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Process by which price is determined

Once the base for payment is established, there is an administrative process or negotiation by which prices are determined. These processes can be grouped into three main methods:

- Individual negotiations between providers and payers.
- Negotiation between associations of providers and payers.
- Unilateral administrative price setting.

In this section, we review each in turn, discuss implementation issues, and then present practical examples.

4.1 Individual negotiations

Under individual negotiations, prices are agreed upon through negotiations between individual health insurers or self-paying patients and individual providers of health care services. Transaction prices are the result of many discrete negotiations often unknown to final consumers and to the public, and the results may be treated as commercially sensitive (Reinhardt, 2006). In the USA, this is changing with recent pressures to increase price transparency and promote consumer sensitivity to prices (CMS, 2018).

There are several key features of individual negotiations. Like the negotiation of any good, prices reflect the parties' respective bargaining positions. Those parties with stronger market power, for example, will have stronger bargaining power. Under individual negotiations, a concentration of purchasers and providers will have stronger bargaining power. In theory, if an insurer covers a large share of the population, beneficiaries can be guided to use "in-network" providers with which it contracts. Under such a system, providers may agree to accept relatively lower rates from the insurer to ensure patient volume and capture guaranteed revenue. The use of macro-level budgeting tools in some countries limits expenditure growth even under individual price setting methods (Shut and Verkevisser, 2017). However, in practice, providers with good reputations or brands, specialized services, or those representing the largest or sole provider in the region have strong leverage to demand higher rates from insurers and can control price changes over time (Berenson et al., 2015; Baker et al., 2014).

Under individual negotiations, there will be price discrimination, in which identical services can be purchased by different payers at different prices. The US private health care market commonly reports variations in prices for the same services that bear little relation to the cost of providing services, its quality or patient severity. Published reports across the USA (i.e., Massachusetts, New York, Rhode Island, Vermont, and New Hampshire) cite wide provider price variation and conclude that high prices are correlated with a provider's

position within the health care market, defined by size, competitive position and/or brand (Commonwealth of Massachusetts, 2017). For example, Massachusetts reported differentials of 2.5 to 3.4 between the hospitals with the highest and lowest prices for the same set of services (ibid).

In addition, administrative costs are high because of expenditures on health insurance marketing and administration, and on billing activities. These administrative costs represent a loss to society, whereby large sums of money are dedicated to administrative procedures that do not promote health and welfare.

4.2 Collective negotiations

Under collective negotiations, associations of payers (i.e., health insurers) negotiate with associations of hospitals doctors or other health providers. The outcome of these negotiations would typically be a uniform fee schedule that would apply to all payers and providers. In some settings, overall growth in health care spending is constrained by using macro-economic metrics, i.e., economic growth rates, expected payroll increases, inflation rates, increases in health care utilization, and population growth and ageing (Reinhardt 2012b).

There are wide differences in the objects and levels of negotiation. Frequently negotiations take place when determining payment levels to health care professionals, where the objective is to ensure an optimum income. For physician services, among countries in this study, price negotiation takes place at central level between third party payers and insurers (Japan, Republic of Korea, France), at local level on point value following central level negotiations on resource based relative value scales (Germany), or at central level for capitation payments (England). In some settings, negotiations can take place at local level for prices (i.e., Canada, New Zealand), or capitation payments (Sweden) (Paris, Devaux and Wei, 2010).

There are several key features of collective negotiations. Price discrimination present in individual negotiations is eliminated, given that an identical service is purchased at the same price. Collective negotiations also face much lower administrative costs in comparison with individual negotiations, given that substantially fewer resources must be dedicated to billing and marketing. 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.

4.3
Unilateral price setting

The third method of determining price levels is unilateral administrative price setting by a regulator. When prices are administered, a form of *non-price yardstick competition* rewards a given firm depending on its standing vis-a-vis benchmarking (Shleifer, 1985).[4] Setting national prices based on average costs through yardstick competition gives incentives to higher-cost providers to improve efficiency and reduce cost.[5] Providers with below-average costs have incentives to keep prices below the average to retain the marginal difference.

Unilateral price setting eliminates price discrimination. Prices for hospital services are often set unilaterally and may include add-on payments to ensure equity and access.

