WP6: Costing and pricing of acute hospital services in England

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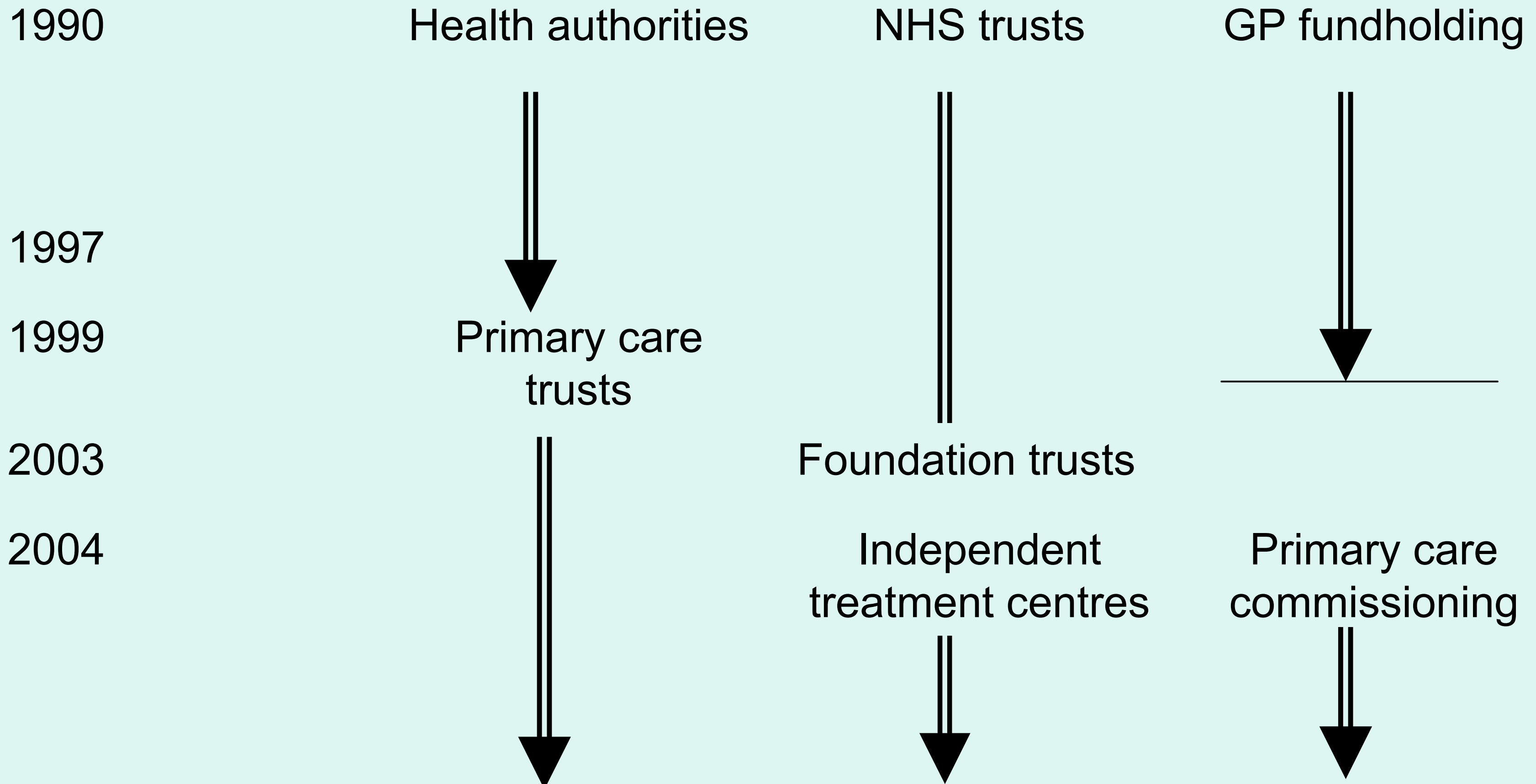
The Structure of the NHS in England

