

Cost-sharing in the Greek Health Centres: The Administrative Personnel Aspects

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Abstract

Cost-sharing was introduced in Greece to supplement the state finance and social insurance funds and make patients cost-conscious.

A questionnaire was distributed to 193 administrative personnel (response rate 96 per cent). The research was conducted from June 2011 to May 2012. Statistical analysis was performed using the Pearson χ^2 test, the Kolmogorov-Smirnov test, the t-test and the Mann-Whitney test at $p < 0.05$ level of significance.

92 per cent of the respondents said that patients complied with the payment of fees and 41.5 per cent that their visits to health centres have been reduced. 64 per cent of health centres do not employ only administrative personnel for the collection of medical fees but also nurses, physicians and technicians. At 85 per cent of health centres information technology systems are not used for the collection of medical fees.

Although cost-sharing has contributed to the rational use of health centres' services, it does not sufficiently corresponds to the expectations for effective provision of health care services.

Keywords: Greek health centres, Cost-sharing, Financing mechanism, Administrative personnel

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1 Introduction

Health sector in Greece faces financial burdens in relation with economic crisis, with remarkable increase of unemployment and uninsured citizens, new regulatory requirements and changes in reimbursement rules. As a consequence health policies focus on either increase of revenues or control and restriction of expenses. Besides that, health care expenditures increase globally due to ageing population, rising public expectations, long term care, rapid innovation in health equipment and technology, and due to the fact that health sector is labour intensive industry [1-3].

Most OECD countries are focusing on supply and demand side factors to control and gain the necessary health resources. As a result they have introduced cost-sharing. By this way cost consciousness of people is increasing and they are becoming more discerning about health demand. In addition, cost-sharing in conjunction with the rational use of resources results to savings which in the long term conclude to a faster and qualitative use of health services [4-7].

In current circumstance of greek economic recession and inadequate governmental resources cost-sharing is applied to meet health needs without increasing taxes. Due to inelastic demand for health services the increase of revenues by cost-sharing prevail the reduction of demand for them. Proponents of cost-sharing argue that the extra revenue could supplement health resources in favor of poor people ensuring that they receive all the necessary health treatment. However, it has negative effects on equity when the funding constraint falls to poor people or to people with poor health. Cost-sharing as a percentage burdens lower-income citizens more than wealthy, in contrast with tax-financed system, which charges more those with high income. In addition, tax financing does not connect payment with the use of care, whereas cost-sharing does [8].

The functioning of the funding mechanism in health sector depends on the political stability, the administrative efficiency and the balance of power between central and regional health units to receive fair proportion of subsidy. However, administrative, informational, economic and political pressures are derived from the operation of cost-sharing and from exemption systems for vulnerable group of people [9].

At September of 2010 a Circular of Greek Health Ministry introduced cost-sharing in primary health centres to the price of three euros, which in January of 2011 formed to five euros, providing exemptions for patients in the Farmers Insurance Agency (OGA), indigents, refugees, uninsured under 18 years of age and those over 70 as well as chronic patients.

The aim of this paper is to study the impact of cost-sharing in Greek health centres analyzing their administrative personnel aspects.

2 Materials and Methods

A questionnaire was designed and distributed to the administrative personnel of all Greek health centres, in rural and urban areas, except from mental health centres. A pilot research to 25 health centres was accomplished for the control of questionnaire's content validity.

In the main research, 193 administrative personnel participated out of the total number of 202 health centres in Greece (96 per cent response rate) and five health centres do not collect any fees from their patients (3 per cent).

The research was conducted from June 2011 to May 2012. The collection of the answers was achieved mainly by telephone communication and consecutively by fax exchange (in case the managers were not available to provide the answers by phone). In some cases a face-to-face contact was necessary. Besides the answers to the structured questionnaire, opinions revealed from the contact with the respondents were taken into consideration in the results section.

The questionnaire of administrative personnel consists of seventeen questions, fourteen of them are questions with fixed response alternatives and three were open ended questions (age, years of experience in health centres, number of personnel collecting medical fees). This questionnaire is divided into two main parts: a) questions concerning when and how cost-sharing mechanism was implemented in the health centre, the kind and number of personnel that collect medical fees, the diagnostic tests carried out and the response of patients, b) demographic characteristics of administrative personnel.

