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Price setting for health care services: a taxonomy

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Abstract

Background. The process by which the price level is determined is a critical part of provider payment systems and strategic purchasing, even though few empirical studies exist.

Methods. Experts in Australia, England, France, Germany, Japan, the Republic of Korea, Thailand, and the United States of America carried out country case studies concerning health care services price setting and regulation approaches in 2019, using a structured qualitative outline. Case study information was collated, and comparative analysis conducted.

Results. Three main methods of price setting were identified: individual negotiations, collective negotiations and unilateral decisions by purchasers. Collective negotiations and unilateral price setting have the potential to control price levels and avoid price discrimination. No initiatives were formally evaluated.

Conclusions. Among countries studied, systems were in place to use price setting to control price levels, avoid price discrimination, and reduce administrative costs. More systematic cross-country evaluation and comparison is needed.
Keywords: case studies, health economics, health policy/politics/law/regulation, incentives in health care

Background

Health markets differ from conventional markets in several ways. [1] [2] Consumer purchasing power can be centralized in a single purchasing agency, through multiple payers as agents of consumers, or allocated to users in the form of benefits rather than cash. Furthermore, consumers with health insurance in many countries pay a relatively small co-payment or nothing. Finally, consumers face information asymmetry.

These differences make consumers less sensitive to price signals. In addition, the price signals that connect purchasers and providers operate differently because prices are not usually formed directly by the interplay of demand and supply.

Wide variation in health care prices has been established across countries in the Organization for Economic Co-operation and Development (OECD),[3] [4] and across regions within the United States of America (US).[5] Anderson and colleagues have concluded that high health care spending in the United States can be attributed largely to high health services prices. [6] [7]

A large literature examines the features of optimal payments for health providers and responses to incentives.[8] [9] [10] Provider payment systems create incentives or signals that influence how providers deliver services and what services are delivered so that provider behavior and health system goals are aligned. Price levels and payment methods create different sets of incentives, which may have strengths and weaknesses in different contexts.

Less attention has been paid, however, to the process of pricing health services even though such processes are a key component in purchasing the benefits package (the covered services) within the overall financing system.[11] [12] Price setting is defined as the administrative process or negotiation by

which prices are determined after the unit for payment (e.g., a general practitioner service, a day of care in a residential facility, or a case of hospitalization) is established.

With the increase in public spending on health towards progress toward Universal Health Coverage (UHC) to ensure access and financial protection, countries are paying more attention to value for public spending on health, and the decisions about how to channel funding and organize services to respond to people's needs. In this context, prices should be set at appropriate levels so as not to offset incentives in payment mechanisms. In example, prices for capitation payments must be at the appropriate level to avoid the provision of low-quality care, provider selection of healthier patients, or referral of complex cases that require a higher intensity of services to another service provider.

Prices are also linked to revenue raising, given that ultimately prices must be in line with the available resources. There are also associations with pooling, where price setting can be used to harmonize payment rates across different schemes or pools. Countries have aligned pricing policies with the broader goals of ensuring financial protection, equitable distribution of resources according to health needs, promotion of quality and public health objectives as well as controlling the growth in health care expenditures and increase efficiency.

The objective of this study was to compare the ways in which the process of price setting for health care services varied across countries, to come up with a taxonomy of price setting methods, and to look at advantages and disadvantages of the different methods in relation in particular to the policy goals of enhancing quality, controlling spending and increasing efficiency.

Methods

Eight countries were selected for the study: Australia, England, France, Germany, Japan, the Republic of Korea (Korea), Thailand, and the US. Among the eight countries chosen for the study, seven are OECD member states; Thailand is an upper middle-income country outside of the OECD. Current health expenditure as a share of gross domestic product ranges from 17% in the US to less than 4% in Thailand. The source of most health spending in all settings is compulsory (i.e., set aside by the government for certain health programs or initiatives). Australia, England and Thailand's Universal Coverage Scheme have systems in which most legal residents are automatically covered. In Korea, France and Japan, legal residents are covered mainly by employment-based contributory insurance schemes. In Germany and the US, multiple payers exist with choice of affiliation. These eight countries were also chosen based on differences in price setting and regulation governance. In England, Japan, Korea and Thailand, government entities conduct price setting and regulation. In Australia, France and Germany, independent entities were established. In the US, it is either federal/state set prices or price determination is left to individual market-based negotiations between purchasers and providers. [13]

Policy analysts working in each country collected information following a structured qualitative outline (see Appendix). They were chosen based on their knowledge of price setting systems in each country and on having published in peer reviewed journals on this topic. The US case study was carried out by an expert in the OECD. The focus of data collection was price setting in primary care and hospital settings for health services and excluded pharmaceuticals. Policy experts were asked to review in particular the main features of the transactions between the demand and the supply side that determine a price, the administrative costs of managing these transactions, the type of information needed to set a price, and the link between payment policies and prices with quality of care improvement.