Purchasing bodies

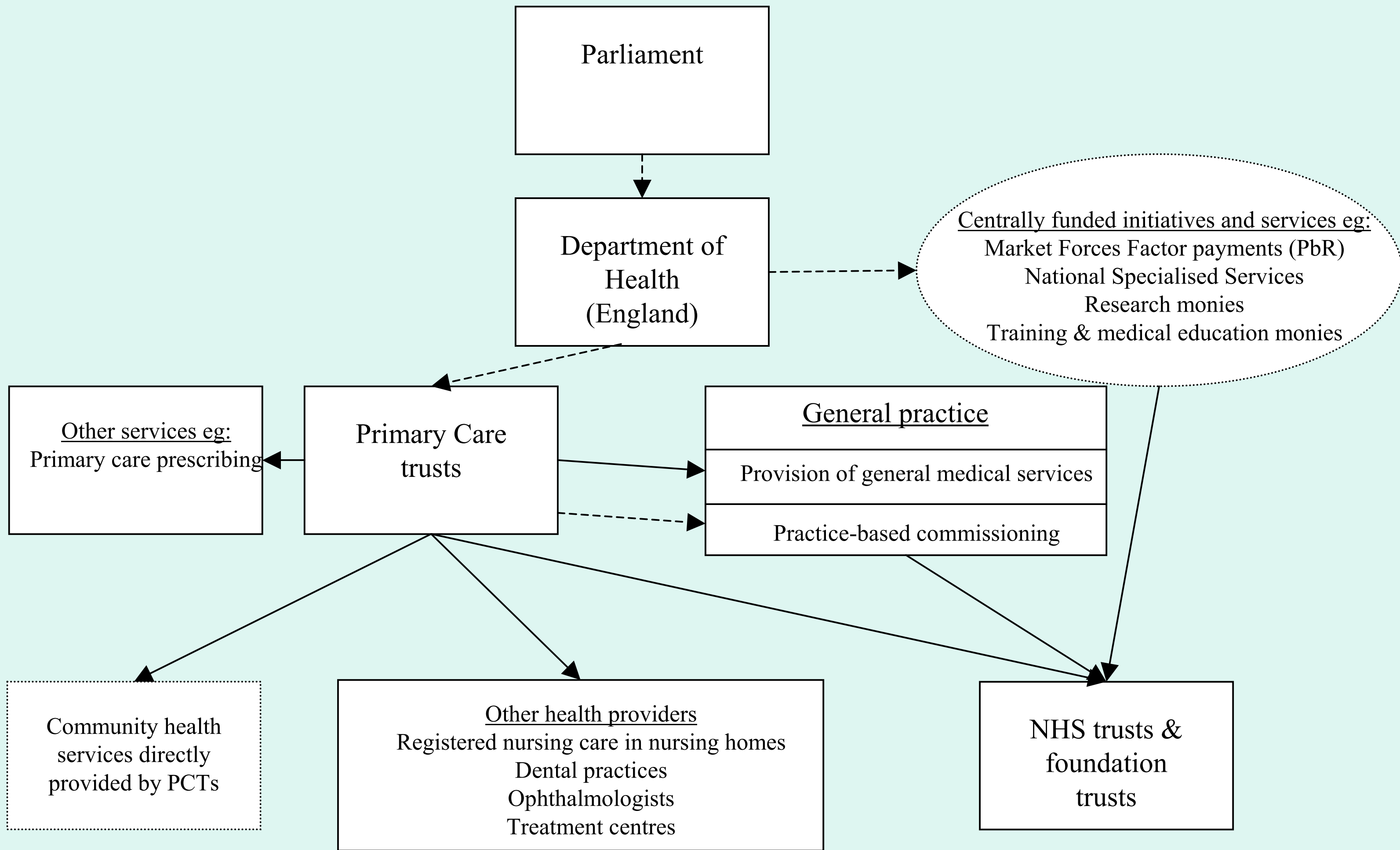
- Primary care trusts (304)

- Providers
  - GPs (28,000)
  - Treatment Centres (29)
  - Hospitals
    - NHS Trusts (275)
    - Foundation Trusts (31)
  - Dentists (18,000), optometrists (8,000)

