) Four decades of health economics through a bibliometric lens. *Journal of Health Economics* 31(2): 406-439.
- Williams A (1987) Health economics: the cheerful face of the dismal science? In *Health and Economics* (Eds.), A Williams. Macmillan.