Like collective negotiations, the unilateral administrative method eliminates price discrimination, given that a fixed price is established. In comparison with individual negotiations, unilateral administrative price setting incurs lower administrative costs by insurers and health systems, but additional relatively smaller regulatory expenses may apply (Anderson and Herring, 2014). Prices for hospital services are often set unilaterally and may include add-on payments to ensure broader public health goals such as equity and access. A unilateral, administrative price-setting system requires information including cost, volume, and outcome given that prices are usually cost-based (average, marginal) or normative (efficient). Adjustment factors are used by the provider or by service to account for features that impact the cost of production. Examples of such loadings include hospital type or size, location, patient complexity and teaching activities.[6]

Where prices are regulated, providers compete on volume and service quality rather than price to attract consumers. As such, pressures to reduce costs could result in efficiency gains rather than reduced quality. In Maryland, the all-payer approach resulted in closing smaller facilities and high-cost hospitals, resulting in efficiency gains and improvements in patient flows (Murray and Berenson 2015).[7] The Medicare and Maryland unilateral price setting approaches have been combined with quality incentives that promote evidence-based clinical guidelines and provide incentives for reducing hospital readmissions and nosocomial infections. As a result, quality improvements were reported (Calikoglu, Murray, and Feeney 2012). Studies conducted in the USA generally conclude that price setting by a regulator also improved hospital financial stability (Murray and Berenson, 2015; Murray 2009).

4 This benchmark (or shadow firm) may be set by averaging the choice among other firms in the group. Each firm is thus forced to compete with its shadow firm. If firms are identical or if heterogeneity is accounted for correctly and completely, the equilibrium outcome is efficient.

5 Strictly speaking, collective negotiations and agreements prices may also follow a form of yardstick competition.

6 These loadings may also apply to collective negotiations/agreements.

7 The all-payer approach refers to a hospital payment system in which all payers (both public and private) pay the same rates.

Fixed price systems allow transferring the treatment risk from the insurer to the provider (Kumar et al., 2014). For instance, if the patient requires a certain treatment that is only partially covered by the fixed price, the provider must bear the additional cost. Under unilateral systems, formal consultations can ensure that health care providers are consulted in determining the prices for which they are compensated and that the decision-making is perceived as fair and transparent to all parties.

Figure 13
Methods of determining price levels by base for payment and how they may contribute to health systems objectives

Method for determining price levels	Controlling price levels	Avoiding price discrimination	Improving quality	Expanding choice	Increasing price transparency/ information	Reducing administrative costs
Individual negotiations	0	0	?	+	0	0
Collective negotiations	+	+	?	+	+	+
Unilateral administrative	++	++	?	+	+	+

Source: Authors. 0: little/no impact; +: positive impact; ++: strong positive impact; ?: inconsistent evidence.

Each of these three methods can be described in terms of how they may contribute to broad health systems goals (Figure 13). In the late 1960s and early 1970s in the USA, at least 30 states had implemented approaches to either review or directly regulate hospital rates and budgets (McDonough, 1997). This allows a comparison of the methods of price setting. Where properly structured and evaluated, unilateral price setting by a regulator performed better in reducing cost growth and/or improving access in comparison with market-based systems (Anderson, 1991, Atkinson, 2009; Sommers, White and Ginsburg, 2012; Murray and Berenson, 2015). Robinson and Luft (1988) estimate that, between 1982 and 1986, state rate setting approaches by regulators reduced growth in hospital expenditures by as much as 16.3% in Massachusetts and 15.4% in Maryland, in comparison with a control group of hospitals in 43 states.

Using 2011 insurance claims data covering 38% of people with employer-sponsored health insurance in the USA, Cooper et al. (2018) compared hospital prices, negotiated rates (conducted through individual negotiations), and Medicare reimbursements (set unilaterally) for a series of risk-adjusted conditions. For inpatient care on average, the negotiated price was US$ 14,020; the full hospital price was 207% of the negotiated price, and Medicare payments were 45% of the negotiated price. Ironically, those with the least bargaining power and ability to pay (self-payers and the uninsured) are subject to paying the full charges (Tompkins et al., 2006; Anderson, 2007). Similar patterns were reported for hip and knee replacements,

where the Medicare payments were 55% of the negotiated price. Selden et al (2015) report that private insurance payments rates in 2012 were 75% greater than Medicare payments, and suggested that this gap has increased over time.