The data were recorded on an SPSS basis and their analysis was performed using the same software. We used Pearson χ^2 test in order to test the independence between two categorical variables. To check the significance of difference between the mean values of continuous variables we used Student t-test or Mann-Whitney test, after the Kolmogorov-Smirnov test which checks the normality of the distribution of these variables. In all statistical analyses we used the $p < 0.05$ level of significance. Continuous variables are presented as mean values, while categorical variables are presented as relative frequencies.

3 Main Results

3.1 Demographic Characteristics of the Study Population

Demographic data of the study population are presented in Table 1. From administrative personnel 65 per cent were female and the mean age of the participants was about 47 years (median=48, range=28-63). The mean of the years of service in health centres were 15 (median=18, range=1-28). Regarding the education of respondents only 22 per cent (n=40) had finished a Technological Educational Institute and eight per cent (n=16) had a university degree, which depicts their low educational background resulting to inefficiencies in the administration of health centres. Moreover, the specialties of the administrative employees who participated in the study in the majority come from the sector of administration-financing-accounting (n=146, 76 per cent).

Table 1: Demographic characteristics of the study population

Variable	Administrative employees		
Gender	Number (N, %)		Cumulative Percent
Male	67	35%	35%
Female	126	65%	100%
Age (Mean & Range)	47 (28-63)		
Years of service (Mean & Range)	15 (1-28)		
Education			
Master degree	2	1%	1%
University degree	16	8.3%	9.3%
Post secondary education diploma	4	2.1%	11.4%
Technological Educational Institute	43	22.3%	33.7%
Technical schools	28	14.5%	48.2%
High school	94	48.7%	96.9%
Three years of high school	4	2.1%	99%
Primary School	2	1%	100%
Specialty			
Administration/financing/accounting	146	76%	76%
Nurses, midwives, health visitors	29	15.1%	91.1%
Technicians, messengers	12	6.3%	97.4%
Physicians	4	2.1%	99.5%
Social Workers	1	0.5%	100%

3.2 Analysis and Results from Administrative Personnel regarding Financing Mechanism of Health Centres

Concerning the starting point of collecting medical fees, as table 2 depicts most health centres conformed directly to the directive of the Greek Health Ministry concerning the collection of medical fees (85 per cent of all health centres up to three months after the announcement of the measure).

Table 2: Responses of administrative personnel

Starting point of collecting medical fees by health centers	Number (N, %)		Cumulative Percent
From the publication of the circular	55	28.5%	28.5%
One month later	42	21.8%	50.3%
Two months later	35	18.2%	68.5%
Three months later	32	16.6%	85.1%
Four months later	9	4.7%	89.8%
Five months later	6	3.1%	92.9%
Six months later	2	1%	93.9%
Seven months later	2	1%	94.9%
Nine months later	2	1%	95.9%
Twelve months later	2	1%	96.9%
Thirteen months later	3	1.6%	98.5%
Fourteen months later	1	0.5%	99%
Fifteen months later	1	0.5%	99.5%
Nine years before	1	0.5%	100%
Total	193	100%	
Patients that pay directly			
All	130	67.4%	67.4%
More than 2/3	48	24.8%	92.2%
Half of the patients	5	2.6%	94.8%
Only 1/3	5	2.6%	97.4%
Less than 1/3	5	2.6%	100%
Total	193	100%	
Hours of operation of health center			
Eight hours	3	1.6%	1.6%
Thirteen hours	1	0.5%	2.1%
Sixteen hours	4	2.1%	4.2%
Twenty four hours	185	95.8%	100%
Total	193	100%	

Regarding the patients' visits to health centres after the introduction of cost-sharing, 41.5 per cent of the respondents replied that they have been reduced, 43 per cent that they have been remained stable, and 15.5 per cent that they have been increased. The reduction of medical visits is remarkable due to either rational use of health services or due to the cost burden for low income groups of people.

When asked whether all patients pay directly, excluding those for whom there is exemption, e.g. disabled, HIV infected, the blind, patients with cancer, heart disease, diabetes etc., 92 per cent of the respondents said that more than 2/3 of the patients pay directly (table 2). However, to the question of whether the fees are received if patients visit more than one doctor in one day 88 per cent responded negatively. This is due to the lack of explicit reference to this parameter in the circular of health ministry.

Moreover, 96 per cent of health centres operate on a 24-hour basis (table 2). To the question of whether the fees are collected in the night shift, 61 per cent responded negatively. 66 per cent of the personnel of these health centres said that this happens because of the lack of administrators in the night shift.

