Health Policy 101 (2011) 162–171

Contents lists available at ScienceDirect

Health Policy

journal homepage: www.elsevier.com/locate/healthpol

The impotence of price controls: Failed attempts to constrain pharmaceutical expenditures in Greece☆

Dimitra Lambrelli[a,*], Owen O'Donnell[b,c]

[a] University of Macedonia, Department of Economics, Thessaloniki, Greece
[b] University of Macedonia, Thessaloniki, Greece
[c] Institute of Health Economics & Management (IEMS), Université de Lausanne, Switzerland

ARTICLE INFO

Article history:
Received 22 April 2010
Received in revised form 21 August 2010
Accepted 23 August 2010

Keywords:
Pharmaceuticals
Pharmaceutical expenditures
Price controls
Prescribing

ABSTRACT

Background: While the prices of pharmaceuticals are relatively low in Greece, expenditure on them is growing more rapidly than almost anywhere else in the European Union. *Objective*: To describe and explain the rise in drug expenditures through decomposition of the increase into the contribution of changes in prices, in volumes and a product-mix effect. *Methods*: The decomposition of the growth in pharmaceutical expenditures in Greece over the period 1991–2006 was conducted using data from the largest social insurance fund (IKA) that covers more than 50% of the population. *Results*: Real drug spending increased by 285%, despite a 58% decrease in the relative price of pharmaceuticals. The increase in expenditure is mainly attributable to a switch to more innovative, but more expensive, pharmaceuticals, indicated by a product-mix residual of 493% in the decomposition. A rising volume of drugs also plays a role, and this is due to an increase in the number of prescriptions issued per doctor visit, rather than an increase in the number of visits or the population size. *Conclusions*: Rising pharmaceutical expenditures are strongly determined by physicians' prescribing behaviour, which is not subject to any monitoring and for which there are no incentives to be cost conscious.

1. Introduction

Expenditures on pharmaceuticals are increasing in most developed countries. Greece has been relatively successful in constraining the price of pharmaceuticals, which are among the lowest in the European Union (EU), but not pharmaceuticals expenditures, which, by European standards, are high as a share of national income and total expenditure on health [1]. The rate of increase in pharmaceutical expenditures in Greece over the last two decades has been particularly rapid, more than doubling in real terms, and being surpassed only by that in Ireland within the EU. Most of the cost of prescription drugs is covered by public insurance and so the rate of increase in expenditures is placing an additional burden on already severely strained social insurance funds.

Policy efforts to contain healthcare expenditure in Greece have focused on controlling the price of pharmaceuticals. But the reimbursement system provides little incentives for physicians and patients to be price conscious in their prescription and consumption of medicines [2]. This paper analyses trends in pharmaceutical expenditures in Greece, drawing comparisons with other European countries and examining why expenditures have continued to increase despite the cost-containment measures introduced. It is argued that extensive price controls have not been effective in suppressing rising pharmaceuticals expenditures. Through decomposition of data from the largest social insurance fund (IKA), which covers more than half of the population, the effect on

☆ This research project is co-financed by the EU – European Social Fund (75%) and the Greek Ministry of Development – GSRT (25%).

* Corresponding author at: 16, Plateia Navarinou GR-546 22, Thessaloniki, Greece. Tel.: +30 2310 233 260.
E-mail addresses: dlamb@uom.gr, dimitralamb@gmail.com (D. Lambrelli).

0168-8510/$ – see front matter © 2010 Elsevier Ireland Ltd. All rights reserved.
doi:10.1016/j.healthpol.2010.08.023

aggregate drug expenditures of the switch to new and more expensive drugs is determined by eliminating the effects of changes in prices and quantities. This reveals that 493% of the rise in real drug expenditures is attributable to the adoption of new and more expensive products. While there are undoubted therapeutic benefits from the adoption of new technologies, these could be realised more cost effectively if there were stronger incentives to promote the prescription and use of generics.

The following section describes features of the Greek pharmaceutical market, health sector and policy reforms that are most relevant to pharmaceutical expenditures. In the third section, the rise in drug expenditures is described and explained through decomposition of the increase into the contribution of changes in prices, in volumes and a product-mix effect of pharmaceuticals prescribed. Drawing on this analysis, policy implications are discussed in the final section.

