THE UNIVERSITY OF MELBOURNE

A framework for considering hospital payment options

Based on: Duckett S, Street A, and Walters C (2023), 'Methods for paying hospitals', in Cylus J, et al. (eds.), *Paying for health: Learning from international experiences* (Cambridge: Cambridge University Press).

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Outline

1. The relationship between payers and hospitals
2. Main funding models
3. Factors influencing choice of payment model
4. Transitioning from one payment model to another

The relationship between payers and hospitals

		Providers	
		One	Many
Payers	One	External benchmarking	Payer has more power
	Many		
	Patient payment		

NB Information asymmetry: Payers have imperfect/incomplete information

Not all patients contribute equally to payer utility, e.g. low value care

Payer objective function:

$$U^P = U(Q, q, R, e^P)$$

Q = number of patients treated
q = quality of care they receive
R = Payment to the hospital
e^P = Effort by payer to manage the contract (inc design complexity)
B = money available to payer to meet its objectives.

Simple payment designs might ignore this term and implicitly assume all care is of same standard

Hospital's objective function:

$$U^H = U(Q, q, R - C, e^H)$$

Four ‘pure’ types of hospital funding*

Criterion	Line item budgeting (LIB)	Fee for service (FFS)	Block contracts (BC)	Activity-based funding (ABF)
Description of patients	Not applicable	Individual patients	By cohort, such as hospital, department, locality, region or demographic (e.g. frail & elderly patients with multiple chronic conditions) (capitation)	DRG for inpatients and other classifications for outpatients, mental healthcare, community healthcare
Price setting	Expected cost of resource type	Price list for each service or payment per day	Contract value yields implicit price for cohort covered	Prospective price set by payer to incentivise hospitals (e.g. by yardstick or actual competition)
Volume of activity	Not specified	Hospitals face no restrictions on volume	Expectations on hospital – normally including activity levels per cohort – set out in contract	In the simplest form of unit pricing, no restrictions of volume. In more complex forms, volume caps
Quality	Not specified	Not specified, but implied that more services indicate higher quality	May be set out in contract	May be included in payment function (P4P)
Administrative complexity/ effort	Low complexity: need method to link costs to be funded (staff, medicines, machines etc.) to hospital role	High complexity: need for itemised bills, may involve fee schedule to reflect costs of different items, and monitoring systems to avoid overservicing and ensure payment integrity	Moderate complexity: need to develop systems to ensure adequate services are provided to meet needs of patient cohorts and to ensure efficiency	Highest complexity: need to implement DRG classification, develop tariff or prices (unit and/or more complex) and monitor systems for payment integrity (e.g. code, count and cost units of activity)

* ‘Pure’ in sense that many funding systems are mix and match (aka ‘blended’) e.g. ABF + Block

Four 'pure' types of hospital funding*

Criterion	Line item budgeting (LIB)	Fee for service (FFS)	Block contracts (BC)	Activity-based funding (ABF)
Description of patients	Not applicable	Individual	Usually by hospital department	DRG (for inpatients)
Price setting	Expected cost of resource type	Price list for each service or per diem payment	Price is out-turn of negotiated total contract value divided by population covered	Prospective price set Yardstick competition
Revenue	$R^{LIB} = \sum_{z=1}^{Z} x_z w_z$ x_z= quantity (x) of each input type (z=1…Z) w_z = unit cost of each resource (eg wages or price of meal).	$R^{FFS} = \sum_{i=1}^{N} x_{is} p_s$ x_{is} = quantity (x) of medical service (s) for each patient p_s =price per service $i \in \{1...N\}$ = patients treated in the hospital.	$R^{BC} = \sum_{bc=1}^{BC} E(x_{id}) p_d$ $E(x_{id})$ = expected number of patients to be treated in department d, p_d = price for the typical patient in the department $bc \in \{1...BC\}$ = contracts BC=1, is known as Global Budget.	$R^{ABF} = \sum_{j=1}^{J} x_{ij} p_j$ x_{ij} = *actual* number of patients allocated to DRG (or other classification) $j \in \{1 \ldots J\}$ p_j = prospective price for DRG j.

Complexity from developing and updating fee schedule

Complexity from establishing fair payment amount and monitoring

Complexity from developing and updating classification system and prices

Model choice: Relative importance of objectives

$$U^P = (Q, q, R, e^P) \; subject \; to \; B$$

If payer wants to increase Q, then not LIB, maybe not BC

Administrative/ policy capacity of payer (and hospitals) may militate against use of more complex systems

Unlikely to use FFS if B very important, depending on design, maybe not ABF either

ABF & BC may be easier to add quality component, often as P4P.
P4P has mixed evidence base, adds to complexity, but is a useful policy/political signal

Transitioning from one payment model to another
especially simpler (LIB, BC) to more complex (FFS, ABF)

Preconditions:

- The development of robust risk-adjustment measures (?import DRG version), larger the jurisdiction, more likely local adaptation.
- Good information systems to ensure that hospital managers have the appropriate information to identify where there is scope for performance improvements.
- Management/policy skills in the payer to design and manage the new system.
  - Poorly designed payment systems may not be seen as legitimate and unlikely to gain acceptance; managing gaming and perverse responses.
  - Poor ongoing management may not incorporate good monitoring and interventions to sanction poor performance
- Management skills in hospitals.

For a fuller discussion see:

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