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Infrastructure for costing and pricing

7.1 Institutional entities

In some settings, the task of price setting is located directly under the responsibilities of the government ministry (Figure 19). This occurs in England, Japan, Republic of Korea, and Thailand. In England, the NHS responsibilities for price setting are shared by NHS Improvement and NHS England who are working under a joint operating model since April 2019. In Japan, the Bureau of Medical Affairs sets forth the biennial revision of the fee schedules and authorizes negotiations between the Japanese Medical Association and other stakeholders with the Ministry of Health, Labour and Welfare. In the Republic of Korea, the Health Insurance Review and Assessment costs and analyses provider behaviour related to pricing.

The Thai National Health Security Board is a state agency under the supervision of the Public Health Minister and works towards implementation of the Universal Health Coverage Scheme. A sub-committee on financing analyses unit costs, utilization rates, high cost interventions, and all other benefit packages as approved by the Board and proposes a capitation budget. The benefits of this approach are the linkages between payment systems for primary and inpatient care, and the close alignment between payment systems and government goals.

Others have set up independent agencies that are responsible for developing and updating hospital prices and DRG schedules. This has occurred in Australia, France, and Maryland (Figure 20). In Australia, the Independent Hospital Pricing Agency reports to a board chosen by the national and state and territory governments. It has broad responsibilities for activity-based costing, the classification system, data collection, and calculating costs. It employed 42 staff in 2017/18, and its operating budget was AUS\$ 17.9 million. In France, the Technical Information Agency of Hospitalization (ATIH) was created in 2002 as an independent public administrative institution, which is co-funded by the government and the national health insurance funds. It collects data and categorizes DRGs. In 2017, it employed 118 staff, and its budget was approximately EUR 29.4 million.

Figure 19
Technical agencies mandated for price setting, where located within the government

| Setting | Institution responsible | Tasks | Resources |
|-------------------|--|--|--|
| England | National Health Service (NHS) Improvement, NHS England | NHS Improvement regulates resource use, financial levers and operational performance using a shared definition of quality and efficiency by the Care Quality Commission. Their responsibilities include commissioning health care services in England; contracting for general practitioners, pharmacists, and dentists; supporting Clinical Commissioning Groups that plan and pay for local services such as hospitals and ambulance services; and calculating prices. | NHS England and NHS Improvement employs approximately 7500 staff, and some 75 staff work in the two pricing teams. |
| Japan | Ministry of Health, Labour and Welfare (MoHLW), under the Bureau of Medical Affairs | The Prime Minister sets the global revision rate in the biennial revision of fees and the conditions of billing that establish the human resource requirements and patient conditions. The Bureau of Health Insurance serves as the secretariat to ensure that the cumulative effect on item revisions are made equal to the global budget. It negotiates with the Japanese Medical Associations, hospital associations, and specialist groups about the details of the revisions. | Staff in the Medical Affairs Division number 84 in total, including 20 physicians, 2 dentists, 2 pharmacists, 2 nurses, and 12 career bureaucrats, with the rest being administrative staff. |
| Republic of Korea | National Health Insurance Corporation (NHIS), Health Insurance Review and Assessment (HIRA), Insurance Policy Deliberation Committee (HIPDC), National Health Insurance Service (HIRA), Ministry of Health | The HIRA costs and analyses provider behaviour related to pricing. One of the key institutions under HIRA is the Healthcare Review and Assessment Committee, which plays an important role in the benefits design, review, and assessment. The HIPDC approves major decisions about health insurance, including contribution rates, benefit packages, pricing, etc. The HIRA and each provider association (for physicians, hospitals, pharmacists, etc) negotiate fees. | The NHIS has about 14,000 workers. HIRA has about 2500 staff, one headquarters (22 departments), one research institute, and seven regional offices. The Health care Review and Assessment Committee consists of approximately 1,050 members, with a maximum 50 full-time members. HIRA also has various expert committees to support technical decisions. |
| Thailand | National Health Security Office (NHSO), National Health Security Board (NHSB) | The NHSO is a state agency under the supervision of the Public Health Minister, working towards the implementation of the Universal Coverage Scheme. The sub committee on financing under the NHSB analyses the unit costs, utilization rates, high cost interventions and all other benefit packages as approved by the NHSB, and proposes a capitation budget. | NHSO has 881 staff (464 in the HQ office, and 467 in 13 regional offices). Staff generate the annual budget, monitor and purchase services, improve access and financial risk protection to its 47 million members. The total administrative cost is 1.49% of total budget (average 2003-19). |

Sources: case studies (see annexes).