From an international perspective, the comparative price level index for hospital services is lower in France where 83% of revenues are controlled under regulated prices as compared with the USA (Lorenzoni and Koechlin, 2017). Sizable differences in total health spending in the USA compared with the OECD median are attributed in part to the way in which prices are set in the private health care sector (Anderson et al., 2003; Anderson, Hussey and Petrosyan, 2019). In the hospital sector, competition for quality is more likely to occur in markets with fixed prices, although evidence is mixed (Allen, Fichera and Sutton, 2016; Anderson, 1991; Gaynor, Moreno-Serra and Propper, 2013; Gaynor and Town, 2011).

Based on the evidence available in comparing the three methods, unilateral price setting eliminates price discrimination and has performed better in controlling the growth of health care costs. Both collective negotiations and unilateral administrative price setting have the potential to improve quality better than individual negotiations.

4.4
Process of price setting by base for payment

Using the base for payment as the starting point, Figure 14 illustrates the relationships between the base for payment and the three administrative and economic processes by which the price level is determined. Using this framework, we can identify examples from the case studies and elsewhere to illustrate the process of price setting.

Figure 14
Method of determining price levels by base for payment

Method of determining price level	Base for payment			
	FFS	Per case	Capitation	Per diem
Individual negotiations between providers and payers	A	B	C	D
Collective negotiations between associations of providers and payers	E	F	G	H
Unilateral administrative price setting	I	J	K	L

Sources: Adapted from Reinhardt, 2012b. Note: FFS: fee-for-service.

Individual negotiations between providers and payers (A-D)

Private health care in the USA is theoretically a conventional market with individual negotiations for FFS payment to outpatient clinics and hospitals, and per diem payment for inpatient services (Figure 15). However, both hospital and insurer markets have become so concentrated that consumer choice is often very limited, and physician markets are also becoming more consolidated. Significant premium increases and the profits of the health insurance industry in recent years suggest that little, if any, of the benefits of insurer bargaining power are being passed to consumers (Gaynor and Town, 2011). On average, prices in the private health care market have been reported as approximately 50% higher than average hospital costs; they are frequently 50% or more of Medicare payment rates (Cooper et al., 2018; Medicare Payment Advisory Commission 2018).

Private insurers in the USA utilize government (Medicare) payment rates as a starting point for individual negotiations. As such, Medicare has significant influence over the prices that private insurers pay.

It should be noted that private insurers in the USA utilize government (Medicare) payment rates and relative values as a starting point for their individual price negotiations. As such Medicare has significant influence over the prices that private insurers pay (Clemens and Gottlieb, 2016). Prices for private hospitals in Thailand are also negotiated individually for certain services.

In Germany's LTC system, agreements are made between the state associations of LTC funds (both public and private) and state associations of nursing home providers. The provision of care is supervised by the respective state authority (the Ministry of Social Affairs or Ministry of Health). Prices are negotiated individually between nursing homes and LTC funds. Nursing homes that wish to provide care reimbursable under these agreements can negotiate a contract with sickness funds to provide nursing care for their enrollees. This applies to both social health and public health insurance funds. In return, nursing homes must adhere to quality criteria, such as staffing ratios. Per diem payments are made for nursing care (a lump-sum payment from LTC funds), and patient copayments cover housing and meals, infrastructure, training and additional services.

While the Netherlands is not included in the report, an example of price setting is included for completeness. In the Netherlands, health insurers can negotiate contracts with individual hospitals for many services (the "B-segment") (Kroneman et al., 2016; Shut and Verkevisser, 2017). Some insurers negotiate a lump-sum budget while others negotiate on price and/or volume for individual treatments. Furthermore, health insurers negotiate with multidisciplinary groups for a single bundled payment for diabetes, chronic obstructive pulmonary disease, and asthma. In turn, care groups negotiate with general practitioners about the share of the total price that will be paid for their services. For the remainder of hospital production (the "A-segment"), including more complex cases, prices are unilaterally set by the Dutch health authority.