Short history of contracting

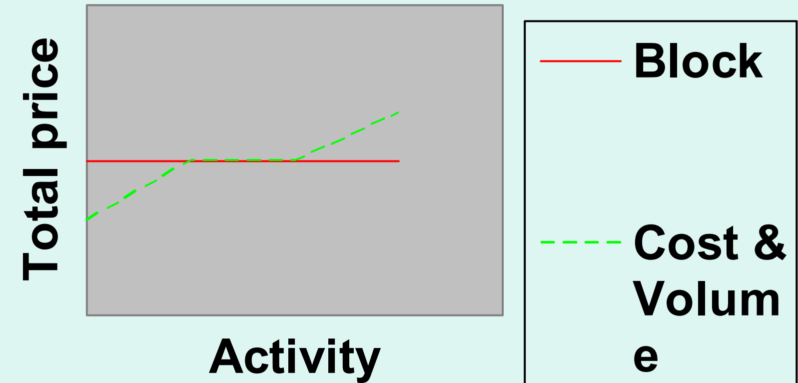


Flow of funds

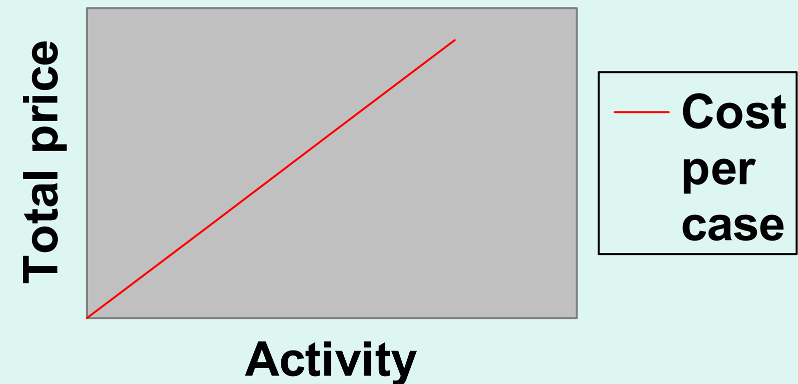


Types of contracts for hospital services

- Block
- Cost and volume
  - (main contract types pre 2004)



- Cost per case
  - (after 2004)



Hospital contracts pre-2004

- Advantages
- Simple
- Contain overall cost within fixed budget
- Maintain stable business environment for hospitals and purchasers

- Disadvantages
- Lack transparency
- Lack incentive for increased productivity
- Encourages waiting lists
- Does not encourage patient choice or new providers

Purchasing hospital care after 2004

- New system called “Payment by Results”
- DRG tariff (known as HRGs in England)
- Per patient admission
- No caps on activity or marginal cost thresholds
- Based on average costs for all NHS trusts for the HRG
- Tariff set nationally -no price competition allowed
- Same rate for inpatient and day-case
- Hospital can keep/reinvest surplus

Transitional arrangements

- Phased transition from 2004-2008
- NHS Trusts
  - 2004 elective only
  - Introduce outpatients, emergency over time
  - Maximum change in income per year =2%
- Foundation Trusts
  - Elective, outpatients and emergency from 2004
- Independent (non-NHS) sector
  - 5 year block contracts (in first wave)

Tariff structure

Includes

- Staff, consumables
- Overheads
- Capital charges
- Diagnostic tests

Excludes

- Intensive care (S)
- Outlier bed days (S)
- High cost drugs (S)
- Specialist services (S)©
- Market forces factor ©
- Research funding ©
- Training and medical education funding ©

Notes: S: Supplementary tariff ; © Centrally funded

Setting the HRG tariff

- Start from mean cost from 2 years previously
- Remove Market Forces Factor
- Adjust for specific national (NICE) guidance
- Convert from per HRG cost to per spell cost
- Increase for 2 years’ inflation (less efficiency targets) = 14.5 % for 2004/5 +2005/6

Treatment of non-UK residents

- All qualify for very limited range of services
  - Emergency, family planning
- Students, refugees qualify for free treatment
- EEA nationals qualify for free treatment, if the need arose during the stay
- Treating hospital invoices nominated PCT, who notifies DH.

Incentives and responses to PbR

	Provider incentives	Purchaser responses
Activity	Increase activity if P>MC	Reduce referrals and provide alternatives to hospitalisation
Patient choice	Compete for patients	Offer patients a choice of 5+ providers
Productivity	Reduce average costs to below tariff	Ensure surplus spent on PCT priorities
Viability of high cost providers	If P<AC: Reduce fixed costs or Withdraw services	Ensure adequate provision of service including emergency

Development of markets for provision of hospital services

- Hospital care remains free for patients
- Policy is to allow new NHS and non-NHS (independent) treatment providers to enter market →competition, lower costs & innovation
- Wave 1 → 6 new non-NHS entrants
  - Prices > PbR tariff to encourage entry
  - Currently focus on limited range of procedures where there are waiting lists
- Wave 2 →prices closer to PbR tariff structure
  - Some private providers switching to ITC business model
- DH does not get comprehensive information on internal costs of independent providers