2. Pharmaceutical market and policy in Greece

2.1. The pharmaceutical industry and retail market

Greece differs from the majority of EU member states in that, until 1998, it had no proper recognition of intellectual property and thus drug patents. The absence of strong patent protection strengthened the bargaining position of the government relative to foreign research-based companies because any new drug could potentially meet competition, soon after its introduction, from copies produced by non-research companies. However, the domestic pharmaceutical industry did not fully exploit this situation, missing an opportunity to increase its market share.

The pharmaceutical market has become heavily dominated by imported medicines. In 1987, domestically produced products accounted for 75% of total sales and imported products only for 18% [3]. By 2003 imported products had become dominant in the market, accounting for 70% of sales. The main trading partners for pharmaceuticals are other EU countries, which account for 80% of total trade [4,5]. The trade deficit in the pharmaceutical sector has increased from just under €1 billion in 2000 to €1.6 billion in 2005. In contrast, most of the EU-15 countries generate a substantial trade surplus, with Spain being the only country with a trade deficit greater than Greece [5].

Greece has the highest number of pharmacists per capita in the E.U., with one for every 1061 people versus an EU average of 3968 in 2007 [1]. Pharmacists hold a monopoly over the sale of medicinal products. Until 1997, all licensed pharmacists were allowed to open a pharmacy, provided a minimum distance of 100 metres between pharmacies was maintained. From 1997, the number of pharmacies is also restricted in relation to population. According to the most recent law [6], pharmacies are limited to one per 1.500 individuals with a minimum distance between pharmacies ranging from 100 to 250 meters depending on the population of the municipality. Although there has been great resistance against these measures by pharmacists' associations, they are much less restrictive than those operating in other EU countries. For example, in Portugal the minimum distance between pharmacies is set at 500 metres while the population ratio is one pharmacy for every 4000 inhabitants. Similarly in France, the ratio is 1:2500–3000 depending on the population of the locality. The high density of pharmacies in Greece is also attributable to their primacy as a source of employment for pharmacists given the ever-decreasing size of domestic production of medicinal products. The pharmacist's margin as a proportion of retail price (VAT included) is 24%, which approximates the European average [7]. Such high profit margins, together with monopoly rights, help sustain the large number of pharmacies, which, in turn, may fuel excess consumption of pharmaceuticals through an "availability effect" [8–10].

Over-the-counter (OTC) products are only available through pharmacies and are not reimbursed by social insurance funds. In 2004, the sales of non-prescription products made up only 8.3% of the total pharmaceutical market – half the EU average and greater only than the share in Portugal. OTCs are legally recognised as a separate product category from prescription medicines and although their prices should not follow the rules governing Rx products, they are nonetheless under strict control, with prices fixed using the same methodology as for prescription products, and criteria specified for products that can be marketed as OTCs. Despite the legal distinction between OTC and Rx products, it is possible for those classified as prescription medicines to be dispensed in pharmacies without a prescription. With the exception of narcotics, there is no explicit legal framework that prohibits pharmacists from selling medicinal products without prescription. The definition "prescription medicine" mainly refers to the potential reimbursable status of the product. But reimbursement is not made for any such product purchased without a prescription. Such purchases are not, however, uncommon because of convenience relative to the delay and the time costs entailed in a doctor's appointment. This constitutes one of the main reasons why the OTC market remains relatively small [11].

2.2. Cost-containment policies

Greece, like most European countries, has responded to increasing pharmaceutical expenditures by seeking to control the prices of pharmaceuticals [12–16]. There is evidence to suggest that these measures have not produced significant savings and had either a one-off or a negligible impact [17,18].

2.2.1. Patients' cost-sharing

In Greece, access to social health insurance is a universal right. Membership of a social insurance fund is compulsory for the employed population and its dependants, and is based on occupation. Up to 1990, all insured individuals could procure medicinal products in pharmacies free of charge. Since 1992 a system with three co-payments levels, uniform for all insurance funds, has applied. Co-