Collective negotiations between associations of providers and payers (E-H)

In the Republic of Korea, the National Health Insurance Policy Deliberation Committee determines the scope of the benefits package and the level of cost sharing. The National Health Insurance Corporation and provider representatives then negotiate the prices and payment conditions annually. All provider associations contract with the insurance corporation, although the terms of the contracts may differ. The RBRV, or the value of procedures carried out by health care providers, is established centrally, and negotiations are done on point value for blended FFS and case-based payments in public hospitals.

In Japan, FFS payments are negotiated at central level with medical associations and third-party payers for outpatient and primary care. A Diagnosis Procedure Combination (DPC) per diem payment system is used to pay for over half of beds for acute hospital care. At the same time, FFS continues to be used for surgical procedures, endoscopic examinations, rehabilitation therapy, devices, and pharmaceuticals given on the day of surgery. The per diem rate differs according to four groups, reflecting variations in the length of stay, and weighted by different coefficients. For example, efficiency coefficients reward hospitals with shorter lengths of stay after adjusting for case-mix. The complexity coefficient rewards hospitals that have more complex patients. Hospitals have reacted to the incentives in the DPC payment by transferring services to outpatient departments where they could be billed using FFS or discharging patients earlier so that they would receive higher per diem payments. On the positive side, incentives for quality increased leading to more extensive use of clinical treatment guidelines.

In Germany, the cost weights for federal base prices are negotiated centrally; the DRG base rates for states are then negotiated between sickness funds and hospitals within a given range to set prices. Subsequently, at local level, budget negotiations take place between individual hospitals and larger sickness funds. For hospital inpatients, the social health insurance (SHI) state associations contract all hospitals that have an agreement with the state (the majority of all hospitals). In the public health insurance (PHI) system, patients can access all hospitals and claim reimbursement from their PHI fund. Hospitals are reimbursed almost exclusively based on DRGs. Prices are mostly calculated at the federal level. States can deviate from the overall price level within a predefined range. The budget of a hospital is negotiated between an individual hospital and the SHI and PHI funds.

In the outpatient sector in Germany, state associations of SHI funds have closed collective agreements with their state's associations of SHI physicians (KV) and consequently contract all physicians who are licensed by the KV. Physicians are reimbursed by the SHI funds and must adhere to location restrictions and quality controls by their KV. Physicians are

reimbursed by a mixture of FFS and lump sum payments. Like the inpatient sector, prices are set at the federal level and tailored to specificities at the state level. In contrast to the inpatient sector, services are budgeted. SHI funds pay an aggregate budget to their state's KV, and the KV distributes the budget among its SHI physicians. Services to PHI patients are reimbursed differently, albeit by a FFS system. Patients can receive services from all physicians who hold a medical licensure to practice and claim reimbursement by the PHI fund depending on their health plan. As opposed to the SHI system, services are not budgeted. It can be noted that there is no quality control or supervision.

In France, primary and outpatient specialist services are currently funded on a negotiated FFS basis, although this may change in the foreseeable future with the introduction of a pay-for-performance scheme and bundled payments. The fees are set through formal negotiations between the unions of statutory health insurance funds (UNCAM), the government, and unions of health professionals. This leads to a collective national agreement or a contract that aims to regulate the cost and activity of the ambulatory sector.

In England, primary care services are primarily funded through capitation payments for four primary care contractor groups (medical, dental, eye health and pharmacy). The capitated funding is based on each practice's registered list size with a fixed, nationally agreed price per patient, and the actual amount paid is calculated practice-by-practice. Price negotiations are carried out between National Health Service (NHS) England and the General Practitioners Committee of the British Medical Association on the General Medical Services contract. For secondary care, national tariffs are centrally calculated based on cost information submitted by providers. There is a statutory consultation on the methodology used to determine the prices and any changes to the payment rules, and scope of the tariff. Should an objection threshold be breached, the methodology is reviewed. An informal consultation takes place in advance on key proposals, and adjustments made as required before the statutory consultation. Expert clinical groups review the draft prices, and manual adjustments can be made.

Thailand uses capitation payments for primary health care centres and DRG payments for hospitals through collective negotiations. Working group members for negotiations include both public and private providers, who review and negotiate unit costs and concur with the utilization rates. The final figures are constrained by annual fiscal capacity, which is a political decision based on the costs required for service provision for Universal Coverage Scheme members in a given year. The Universal Coverage Scheme sets the global budget for the maximum total payment for inpatient services, while the other two schemes (Social Health Insurance and Civil Servant Medical Benefits Schemes) do not use global budgeting.

