

# Estimation Of Private Health Expenditure In Cyprus

PITTOKOPITOU – PAPIRI ISABELLA

**Abstract:** This research aims at documenting and studying the origin and distribution of private health expenditure in Cyprus, with focus on the economic relations between the health system and households, whether they involve standard transactions or underground (black) economy. In this context, a specially developed questionnaire was used, gathering data from 400 households from all over Cyprus, via telephone interviews. The recording and processing of data and results was performed with the use of the statistical platform SPSS, applying methods of descriptive and inferential statistics on the available data, in order to present the results of both the first-degree statistical analysis, which included studying the frequency distribution of alternative answers provided by the participants and those of the second-degree statistical analysis as well, which investigated the possible relations between the participants' demographics or other information and their decisions regarding the dissemination of private health expenditure.

## Introduction

While life expectancy continues to increase, at the same time, disparities still exist in the area of Health, both among and within different countries, with varying degrees of access to health services, depending on the socioeconomic status, the income, the education and other factors. The world financial crisis led to a substantial fall of the yearly increase rates of health expenditure per capita in OECD countries, despite the evidence of gradual recovery. However, the impact of the crisis varied among the countries of OECD and among the different funding sources (public or private health expenditure). In affected countries, the crisis had a severe effect not only on, health, mortality and quality of healthcare, but also on the frequency of habits such as smoking and alcohol. Simultaneously, it led to a reduction of health expenditure, both public and private, where inequalities have also been recorded. On the other hand, there is a definite effect of the available income on health status, with income reduction due to economic crisis and/or unemployment leading to the deterioration of health indexes. Regarding the health expenditure distribution, total expenditure is distinguished between public and private, with the first being funded by national budgets and social security funds, while the second includes the official payments for purchasing private health products or services, the purchase of services not covered by social security, cost-sharing, as well as any unofficial or illegal transactions. A significant tool for calculation and comparative estimation of health expenditure is OECD's System of Health Accounts. In Cyprus, health expenditure is estimated with the use of Family Budget Surveys and National Accounts. The main funding source of private health expenditure is out-of-pocket household payments, while the share of optional private security represents a small percentage of the total health expenditure, holding a different role in various countries. The participation of health service users in the total cost (co-sharing) involves a group of special policy instruments applied in the area of health services market demand, usually in the context of insurance (public or private) or of a national health system, in one of three basic modes : deduction, co-payment and co-insurance. It may reduce the total demand of health services and, at the same time, increase the income and broaden the healthcare provisions to ensure a more wide cover of the financially deprived. Nevertheless, there is always the risk of intensifying social disparities and introducing negative changes in medical ethics. The determinants of demand for private health services include the available income of citizens, the country's population health levels, new

diseases and the effect of socioeconomic factors on the citizens' health, pathological health issues, such as overweight and obesity, which may lead to many health conditions, as well as the inefficiency of the public sector, in matters of logistics or human resources, and the citizens' dissatisfaction for the national health system. In Cyprus, the health system consists of two parallel service sectors, the public sector managed by the Ministry of Health, and the private sector mostly funded by the out-of-pocket household payments. In fact, Cyprus ranks at the first place among 28 EU countries regarding the percentage of out-of-pocket payments out of the total health expenditure, and at the tenth place, regarding the percentage of out-of-pocket payments out of the total private health expenditure. At the same time, Cyprus has one of the lowest percentages of public health expenditure per GDP, while ranking on the top places in Europe regarding the extent of social disparities in the health sector. To this fact also contribute the delays in the full deployment of the General Health System (GHS), which is expected to ensure mandatory universal access of all Cyprian citizens to the integrated national health system, with funding sources coming from the state, the employers and employees, so as to reduce the average yearly increase rate of total health expenditure. Meanwhile, the role of optional private insurance is substitute, due to the lack of universal cover by the national health system. Finally, the black economy in the health sector involves illegal transactions inside the public health system for services which should be provided without charge, as a means of facilitating access to health services and better quality of healthcare. On the other hand, when it comes to outpatient care, informal payments depend on the patient's available income, as opposed to hospital care where emergency "forces" the patients to make additional payments despite their financial capabilities. However, there has been no research revealing a clear quantitative and qualitative distinction of the forms of black economy in health, including the informal payments or bribes ("fakelakia") and the regular payments for which a full receipt is not supplied.

## Findings of the Questionnaire Implementation and First-Degree Data Analysis

Studying the sample's demographics, the participants were relatively split on the alternative answers regarding the majority of sample households originated from the main cities of Cyprus, while each household included 1-3 persons. The person bearing the main income had reached an average or high education level, while their