Figure 20
Technical agencies established for hospital price setting

| Setting | Entity | Responsibilities | Resources |
|---------------|---|--|---|
| Australia | Independent Hospital Pricing Authority (IHPA) | The IHPA's role is price determination. It takes responsibility for the ongoing development of the component parts required by activity-based costing, the classification system (AR-DRGs and for sub-acute and non-acute services in the Australian National Sub-acute and Non-Acute Patient Classification), data collection on activity (the National Hospital Data Collection), calculating costs (with a standard framework for costing activities, i.e., the Australian Hospital Patient Costing Standards). | For the financial year 2017/18, the IHPA's total expenses were AUS \$17.9 million and 42 staff were employed. |
| France | Technical Agency for Hospital Information (ATIH) | The ATIH is an independent public administrative institution co-funded by the government and national health insurance funds, under the control of the Social and Finance Ministries. It collects data on hospital activity in order to establish a national schedule, and undertakes financial analysis of health care facilities and of the health system. | For the financial year 2017, the ATIH employed 118 staff and its expenses amounted to EUR 29.4 million. |
| Germany | Institute for the Hospital Remuneration System (INEK) | The INEK is jointly supported by the Federal Association of Sickness Funds, the Association of Private Health Insurance, and the German Hospital Federation. It receives data from hospitals annually to develop the Case Fee Catalogue for the following year. A total of 253 hospitals (13% of the total) share data that follow a standardized cost accounting approach to calculate the costs of treating individual patients. Participating hospitals receive a fixed allowance for sharing the cost accounting data. | All hospitals pay a DRG system contribution per hospital case, and the InEK receives 1/3rd of the total contribution to fund their activities. In 2017, the INEK's estimated budget was EUR 5 million. It employs approximately 50 staff. |
| Maryland, USA | Health Services Cost Review Commission (HSCRC) | The HSCRC works closely with the Maryland Department of Health, and its seven commissioners are appointed by the Maryland governor. It is authorized to establish hospital rates to promote cost containment, access to care, equity, financial stability and hospital accountability. It is given broad responsibility regarding the public disclosure of hospital data. All Maryland hospitals are paid on the basis of the rates established by the HSCRC. These rates are updated each year based on multiple factors, including the Medicare "market basket" forecast, economic conditions, productivity improvements, changes in case mix and the previous year's performance. | The HSCRC employs 39 full-time staff, with a budget of \$14.1 million funded by fees collected from hospitals. |

Sources: case studies (see annexes).

In Germany, the Federal Association of Sickness Funds, the Association of Private Health Insurance, and the German Hospital Federation established the Institute for the Payment system in Hospitals (InEK). It is not an independent entity, but a public entity supervised by the three parties. To fund the operations of the Institute, the three parties negotiate annually an amount in which hospitals pay a DRG system contribution per case. Participating hospitals receive two-thirds of the contribution, whereas the InEK receives one-third. In 2017 and 2018, the contributions amounted to EUR 1.30 and EUR 1.31 per case, respectively. Given that the number of cases amounted to over 19 million in 2017, this implies that the InEK received a budget of EUR 5 million. Generally, these institutes are responsible for the technical details of price determination, including establishing common frameworks for price estimation and collecting directly or commissioning the collection of data.

Notably, the InEK neither collects or commissions data. It employs approximately 50 staff.

Maryland established the Health Services and Cost Review Commission in 1976 to regulate hospital fees for all hospitals, based on a list of approved fees for specific services and departments. It works closely with the Maryland Department of Health and its seven commissioners are appointed by the Maryland governor. The agency is thus independent, and its decisions are not reviewed by the legislative or executive branches. The Commission is responsible for updating the rates annually and publicly disclosing hospital data. It employs some 39 staff and has a budget of US\$ 14.1 million funded by hospital fees.

While situations vary, independent agencies may have more freedom from conflicts of interest, and the political standing to resist industry and regulatory capture. The establishment of national independent agencies can help to promote comparability and harmonization of clinical classifications across hospitals. In some settings, such harmonization applies across both public and private sectors, whether through the contracting of services or price benchmarking.

7.2 Formal stakeholder consultation

Many stakeholders have an interest in the outcomes of price setting and regulation, particularly medical doctors and health care provider associations. Lack of formal consultation and stakeholder engagement can lead to stalemates in the price setting process. In the case of the USA, political challenges led to the downfall of price regulation in many states in the 1980s, despite the positive impact of fixed prices on cost savings (Hadley and Swartz, 1989). Feedback from health care providers involved in care provisions may ensure acceptability of the regulated fees. A balance must be found between maintaining dialogue with stakeholders, including the health industry, while also observing objectivity and independence. To address this challenge, formal consultation processes have been implemented that involve stakeholders in the discussion of the base price and the cost elements that it covers.