Policy analysts collected information from published studies including peer-reviewed studies, grey literature, and data and publications from health websites. The detailed case studies were collated, and common approaches were identified across settings using comparison tables identifying key elements in cooperation with all of the authors. The focus was price setting for publicly funded services in all countries except the US where also private health insurance price setting methods were reviewed. The detailed case studies have been published [14], and this paper summarizes the main findings of the price setting process.

Results

Based on the comparative information gathered in the country case studies, and following Reinhardt [15], three main methods of price setting were identified: individual negotiations between providers and purchasers, collective negotiations between associations of providers and associations of purchasers, and unilateral decisions by purchasers.

In individual price setting, prices are agreed upon through negotiations between a health services provider and an individual purchaser, such as a private health insurance plan. Prices for the same service tend to vary substantially (price discrimination), reflect the parties' respective bargaining positions, and bear little relation to the cost of providing services or its quality.[16] [17] In addition, administrative costs are high because individual negotiations with multiple purchasers are associated with higher expenditures on health insurance marketing and administration, negotiation time, claims assessment and other billing activities.[18] In the countries in this study, individual price negotiations are used by US private insurance plans.

Under collective negotiations, a national purchasing agency or an association of purchasers (i.e., health insurers) negotiate with associations of hospitals or health providers, and the outcome of these negotiations would typically be a uniform fee schedule. As a consequence, an identical service is purchased at the same price from all providers. Collective negotiations may also face low administrative costs, given that substantially fewer resources are dedicated to many discrete negotiations between the demand and the supply side. At the same time, the level of conflict among the different stakeholder groups participating in the negotiation may increase as the space and the scope of negotiations widens. The process reflects in many cases the strength of a country's domestic institutions. Representatives must have the mandate to negotiate – whether legal or explicitly expressed by provider associations. The degree of bargaining power of the different professional associations may result in lower prices and payment for those associations with weaker influence. In addition, competition policy and legislation has bearing on the ability to engage in collective negotiations. For hospital services, collective price negotiations at central level are undertaken in France, Germany, Japan, Korea and Thailand.

Under unilateral administrative price setting, prices are fixed and set by the demand side. A form of yardstick competition rewards a given firm depending on its standing vis-a-vis an exogenous benchmarking independent of the costs incurred by each provider.[19] The purchaser usually reimburses providers at the average costs of production per unit of service observed across a set of providers. By doing so, the purchaser gives incentives to higher-cost providers to improve efficiency and reduce their costs, whereas providers with below-average costs have incentives to keep costs below the benchmark to retain the marginal difference. Unilateral, administrative price setting systems are complex to manage as they require information including cost, volume, and (possibly) outcomes. Adjustment factors such as hospital type or size and location are also applied to account for features that impact the cost of production. Where prices are set unilaterally by a purchaser, providers compete on quality rather

than price to attract consumers and increase volumes. However, in the hospital sector, evidence is mixed as to whether competition for quality is more likely to occur in markets with fixed prices.[20 21] Unilateral price setting presents a strong capacity to limit price increase, even if patient choice could be reduced in situations where providers do not accept payment rates and thus do not agree to provide services.

For hospital services, unilateral prices are set in Australia, England and under the US Medicare and Medicaid programs. Primary care services in Australia are funded mainly through the Medicare Benefit Schedule fees unilaterally determined by the Federal government.

Table 1 provides a comparative overview of the advantages and disadvantages of the three approaches to price setting described above.

Discussion

The objective of this study was to compare the ways in which prices in primary care and hospital care were set in eight countries to propose a taxonomy of these methods, and assess their advantages and disadvantages. Three main methods of price setting were identified: individual negotiations between providers and purchasers, collective negotiations between associations of providers and associations of purchasers, and unilateral decisions by purchasers.

In individual negotiations, used by US private health insurance plans, prices are largely unregulated and identical services is sold to different buyers at different prices (price discrimination), which may bear little relation to quality and cost of production. Moreover, administrative costs are high as a large amount of resources is devoted to marketing and administration and to billing activities.

Collective negotiations, used in France, Germany, Japan, Korea and Thailand, and unilateral administrative price setting, used in Australia, England and the US Medicare and Medicaid programs, avoid price discrimination given that a fixed price is agreed on or established. Furthermore, in comparison with individual negotiations, unilateral administrative price setting incurs lower administrative costs by insurers and health systems, but additional regulatory expenses may apply.[22] In addition, investments are needed in the process to ensure transparency and promote trust and confidence in the results among providers.