The number of employees who collect medical fees is varied regarding the shifts. At the 64 per cent of health centres one employee is responsible for the collection of fees in the morning. In the afternoon and in the night shift 49 per cent and 35 per cent of health centres respectively employ one clerk. Many health centres (47.7 per cent) collect medical fees only in the morning shift despite the regulation for operation of cost-sharing mechanism in 24-hour basis (table 3).

Table 3: Number of personnel collecting medical fees in the morning, in the afternoon and in the night shift

Morning shift	Number (N, %)	Cumulative Percent	Afternoon shift	Number (N, %)	Cumulative Percent	Night shift	Number (N, %)	Cumulative Percent
1	124 64.2%	64.2%	0	92 47.7%	47.7%	0	118 61.1%	61.1%
2	56 29.1%	93.3%	1	94 48.7%	96.4%	1	67 34.8%	95.9%
3	8 4.2%	97.5%	2	7 3.6%	100%	2	8 4.1%	100%
4	2 1%	98.5%	Total	193 100%		Total	193 100%	
5	1 0.5%	99%						
7	1 0.5%	99.5%						
8	1 0.5%	100%						
Total	193 100%							

Upon arrival at the health centre the patient joins the queue, at the cash desk to pay the fee. When his/her turn comes, an employee checks the personal information, the medical insurance, receives the fee and publishes a referral. Afterwards the patient goes to the appropriate waiting area for the doctor. Concerning the ordinary waiting time of the patients at the cash desk, it is less than three minutes in each shift (table 4). Specifically, patients wait less than three minutes in the morning shift in 58.5 per cent of health centres. Also, in 81.5 per cent of health centres in the afternoon shift and in 81 per cent of health centres in the night shift patients wait less than three minutes.

“Figure 2” depicts the diagnostic tests that health centres which participated in the study carrying out. It is observed that certain laboratory and diagnostic tests included in the screening and primary health care are taken in less than 70 per cent of health centres.

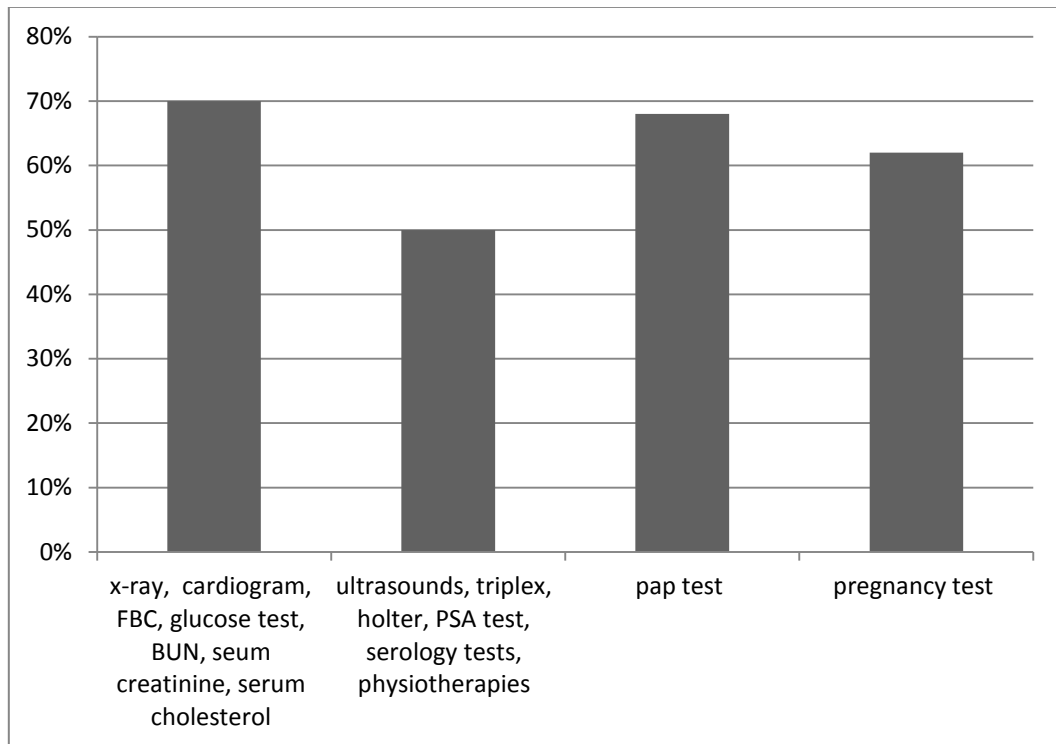


Figure 2: Percentage of health centres carrying out specific groups of diagnostic tests