The Maryland Health Services Review Commission has an Advisory Committee and technical working groups that conduct formal expert technical consultation. In Australia, consultation and stakeholder feedback is an integral part of the price setting processes. The pricing authority works with a Jurisdictional Advisory Committee and a Clinical Advisory Committee in developing its systems and analyzing data. Its pricing framework establishes various principles, including transparency, and the framework itself is reviewed annually in consultation with the federal government, states, and territories. There is also a period of public consultation, and the studies are published on the authority's website, including the list of prices.

Japan's consultation process takes place within the Central Social Medical Care Council, which is composed of seven members from payer groups (including social health insurance, business, and labour), seven members from provider groups, six members who represent public interests, and ten specialists representing professional associations and industry. In the Republic of Korea, the Health Insurance Policy Deliberation Committee consists of 25 members, chaired by the Vice Minister of Health and Welfare. Eight members represent payers (including labour unions, employer associations, civic groups, consumer associations, farmers associations, and self-employment associations), eight from health care professional associations (representing medical doctors, hospitals, traditional medicine practitioners, dentists, pharmacists, nurses, and pharmaceutical manufacturers); and eight experts and public agency representatives (from Ministries of Health, Strategy and Finance, Health insurance, and independent experts). In Thailand, the proposed budget for the Universal Coverage Scheme is evaluated by all relevant actors including the Ministry of Finance, Bureau of Budget, technical experts, and health care provider representatives.

In England, public consultation on the price-setting methodology is formalized with internal stakeholders, as well as the external clinical community, NHS service providers, and Clinical Commissioning Groups to ensure that new proposals make clinical sense and are practical to implement. If more than 66% of commissioners or providers object, the regulated prices must be referred to the Competition and Markets Authority or a new consultation is conducted.

7.3

Investments in data collection

The determination of the payment method and the collection of data for costing is closely linked with the information that is available. Each approach to costing requires different information and inputs (Figure 21). Top-down costing approaches, for example, require the availability of health provider cost information by department and major categories (i.e., salaries and medicines). The availability and accuracy of this information is a determinant of how costs and prices are calculated. Recognizing the incentives inherent in the traditional line-item budgets, and to be able to modify payment methods over time, investments have been made into data collection systems to collect input costs, output volumes, and outcomes.

Figure 21
Data management capacities required by base for payment

| Capacities | Line-item budget | Global budget | Capitation | Fee-for-service | Case-based payment |
|---|------------------|---------------|------------|-----------------|--------------------|
| Basic accounting | X | X | X | X | X |
| Management of enrolment database | | | X | | |
| Ability to project revenues and expenditures | | | X | X | X |
| Programming of DRG grouper | | | X | X | X |
| Automated claims processing | | | | X | X |
| Cost accounting system to calculate relative case weights | | | | X | X |

Source: Adapted from Cashin, 2015.

Özaltın and Cashin (2014) identify a few lessons for middle-income settings about developing the required minimum dataset for implementing payment systems. They recommend focusing on large expenditure items and data that are feasible to collect. Detailed information that is difficult to collect and does not improve the quality of the results should be omitted from the data collection efforts. Similarly, collecting only the data needed can avoid time spent collecting extra information that does not inform the costing analysis. Towards this effort, costing instruments should be pretested, reviewed and simplified after the initial data collection efforts.

Being imperfect can be a starting point. In many settings, pricing work can start even though only skeletal data sets are available. In such cases, initial information can be used from available information – whether collected from settings with similar cost structures, historical reimbursements, or regional price averages from commercial health insurer databases, for example. At the same time, the minimum datasets needed can be identified, and processes can be put into place to continually review and improve on data infrastructure.

This is the experience of the National Health Insurance Scheme in India, which targets over 500 million poor and vulnerable people (Figure 22). Established under a very short time frame, the government of India set reimbursement rates without complete costing data by using available information, while also putting into place a review mechanism to modify and improve over time.