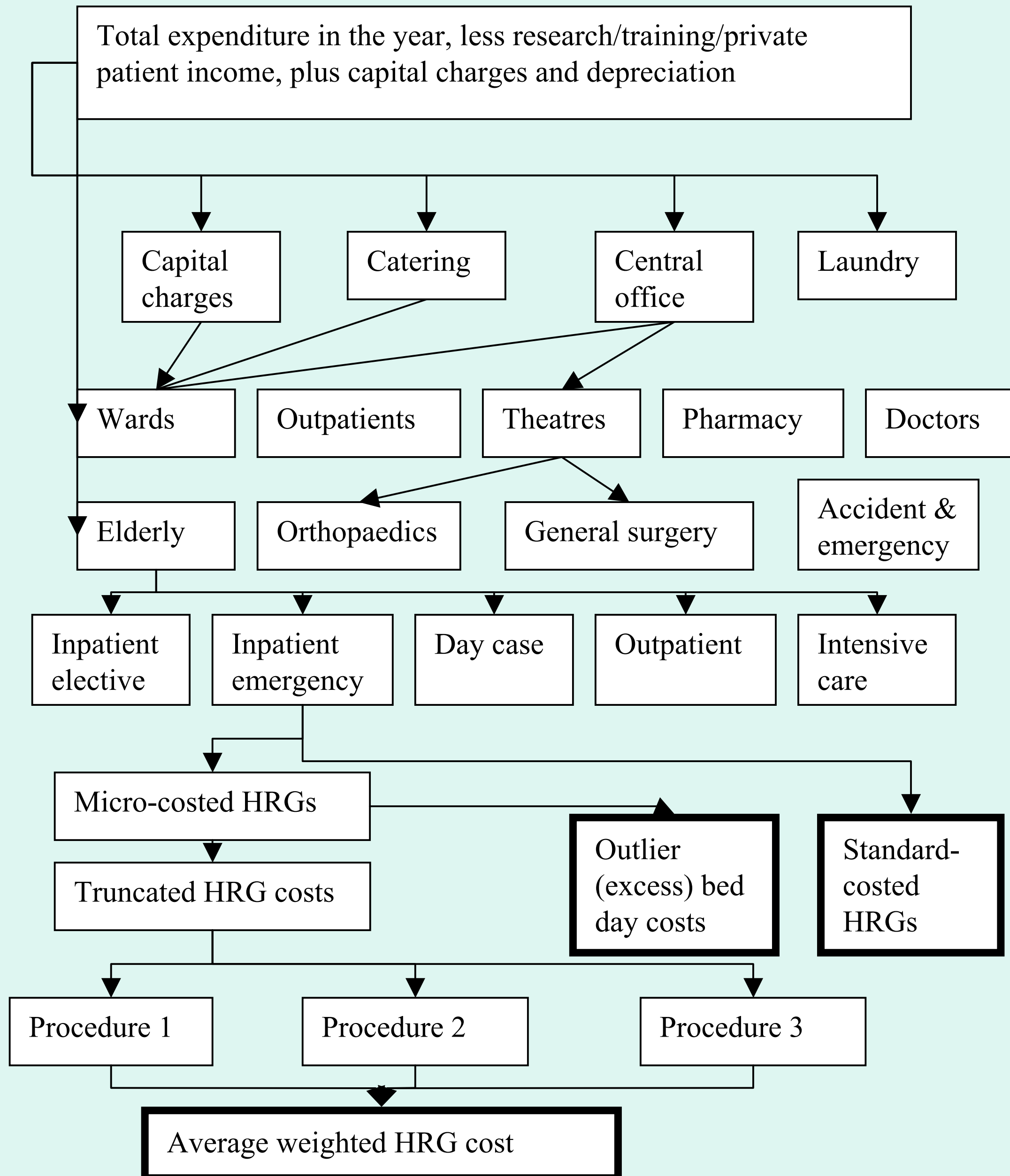
Costing hospital services

- All NHS providers submit “Reference Costs” annually
- Step-down method
- Unit of activity is the HRG for inpatient and daycase; attendance for outpatient and accident & emergency
- Costs include all hospital expenditure in the year including depreciation and capital charges, but net of private income, research income and training income

