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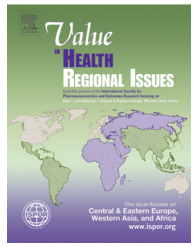

Global Budget for Cyprus' National Health System: The Promised Land or a No Man's Land?

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ABSTRACT

Background: Soaring health expenditures worldwide call for potent cost-containment approaches. Global budgets have been used by several countries to harness their health expenditures by constraining the total payable amount to a predefined budget threshold. **Objectives:** Cyprus is vacillating on the use of a global budget for its National Health System; nevertheless, its attributes must be scrutinized to rule out potential adverse effects on quality of care and access of patients. The delegation of budget across providers is a context-sensitive process and as such it must be based on historical data and performance incentives as well. **Conclusions:** A global budget is not a panacea, and consequently the enhancement of health system's performance, appropriateness assessment, and volume and capacity control measures are incumbent. A global budget demonstrates a higher complexity factor for pharmaceuticals, which mandates a thorough assessment of pharmaceuticals before their reimbursement and elaboration of measures to safeguard timely access to innovation.

Keywords: Cyprus, efficiency, global budget, health expenditure, health reforms, health system, pharmaceuticals, point value.

Introduction

Health agencies all over the world have been experimenting with several reimbursement systems for harnessing soaring health expenditures. Left unharnessed, they could jeopardize crowding out other publicly funded programs, such as in social and welfare services. In the optimum, yet illusive, health care reimbursement scheme, the attributes of efficiency, quality, managed care, and unobstructed access must be ingrained [1]. In this direction, the global budget (GB) has emerged to be among the most potent cost-containment measures and is defined as the legal obligation of the payer to not to exceed the annually set budget [2].

Global Budget

A GB is an array of the information systems and regulatory tools that are utilised to watch over the performance of the health care financing and delivery system, with the ultimate target to control spending. On a theoretical level, GB relinquishes the power of health authorities over expenditure, while it poses an incentive for providers to enhance the efficiency of their medical activities, which could lead to the avoidance of having their activities rationed by the payer. GBs come in many country-specific variations such as with full or partial market coverage. At the same time, the specified budget can be a hard cap budget (a budget that cannot be exceeded) or a soft cap budget (a budget that can be exceeded). A hard cap GB should be explicit and transparent, whereas a soft cap budget should outline how overruns are allocated among patients, providers, and payer(s). In the context of a GB, two health care providers will be positioned in a more advantageous situation if they both concomitantly reduce the volume of their health services, which would lead to a higher point value, that is, if they apply the *game theory* [3]. Nevertheless, what actually happens is the adoption of a high-service volume strategy as a tool to guarantee market share in the uncertainty context, a much safer option in a strict resource-defined GB system. A high-service pervasive strategy by all providers escalates the reduction of the point value, tumbling the actual reimbursement value, a phenomenon described as the *prisoner's dilemma* [4,5]. This intertwines with the theory of *common-property resources*, which assumes that providers who share a common and limited resource pool try to expand their relative market share and ultimately engage in a "noncooperative competition," which prioritizes services with a higher price-cost ratio [6]. Therefore, if prices are high, physicians behave like profit maximizers, whereas when point value plummets, they behave like satisfiers, inducing demand to satisfy their target income [5]. This was substantiated in Taiwan, which experienced an increase in the average length of stay by 7%, in claim-related expenses by 14%, and in out-of-pocket fees per admission by 6% after the introduction of the GB [7].

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Despite its logistical value, the GB can inflict significant strikes on health care provision. As the floating point value plummets in response to an activity increase, physicians try to game the system either by postponing interventions or by lowering their costs. Evidence from several countries demonstrated that the reduction in the point value, following an increase in the volume of provided services, escalates the reduction in real services provided by the billable unit. This can lead to shorter visits, fewer visit activities, or even use of lower quality materials [8]. In Germany, the GB hindered the introduction of new technology because the centralized point value setting scheme could not easily adjust to new and changing fees. Several hospitals in Canada offer only essential services in late December as a last option to remain within their budgetary limits, whereas in the Netherlands, hospitals reduce the provision of a service if its corresponding budget is exceeded [9]. These ensue to hidden costs for the patients, in the form of lost time, and also to the loss of well-being and productivity. Moreover, the GB is a major source of uncertainty to providers, who contract ex-ante on the basis of prices that are going to be determined ex-post. This comprises a type of Cournot competition and, consequently, providers try to increase their supply, a situation that leads to a marginal impact on overall price levels [10,11]. Thus, providers in this type of a GB scheme are likely to earn lower profits, particularly as the number of providers increases. To this effect, some providers may exit the market, but the inclusion of new providers in the market must be thoroughly assessed. In the United Kingdom, price competition led to adverse effects on acute myocardial infarction mortality, whereas it demonstrated improvement in waiting times, indicating an overall decline in the efficiency factor of the system.