Figure 22

Pricing of Services under the National Health Insurance Scheme of India (PM-JAY)

The Government of India launched a mega health program called Ayushman Bharat, which focuses on primary, secondary and tertiary care through two separate components. The first component aims to set up approximately 150,000 health and wellness centres that will provide comprehensive primary care. The second component is a new National Health Insurance Scheme called Pradhan Mantri – Jan Arogya Yojana (PM-JAY), which provides a cover of Rupees 500,000 (approximately US\$ 7143) per family per year for secondary and tertiary care conditions. The scheme targets more than 500 million poor and vulnerable people across the country, making it the largest completely government funded scheme in the world. PM-JAY replaces an earlier scheme called Rashtriya Swasthya Bima Yojana.

One of the critical decisions in the new scheme is the decision about provider payment mechanisms. The government decided to use a system of package rates, whereby a fixed rate for each procedure is paid to the hospital. The rate is fixed by the government in advance, and hospitals are not allowed to charge any other money from the patient. No cash is exchanged as a part of obtaining care. For medical conditions, a fixed per day rate is paid. Similar provider payment mechanisms have been used in India across many government funded health insurance schemes. Currently almost 1400 packages and their rates have been fixed in advance by the National Health Authority, an independent agency under the Ministry of Health and Family Welfare (MoHFW) that was set up to manage PM-JAY.

For preparing these packages and their rates, MoHFW formed a committee comprising various stakeholders under the chairmanship of the Director General of Health Services. This committee formed various sub-committees for each of the specialties. The sub-committees also collected data about the packages and their rates for RSBY and various other state government funded health insurance schemes. Data related to the costs of treatment in both public and private providers was also collected. Based on the data collected, inputs from various experts and cost estimations, the final list of packages and their prices was prepared by each of the sub-committees. The committee collated the packages and rates and then finalized the list with their rates. These rates were then shared for peer review with the think tank of the Government of India (NITI Aayog). NITI Aayog further analysed these rates and discussed with various industry associations, medical associations and hospitals. Based on these discussions and other inputs, NITI Aayog provided their final recommendations to MoHFW. Using these recommendations, the list of packages with their rates was finalized and are now being used in the scheme.

To address the differences in quality across various hospitals and accommodate those in the package rates, the scheme guidelines also has a provision for a fixed percentage incentive over the package rates to the hospitals that are accredited. In addition, teaching hospitals and hospitals located in rural districts (called aspirational districts) are also provided a fixed incentive over and above the package rates.

This system of package rates is a simplistic one but, at the same time, it prevents the huge variations in prices charged by the health care providers and keeps the cost of the scheme under the control of the government. The government is now working on further refining these rates and creating a mechanism for regular feedback with respect to the list and rates. This will ensure that the rates are in sync with market conditions. In addition, new conditions are added regularly through a systematic process and conditions that are not required are removed.

Source: Jain Nishant, Indo-German Social Security Programme

7.4 Information disclosure

Price transparency, or publishing service prices charged by health care providers, is one means to help consumers make informed choices. Price and quality information also inform active purchasers of health care and can, in some cases, control overall spending and reduce price variation for routine services. Depending on the health care markets, publishing prices could also stimulate price competition on the supply side and force high-priced providers to lower their prices so that they remain competitive. Many initiatives publish average or median within-hospital prices for individual services, and some report total and out-of-pocket costs for care episodes (Figure 23).

Australia publishes both price and quality information for the public (IHPA, 2019; AIHW 2019). Maryland publishes an online price guide and a hospital performance evaluation guide (HSCRC, 2019). The Health Insurance Review and Assessment in the Republic of Korea publishes online its regulated prices and quality measures. The Ministry of Health, Labour, and Social Welfare in Japan publish their reports surveying patient satisfaction indicators nationally (MoHLW, 2019b). In the USA, the Centres for Medicare and Medicaid Services has developed an online physician fee look-up tool (CMS, 2019d) for more than 10,000 physician services and their associated relative value units. A companion site also describes hospital measures of quality (CMS, 2019e). Many individual states also now have their own initiatives for providing information to consumers about hospital prices (Sinaiko and Rosenthal, 2011). All costing and price information is in the public domain in England, and an impact assessment is published alongside each national tariff.