4 Conclusion

The revenues from cost-sharing improve the budget of health centres mainly when these revenues remain to their unit. In this case, apart from the incentive for collecting fees, it allows improvements in quality and increase in the utilization of primary care facilities. Only in the case of economic autonomy of health centres the improvement of their services will be achieved, through recruiting assistant doctors to cover the vacancies, purchasing certain medical equipment, renovating the infrastructure of the centres [10] and developing prevention and health promotion programmes.

From the results of our study, regarding laboratory and diagnostic tests, it is apparent that not all health centres conduct preventive examinations, and in personal communication they revealed that in some health centres there are no independent units of processing laboratory tests, but these are sent to the supervising hospitals, as well as there is a delay and negligence for filling vacancies in laboratory staff after the retirement of such employees.

Moreover, it has been found that although 85 per cent of health centres implemented the cost-sharing fee collection system within three months, this was not without administrative insufficiencies. These insufficiencies are derived from the lack of an

accounting information system to support the financing mechanism, the non collection of fees in daily basis from the lack of staff and the employment of other personnel besides administrative for the collection of medical fees (e.g. nursing, medical, technical) which triggered many reactions. Furthermore, the circular from the Ministry of Health has no explicit reference concerning the charge in case of visiting more than one doctor at the same day, so there is disparity between health centres. This reveals the lack of proper planning of the financing mechanism which fails to benefit and strengthen the primary health care.

A well designed fee-collection system needs an appropriate accounting information system, auditing and financial management. Moreover, the decentralization and autonomy of revenues requires special administrative personnel with financial management skills.

Cost-sharing revenues must be supplement to government subsidy, in order to succeed in quality improvement. The central guidance for training and motivation in the collection of revenues and in the implementation of exemption system is necessary. In addition, the provision of incentives to the patients and their willingness to participate in the cost of health services provision is crucial to maintain the collection system and achieve quality improvement [8].

A review of patients' opinion for cost-sharing depicts that their point of view is significant for the design and implementation of health policy [4]. It is observed that in countries where cost-sharing mechanisms in the health services are familiar to the patients, effect in faster access. However, in countries where there were currently no-charging the patients favor the services to be free at the point of delivery. As a result the familiarity of consumers with the existence of charges is considerable.

According to Kentikelenis et al [11], when financial crisis occurred in Greece more people than in 2007 reported that they avoided to visit a doctor despite the necessity and that health outcomes have worsened, especially in vulnerable groups. Moreover, a research by the National School of Public Health in Greece reported that in 2011 health expenditures have been decreased 36 per cent [12].

In our study, although a significant percentage of patients are complied with cost-sharing (92 per cent said that more than 2/3 of the patients pay directly), the influx of patients has been decreased after the payment of fees (41.5 per cent). The same effects were observed in the Republic of Ireland where 70% of patients pay for a GP visit, excluding economically weakness people. In Republic of Ireland the waiting time for an appointment was limited due to minimization of unnecessary health visits and laboratory tests [4]. In 2004 in Germany the visits to physicians have been less about eight per cent than in 2003 because of the introduction of a medical fee of ten euros [13].

Health care systems worldwide are facing the same financial and political pressures as in Greece and attempt reforms to cope with them. The aim of these reforms is to improve access, accomplishing equity and efficiency in health services as it can be afforded.

The equity can be preserved with a properly designed exemption system for the vulnerable groups of people and if revenues are reallocated to poorer and underserved social sections. According to Doorslaer E. et al., exemption systems in publicly financed systems are designed upon non-income criteria, such as age, pregnancy, disablement, etc. The aim of these exemptions is to ensure that health services are financed equitably and are allocated equitably [14]. In greek health units patients who are excluded from cost-sharing are those with low income, uninsured young and old people and those with chronic diseases.

However, equity is not accomplished by informal payments, which according to Liaropoulos L. et al. it is an established forced social behavior for a faster and qualitative access in health care [15]. In addition, informal payments contribute to tax evasion which is another source of inequity. It is imperative to change these conditions and make the access to health care easy and qualitative for all. The introduction of cost-sharing and the disposal of a percentage of medical revenues to motivate staff contribute to this goal.