Finally, In terms of controlling price levels, the process of collective negotiations allows purchasers to exert market power vis-a-vis providers and their groups and reflect the overall budget and thus limit price increases. They also usually impose some overall expenditure controls (i.e., volume controls). This ability is even stronger in case of unilateral administrative price setting.

Some evidence from the case studies suggest that, where properly structured and evaluated, collective and unilateral price setting may perform better in achieving the policy objective of controlling the growth in health expenditure in comparison with individual negotiations. However, the available evidence base on the impact of the different price setting methods on enhancing quality and improving efficiency is small, heterogeneous, and mostly originates from the US. More systematic evaluation is needed.

Declarations

Ethics approval

Not applicable. The study did not involve human participants, human data or human tissue. The study did not involve individual level data.

Consent for publication

Not applicable

Availability of data and materials

The case studies used for this paper are publicly available at the WHO and OECD websites and can be accessed at https://apps.who.int/iris/handle/10665/325547 .

Competing interests

The authors declare that they have no competing interests.

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Author contributions

All authors analyzed and interpreted the case study information; SLB wrote the manuscript. All authors read and approved the final manuscript.

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Abbreviations

OECD: Organization for Economic Co-operation and Development

US: United States of America

Table 1. Taxonomy of price setting, advantages, disadvantages, and country examples

Taxonomy	Advantages	Disadvantages	Country/Financing scheme
Individual negotiations between providers and purchasers	Purchasers can accept lower prices from designated providers to ensure patient volume and capture guaranteed revenue. Allows more flexibility in adapting services to patients' preferences.	Providers with good reputations, specialized services, or sole providers can negotiate higher prices and control price changes. Price discrimination exists in which different payers pay different prices for the same services. Little price transparency exists. Administrative costs can be high because of expenditures on health insurance marketing and administration, negotiation time, and billing activities linked to multiple purchasers	US private insurers
Collective negotiations between associations of providers and purchasers	Price discrimination is eliminated, given that an identical service is purchased at the same price. Strong ability to use prices as policy instruments for public health objectives. Allows purchasers to exert market power and reflect the overall budget and fiscal affordability of the health sector and thus limit price increases. Relatively lower administrative costs in comparison with individual negotiations.	Price levels may reflect differing bargaining power among professional associations. Potential for conflict among the different stakeholder groups participating in negotiations. Methods and processes may be subject to competition policy and legislation, and limit application to private health care sector.	At central level in France, Japan, Korea and Thailand. In Germany, DRG weights are centrally defined and prices are set at local level.

	Prices are transparent to providers and public.		
Unilateral decisions by purchasers	Provides incentives for higher-cost providers to improve efficiency. Price discrimination is eliminated, given that an identical service is purchased at the same price. Strong ability to use prices as policy instruments for public health objectives, i.e., through add on payments or other price adjustments. Strong ability for purchasers to exert market power and reflect the overall budget and fiscal affordability of the health sector and thus limit price increases. Relatively lower administrative costs in comparison with individual negotiations. Prices are transparent to providers and public.	May reduce patient choice if providers do not accept the payment rates.	Australia, England, and under the US Medicare and Medicaid programs.

Appendix

Terms of reference of the country case studies

i. Overview of the context, objective and actual use of prices to pay health care providers.

ii. Describe for each relevant unit of analysis (i.e. primary care and hospital care) tools and processes in place for price setting and regulation at country level:
    a. Is there an institutionalised process to negotiate base price? If yes, does it involve stakeholders?
    b. Is there any experience with bundled payments? If yes, how is the price for the care package set?
    c. Is there a price regulation in place? What is the organisation/body responsible for regulating prices?
    d. Does the price differ between private and public providers?

iii. Describe for each relevant unit of analysis (i.e. primary care and hospital care) practicalities and technicalities of mechanisms used for price setting, including adjustment factors.
    a. How is the price unit defined?
    b. What cost elements/services does the price cover? How are cost elements/services not covered by the price financed?
    c. Are the prices binding for providers, or private purchasers? Is balance billing permitted or some groups of patients or providers excluded?
    d. Is there a policy that links the price paid to observed quality (e.g pay-for-performance mechanism)?
    e. Does there operate a scale mechanism that links the price paid to a volume/budget threshold?
    f. For hospital care, does there operate a mechanism that used marginal cost to adjust prices for long stay or high cost outlier cases?

iv. Review evidence on the effects of price setting and price regulation on country stated objectives.

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