monthly net family income ranged from €1000-3000. The vast majority of interviewees claimed to belong in the middle or highest socioeconomic classes. Finally, most of the participants were insured in the public insurance fund. Only 14,4% of the participants have private health insurance, with over half of them being the only person privately insured in their household. The total yearly payments for private insurance ranged from €40-180 (mostly 70 or 100 euros). Approximately 85% have stated that in the past twelve months, either themselves or some other member of their household (husband, wife, child and so on) had made use of private health services. However, they were not willing to provide further clarifications on the nature or cost of those services. Generally, related costs varied from €12 to €2000. On the other hand, it appeared that when visiting private health professionals or diagnostic centers, most neither got a receipt, nor claimed a refund from their public or private insurance. 17% have stated that they had consulted a Public Health doctor during the past year. When asked if they had offered a gift or bribery ("fakelaki") to the Public Health doctor during their last visit, a few of them (37%) denied doing so, while most admitted it, justifying it as a means to get approval for a leave of absence, medicine or nursing abroad or to thank the doctor for provided services and guarantee extra care and more thorough treatment. Approximately 1/3 of the participants had bought, rented or borrowed medical equipment during the past year, without offering further details. 62% of the interviewees stated that either themselves or another member of their family had been hospitalized in a public or private hospital, in Cyprus or abroad, within the previous 12 months. Nevertheless, they did not supply more information regarding the frequency and duration of their hospitalization. About 1/4 of them had been operated, while 4% were treated in ICU. Regarding their stay at the hospital, only few claimed that they offered money as a gift (and not bribery) to doctors (20%) or other medical (13%) or hospital staff (3%). The provided information concerning payments to other health suppliers (exclusive nurses, private physical therapists, private ambulances) during hospitalization, was little to none, with limited answers preventing the extraction of safe conclusions in the matter related payments or refunds from public and/or private insurance. However, it appears that it is frequent not to receive a payment receipt from health suppliers or a refund from public and/or private insurance. Out of those who were hospitalized in a public hospital, slightly more than half were brought as emergency cases and the rest had regular appointments. To gain access to public hospital treatment, many had to take advantage of their acquaintance with hospital staff, medical or non-medical. The waiting time for hospitalization was generally limited, from 0 to 2 days for the majority of interviewees. Most of the participants who were hospitalized in a public hospital refused having offered any kind of bribery ("fakelaki"), while one third admitted doing so, with related sums varying from €20 to €100, either as a habit or as a token of gratitude, even as a way to achieve better quality in provided health services. When grading their stay in the public hospital, most gave negative or non-positive feedback, with low to minimum satisfaction levels, regarding their experience with the medical and other staff, or the hospitalization conditions. Less than 10% of the participants stated having been hospitalized in a private hospital or clinic. The payments they made ranged from €100 to 14000€, while they got a receipt for little to

none of these amounts. In most cases, they received no refund from their public or private insurance. The satisfaction levels regarding the staff and hospitalization conditions in private hospitals were significantly higher than those of public hospitals

### Findings of the Second-Degree Statistical Analysis

Η συνδυαστική μελέτη και στατιστική επεξεργασία των αποτελεσμάτων για την διερεύνηση πιθανών συσχετίσεων μεταξύ των μεταβλητών, για την οποία χρησιμοποιήθηκαν οι μέθοδοι των πινάκων διπλής εισόδου (crosstabulation) σε περιπτώσεις κατηγορικών ή διχοτομικών μεταβλητών, και της γραμμικής παλινδρόμησης όταν η εξαρτημένη μεταβλητή ήταν συνεχής, οδήγησε σε ορισμένα ενδιαφέροντα ευρήματα. The combinatory study performed to investigate possible relationships between several of the sample data variables, for which the methods applied involved cross-tabulation for categorical or binary variables and linear regression for continuous variables, has led to some interesting findings :

1. The use of private health services is significantly influenced by both the number of house members and the monthly net family income.
2. Where the supplied data was adequate, it revealed that consulting visitations to private health providers are affected by demographics in various ways.
3. Total payments to private health providers are affected by the degree of urbanization of the place of permanent residence and the person's insurance fund.
4. No statistically significant relations have been found between the independent variables (demographics, private insurance coverage) and either bribing (offering "fakelaki") of public health doctors or expenses for medical equipment.
5. Hospitalisation in a public or private hospital is affected by all previously mentioned independent variables except for the person's insurance fund.
6. Offering gratuities (not bribe, "fakelaki") to the medical, nurse and other staff during hospitalization appears to be significantly related to the place of permanent residence, the number of household's members, the monthly net family income and the socioeconomical status.
7. Payments to private health providers during hospitalization is affected only by the number of household's members.
8. Offering bribe ("fakelaki") to public hospital doctors has a statistically weak relation (at a significance level of  $\alpha = 0.10$ ) with the person's educational level, while it does not seem to influence the degree of satisfaction from the doctors for those hospitalized in a public hospital.
9. The total level of satisfaction regarding the entire experience of hospitalization in a public hospital is affected only by the waiting time required for hospitalization.
10. There were no statistically significant relations found between independent variables and neither doctor speciality during hospitalization in a private hospital or total payments to the tending doctors. Furthermore, there was no significant relation between the private hospital doctor's speciality and there payment amount for which they offered a receipt.
11. The degree of urbanization of the place of permanent residence is the only independent variable which

- seems to affect the total private hospital expenses covered by the hospitalized persons themselves.
12. The total degree of satisfaction regarding the hospitalization experience in a private hospital does not seem to be influenced by either the tending doctor's total payment amounts or the hospital expenses covered by the patients themselves.

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