Costing hospital services (2)

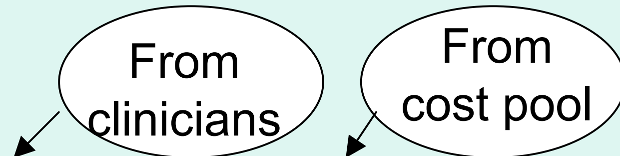
- Costs grouped together into cost pools
- Classified as direct (attribute), indirect (allocate) or overheads (apportion)
- Apportioned to other cost pools or to patient services by point of access
- Inpatient and daycase costs are further disaggregated to HRGs
  - Using a micro-costing method to estimate costs of main procedures within each HRG
  - Remainder is aggregated at patient service level and used to estimate a standard cost for less frequent HRG (proportional to length of stay)

Calculating costs for NHS Trusts



Example:Stroke

- Speciality: Elderly medicine
- Point of delivery: inpatient non-elective
- HRG: A22: Non-transient stroke >69 or with complication
- ICD code: I634: Cerebral infarction due to embolism of cerebral arteries
-



Costing Pool	*Pool type*	*Measure*	*Units*	*Cost/measure*	*Total cost*
Ward	Time	Bed days	9.00	100	900
Ward	Event	Admission	1.00	20	20
Nursing	Time	Bed days	9.00	70	630
Diagnostics					
MRI	Event	Event	1.00	170	170
Pathology	Event	Tests	10.00	10	100
Therapies					
Physiotherapy	Event	Session	9.00	26.11	235
Total cost					**2055**

Example: stroke HRG

- Speciality: Elderly medicine
- Point of delivery : inpatient non-elective
- HRG: A22: Non-transient stroke >69 or with complication

	ICD	Description	Cost	#	Total £
1	I634	CEREBRAL INFARCTION DUE TO EMBOLISM OF CEREBRAL ARTERY	2,055	40	82,200
2	I650	OCCLUSION AND STENOSIS OF VERTEBRAL ARTERY	1,748	20	34,960
3	I661	OCCLUSION AND STENOSIS OF ANTERIOR CEREBRAL ARTERY	2,147	10	21,470
				70	138,630
		Weighted average cost of HRG A22 (138630 / 70)			1,980

Example: stroke HRG

- Published reference costs for 2003/04:
  - A22 Non-transient stroke >69 or with complications
  - Mean (inter-quartile range)
    - =£2330 (1288-3636)
  - Average length of stay (excluding outliers)
    - =21.6 days
  - Number of episodes =63000
  - Number of providers submitting data= 970

Costing WP9 services

- Reference costs provide average hospital costs including all overheads
- per HRG for inpatients, daycase
- per attendance for outpatients
- Separate cost for intensive care per day
- basic resource profiles may be available from some providers for some procedures

Costing WP9 services (2)

- Surgery
  - some hospitals may have existing resource profiles for these procedures & unit costs
  - Reference costs provide average cost per day in ITU including all drugs, consumables and overheads
- Cataract surgery
  - Performed by NHS Trusts, NHS treatment centres and independent providers
- Oncology
  - Care pathway (Outpatients+surgery+radiotherapy+chemotherapy)
- GP attendance
  - PSSRU may be good source, standard 7min consultation
- Emergency contraception (GP consultation)
  - Excludes cost of drug
- Ambulatory physiotherapy
  - PSSRU or reference costs may be adequate average costs

Conclusions - costing

- Reference costs provide average hospital costs including all overheads
- Variations between providers due to :
  - Different policies on treatment
  - Casemix that is not reflected in HRG distinctions
  - Local costs of staff, land and buildings
  - Allocation of overheads
  - Technical efficiency

Conclusions - pricing

- Expected benefits of “payment by results” tariff
  - Incentives for efficiency
  - Incentives for purchasers to reduce referrals
  - Transparency on costs and financial flows
- Expected risks
  - Threaten financial viability of high cost providers → potential loss of services
  - Risk to purchasers if unplanned use of services increases
  - Weak incentives for improved quality (competition?)
- Possible changes or compromises
  - ‘Rescue’ of providers at risk of closure
  - Further risk sharing arrangements (2-part, activity caps)
  - Tariff-sharing arrangements (diagnostics, rehabilitation)