Additional research is necessary to adequately address the issue, regarding cost benefit analysis, the views of users of health services on cost-sharing, the long term effects of the financing mechanism on the quality of public health services and the reduction of private expenses as well as the consequences in the population's health.

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References

- [1] OECD-Eurostat-WHO Health Accounts (SHA) Data Collection - (JHAQ) and OECD Health Data questionnaire, Health Expenditure and Financing, <http://stats.oecd.org/Index.aspx?DataSetCode=SHA#>, accessed 4 September 2012.
- [2] S. A. Hurst and M. Danis, Indecent Coverage? Protecting the Goals of Health Insurance from the Impact of Co-Payments, *Cambridge Quarterly of Healthcare Ethics*, Cambridge University Press, **15**, (2006), 107-113.
- [3] A. Weale and S. Clark, Co-payments in the NHS: an analysis of the normative arguments, *Health Economics, Policy and Law*, Cambridge University Press, **5**(2), (2010), 225-246.
- [4] D. O'Reilly, C. O'Neill, T. O'Dowd, K. Galway, A. Gilliland, A. Kelly, A. Murphy, E. Shryane, K. Steele and G. Bury, Patients' attitudes to co-payments for general practitioner services: do they reflect the prevailing system?, *Journal of Health Services Research & Policy*, The Royal Society of Medicine Press Limited, **12**(4), (2007), 197-201.
- [5] K. Bolin, A. Lindgren, B. Lindgren and B. Lundborg, Utilization of physician services in the 501 population: the relative importance of individual versus institutional factors in 10 European countries, *International Journal of Health Care Finance and Economics*, **9**(1), (2009), 83–112.
- [6] T. Wagner, M. Heisler and J. Piette, Prescription drug co-payments and cost-related medication underuse, *Health Economics, Policy and Law*, **3**(1), (2008), 51–67.
- [7] T. Rice and K.Y. Matsuoka, The impact of cost-sharing on appropriate utilization and health status: a review of the literature on seniors, *Medical Care Research and Review*, **61**, (2004), 415.
- [8] E. Mossialos, A. Dixon, J. Figueras and J. Kutzin, *Funding health care: options for Europe*, European Observatory on Health Care Systems Series, Open University Press, Buckingham Philadelphia, 2002.

- [9] N. L. McKay, L. Niccie, C. L. Gapenski and C. Louis, Nonpatient revenues in hospitals, *Health Care Management Review*, Lippincott Williams & Wilkins, **34**(3), (2009), 234-241.
- [10] I. Anagnostopoulou, M. Semertziadi, O. Siskou, D. Kaitelidou and V. Tsounias, Investigation of the intent of patients to participate in the cost in the health centre of Atalante, *Archives of Hellenic Medicine*, **28**(6), (2011), 777-784.
- [11] A. Kentikelenis, M. Karanikolos, I. Papanicolas, S. Basu, M. McKee and D. Stuckler, Health effects of financial crisis: omens of a Greek tragedy, *Lancet*, **378**, (2011), 1457-1458.
- [12] A. Kentikelenis, M. Karanikolos, I. Papanicolas, S. Basu, M. McKee and D. Stuckler, Health and the financial crisis in Greece, *Lancet*, **379**, (2012), 1002.
- [13] M.G. Schulenburg, German health care system in transition, *The European Journal of Health Economics*, **6**, (2005), 183-187.
- [14] E. Doorslaer, A. Wagstaff, H. Burg, T. Christiansen, G. Citoni, R. Biase, U. Gerdtham, M. Gerfin, L. Gross, U. Häkinnen, J. John, P. Johnson, J. Klavus, C. Lachaud, J. Lauritsen, R. Leu, B. Nolan, J. Pereira, C. Propper, F. Puffer, L. Rochaix, M. Schellhorn, G. Sundberg and O. Winkelhake, The redistributive effect of health care finance in twelve OECD countries, *Journal of Health Economics*, Elsevier Science, **18**(3), (1999), 291-313.
- [15] L. Liaropoulos, O. Siskou, D. Kaitelidou, M. Theodorou and T. Katostaras, Informal payments in public hospitals in Greece, *Health Policy*, Elsevier Science, **87**(1), (2008), 72-81.