Figure 23
Public release of information about price schedules and quality

| Setting | Published prices | Scope of information reported | Published quality information |
|----------------------------|---|--|--|
| Australia | National Hospital Cost Data Collection Cost Reports (https://www.ihpa.gov.au/publications) | Detailed and average costs per episode for acute care admissions, emergency department, non-admitted patient expenditures, sub-acute and other products, and the pricing framework | National Indicators of Safety and Quality in Health Care (https://www.safetyandquality.gov.au/our-work/indicators/) |
| England | National Tariff Payment System and Published Costs (https://improvement.nhs.uk/resources/national-tariff-1719/) | Costs from all secondary care providers against currencies where they exist; National prices for acute services and local pricing rules for services without national prices in secondary care | Individual provider level reports and broader reports from the Care Quality Commission (https://www.cqc.org.uk/) |
| France | DRG prices, reimbursement rates for ambulatory services, and average prices charged by hospital/health professionals (https://www.atih.sante.fr/tarifs-mco-et-had) | DRG prices for public and private hospitals for acute (non-psychiatric) care, and range of prices and most frequent amounts for out-of-pocket costs (before complementary health insurance coverage) for each hospital and health professionals | Quality, satisfaction and safety indicators collected from all hospitals and published by the national health authority (HAS) (https://www.has-sante.fr) |
| Germany | Public reporting of DRGs, hospital base rates, hospital add-on payments, physician fee schedules, and nursing home rates reports on websites of each nursing home (https://www.g-drg.de) | For hospital prices: relative weights per condition, average length of stay, outlier adjustments and add-on payments; for physician fees: the points and eurocents per service, definition, detailed information on minimum required services and billing restrictions | All hospitals are required to document quality information on 250 selected indicators (https://g-ba.qualitaetsberichte.de/#/search) |
| Japan | Outline of Health Care Insurance Systems, Ministry of Health, Labour and Social Welfare (http://www.mhlw.go.jp/english/wp/wp-hw6/dl/02e.pdf) | (In English), published descriptions include patient co-payments, medical care benefits, cash benefits, premium rates and government subsidies | Patient satisfaction indicators are collected from all hospitals and clinics and published by the Ministry of Health, Labour, and Welfare (https://www.mhlw.go.jp/toukei/saikin/hw/jyuryo/17/dl/kakutei-kekka-gaiyo.pdf) |
| Maryland state, USA | Price Transparency, Maryland Health Care Commission's (MHCC) consumer website (https://healthcarequality.mhcc.maryland.gov) | Average hospital price per case, average length of stay in the hospital, average hospital charges by certain types of payers (i.e., Medicare, Medicaid, Commercial, and other) | Maryland Health Care Quality Reports (https://healthcarequality.mhcc.maryland.gov) |
| USA | Physician Fee Schedule Look-up, Centres for Medicare and Medicaid Services (https://www.cms.gov/apps/physician-fee-schedule/overview.aspx) | Provides information for >10,000 physician services, relative value units, fee schedule status indicator, and indicators needed for payment adjustment. Prices are adjusted to reflect regional variations | Measure Management System, Centres for Medicare and Medicaid (https://healthcarequality.mhcc.maryland.gov) |
| Republic of Korea | Health Insurance and Review Assessment Service (http://www.hira.or.kr/) | – | Health Insurance and Review Assessment Service (http://www.hira.or.kr/) |
| Thailand | Guidelines for obtaining health care expenses in Universal Health Coverage Scheme published annually by NHSO in the Thai language | Price, fee schedule, central price for reimbursements | Annual consumer satisfaction survey by Academic Network for Community Happiness Observation and Research, Assumption University of Thailand; NHSO Annual Fiscal Report on accessibility and quality (https://www.nhso.go.th/eng) |

Sources: IHPA, 2019; AIHW, 2019; CMS, 2019d, 2019e; MHCC 2019; MHLW, 2019a, 2019b; case studies (see annexes).

The impact of publishing prices and quality depends on many factors. Publishing information about both quality and prices helps overcome consumer difficulty in evaluating technical quality. Where quality information does not accompany prices, consumers may equate price with quality and thus choose higher priced services – despite weak associations between price and quality for routine care (Sinaiko and Rosenthal, 2011). Patients may rely on information from their health care providers about where to obtain health care and also consider other factors such as convenience, relationships and amenities. Insured patients are insulated from prices and therefore are less cost conscious (Cooper et al., 2018). Even in the case where patients want to compare prices, the patient will face information asymmetry and time constraints for evaluating information – constraints that would be prohibitive for emergency care (Bai and Anderson, 2015).

Generally, common procedures performed in different settings and prescription medicines may be appropriate for price comparisons, particularly where co-payments result in high out-of-pocket costs. In terms of interpretation, average unit costs are the most readily available; however, cost per episode may be more meaningful to patients. Quality information must be reported alongside prices so that patients and purchasers can make sound decisions. In the USA, some employers offer their employees meaningful incentives to choose higher-value providers, such as higher reimbursements or bonuses for providers offering quality care for lower prices (McCluskey, 2016).