Figure 15
Method of determining price levels by base for payment, by setting

Method of determining price level	Base payment			
	FFS	Per case	Capitation	Per diem
Individual negotiations between providers and payers	USA (private health care): outpatient clinics, hospitals Thailand: private for-profit hospitals for certain conditions	The Netherlands: hospitals. B-segment activity The Netherlands: GPs. (Bundled payments for diabetes, COPD and asthma)		USA (private health care): inpatient services Germany: nursing care
Collective negotiations between associations of providers and payers	Japan, Republic of Korea, France: outpatient and primary care Republic of Korea: hospitals (blended fee-for-service and case-based payments) England: outpatient care Germany: outpatient care (FFS+ lump sum)	Germany: hospitals for local rates (after DRG weights are set unilaterally) England: hospitals France: acute care hospitals Thailand: hospitals	England: primary care (medical, dental, eye health and pharmacy) Thailand: primary health care	Japan: hospitals (diagnosis procedure combination+ fee-for-service)
Unilateral administrative price setting	USA (Medicare, Medicaid): primary care Australia: outpatient and primary care The Netherlands: general practitioner payments	USA (Medicare): hospital inpatient and outpatient care, and ambulatory surgical centres Maryland (preferred providers): hospital inpatient and outpatient care Germany: hospitals (DRG-weights) Australia and France: public hospitals and private patients in public hospitals The Netherlands: hospitals. A-segment activity (more complex cases)	USA (Medicaid): managed care	USA (Medicare and Medicaid): skilled nursing facilities

Source: case studies (see annexes), authors. Note: GP: general practitioners; OP: outpatient; COPD: chronic obstructive pulmonary disease; FFS: fee-for-service; G-DRG: German Diagnosis Related Group.

Unilateral administrative price setting (I-L)

In the USA, where hospital market consolidation has resulted in higher prices, unilateral price setting has been used to control spending growth and avoid inequalities in the Medicare program for preferred providers and in the state of Maryland. Medicare fees are set centrally, and prices administered for the entire country. The Medicare program establishes prices per case (DRGs) for hospitals and pays hospitals a bundled payment to cover the resources needed based on the estimated costs incurred by a hospital with average efficiency in managing that case. The Medicare and Medicaid programs also unilaterally set the per diem fees for skilled nursing facilities, which is adjusted for patient case mix. Since 2014, Maryland operates an all-payer system for both inpatient and outpatient care at hospitals, with price levels determined by a commission of stakeholders.

In Australia, general practitioners are paid by fee-for-service based on the Medicare Benefits Schedule. Patients are entitled to a rebate from eligible providers, and the MBS rebate acts as a floor price for fees.

In Australia, general practitioners are paid by FFS based on the Medicare Benefits Schedule (MBS) determined by the government. When the MBS list was first introduced, the fees were based on the Australian Medical Association's (AMA) list of "most common fees" charged. At that time, the AMA fees reflected a market-based price based on a practice costs and patient willingness to pay. At present the MBS fees for primary care consultations have been indexed to the wage-price index and the consumer price index. Patients are entitled to a rebate for treatment from eligible providers, and the MBS rebate acts as a floor price for fees. If the fee charged is equal to the MBS rebate, the patient faces no co-payment.

Funding of Australian hospitals reflects federal-state financial relationships and public and private interests. State governments own and operate public hospitals but are reliant on financial transfers from the federal government for financing. Until 2011, specific bilateral agreements for public hospital funding were negotiated every five years. After 2011, under the National Health Reform Agreement, the federal government provided shares of federal funding based on the growth in public hospital activity (measured by DRG weights) and hospital costs based on the national efficient price. Federal government funding was paid directly to the local hospital network. States and territories covered the funding balance, and thus they were designated as the system managers with the responsibility for managing volume growth. In France, hospital prices are set unilaterally by the Minister of Health.

In comparison, prices are set by the Dutch health care authority based on FFS for general practitioners, whereby the maximum price for FFS payments is established, accounting for 75-80% of general practitioner earnings. The Dutch authority also establishes per case price setting for hospitals for more complex cases.