GB for Pharmaceuticals

Germany's experience with GB constitutes an interesting case study. Germany applied a GB for pharmaceuticals that was applicable only to primary health care doctors. In 1993, a 10.5% reduction in prescription volume was observed compared with 1992 (before the application of the GB) [12]. As expected, overall expenditures were also reduced by 28.8% in January 1993 compared with the previous year, whereas the reduction was 23.4% for February 1993, demonstrating a downward trajectory, as stated by the 16.2% reduction in June 1993 (vs. the previous year) [13]. Nevertheless, an increase of 24.9% in December 1992 accentuated a potential effort by physicians to game the system by technically inducing prescribing to manipulate the forthcoming GB. At the end of 1993, Germany succeeded in terms of the GB, with actual expenditures being lower than the threshold. Several authors speculate that this measure came at the expense of an increase in both direct and indirect costs because physicians referred patients requiring expensive medicines either to hospitals or to specialists, where pharmaceuticals were sheltered outside of the context of the GB. This was substantiated by a 9% increase in referrals to specialists and a 10% increase in referrals to hospitals, resulting in an additional 1.3 billion deutsche marks (DM) in direct expenditures and DM 1.5 billion in indirect expenditures [14]. Among European countries, Italy is legally bound to a GB; this is, however, applicable only for outpatient medicines and not for inpatient medicines, which are the cost drivers. Any deficits can be addressed through the transfer of expenditure from other government sectors, such as public works, thus extenuating the adverse impact on health resources. Hungary also applies a GB in selected pharmaceutical categories, in the form of price-volume agreements, which provide that any spending that exceeds the agreed level will be returned by the industry to the payer, without affecting the price. Nevertheless, this is not applicable to the entire pharmaceutical sector because other measures, such as the name basis reimbursement, that are not regulated by the GB apply. Consequently, the total pharmaceutical budget usually exceeds the predefined levels.

With this backdrop, some authors postulate the exclusion of pharmaceuticals from the GB, which is not a hassle-free approach. GBs are leaky in cases in which only some fragments of the health market are included. This entails the eminent risk for a spill-out effect, as observed in the case of Taiwan. Taiwan introduced a hard cap GB while pharmaceuticals were reimbursed at fixed prices through a "sheltered" pharmaceutical expenditure. This led to the increase in the pharmaceutical expenditure after the GB was imposed and a specific pattern of channelling patients to pharmaceutical care was observed [15]. This effect was more significant for expensive products, whereas no effect was recorded for low-priced products, highlighting a potential lack of incentive to rationalize prescribing. In Taiwan, the introduction of the GB was related to the increase in sheltered drug expenditure, whereas it did not lead to a decrease in nonpharmaceutical expenditure, thus indicating that the cause of pharmaceutical expenditure increase is not a shift from nonpharmaceutical to pharmaceutical intervention. This was substantiated by a 15% increase in the number of prescribed procedures and medications per hospital admission [15].

Cyprus

Cyprus is the single European Union (EU) country without a universal coverage health risk-sharing scheme and is actively working towards the introduction of the much anticipated National Health System (NHS) [16]. Out-of-pocket payment (57%) exceeds public funding (43%). Total health expenditure, as a percentage of gross domestic product, is among the lowest in Europe, at 7.4%. But Cyprus performs well with regard to health indicators [17] (Table 1).

Financial crisis shifted cost-sensitive patients to the free public health care sector, whose functional capacity was

Table 1 – Health indicators.

Life expectancy (y)	
Women	83.4
Men	78.9
Average length of stay in hospitals (d)	7.4
Health spending per capita	1809 (EUR PPP)
Health expenditure as a share of GDP	7.4%
Standardized death rate for cancer	
Total	205.6
Men	277.0
Women	148.5
Ischemic heart disease mortality rate	
Men	175*
Women	89*
Stroke mortality rates	
Men	86*
Women	85*
Infant mortality rate	3.5
Practicing doctors per 1000 population	3
Self-reported health status (%)	
Very good	77
Fair	16
Bad	7

GDP, gross domestic product; PPP, purchasing power parity.
* Age-standardized rates per 100,000 population.