Health service production: hospitals

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Figure 5.1 Inward hospital interface links

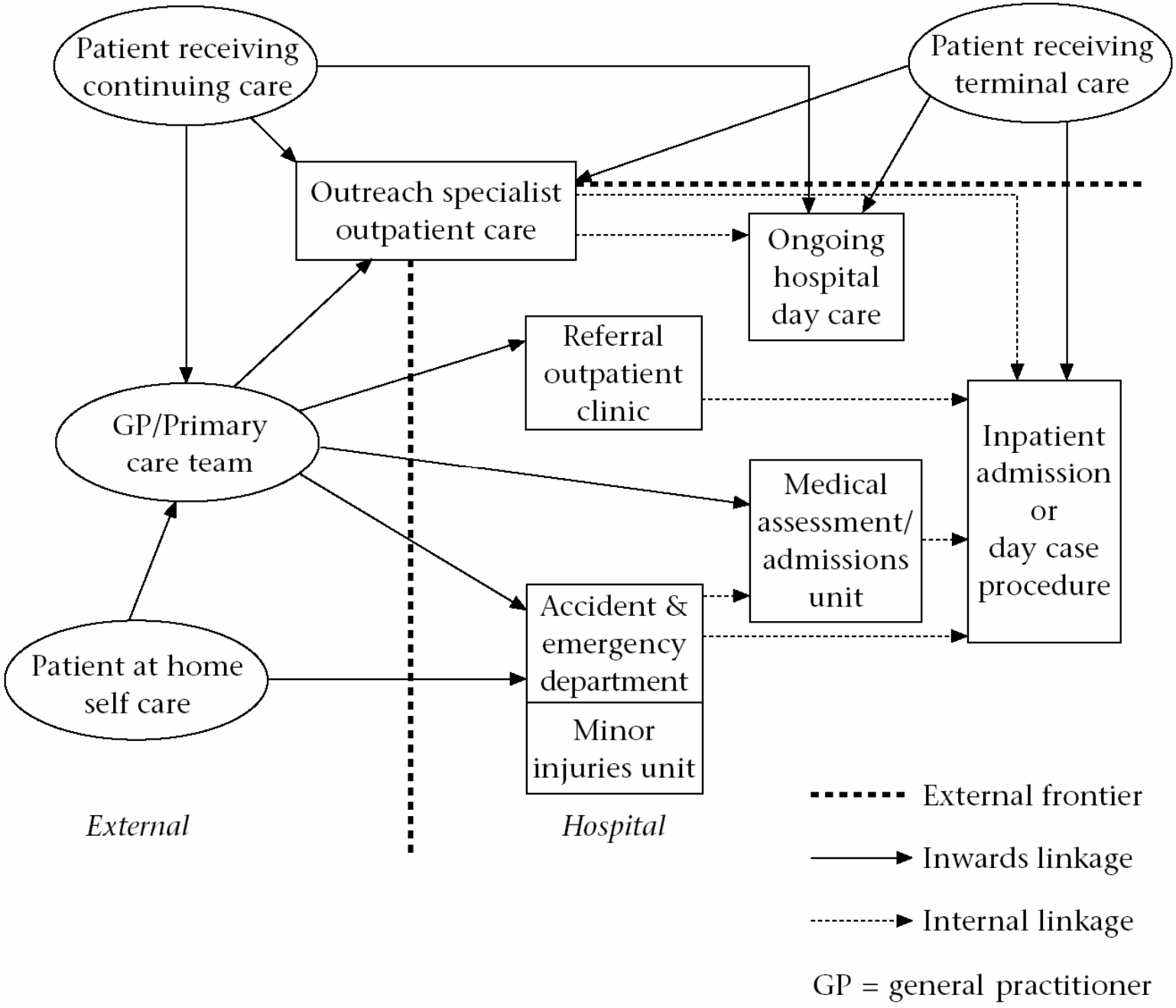
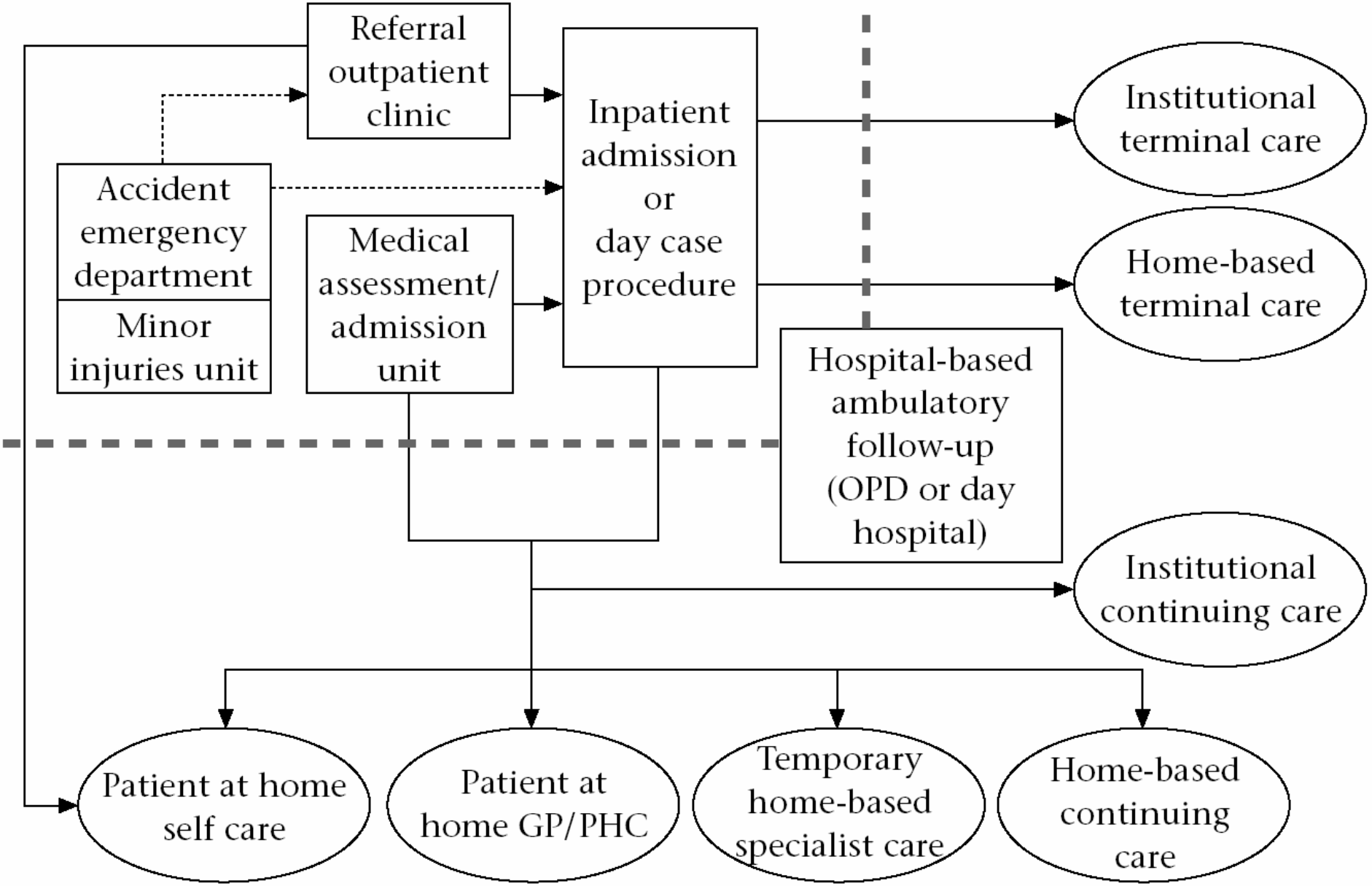


Figure 5.2 Outward hospital interface links. GP = general practitioner, PHC = primary health care.



4.3 Secondary / inpatient care

Secondary care refers to specialised ambulatory medical services and typical hospital care services (outpatient and inpatient services). It excludes general long-term care which is dealt with later. Tertiary care refers to medical and related services of high complexity and usually high cost.

Note: If secondary care specialists are included in “ambulatory care” because they operate within private practice model, this section should be called “inpatient care”.

Figure 4.3 The possible roles of a district general hospital in a health care system

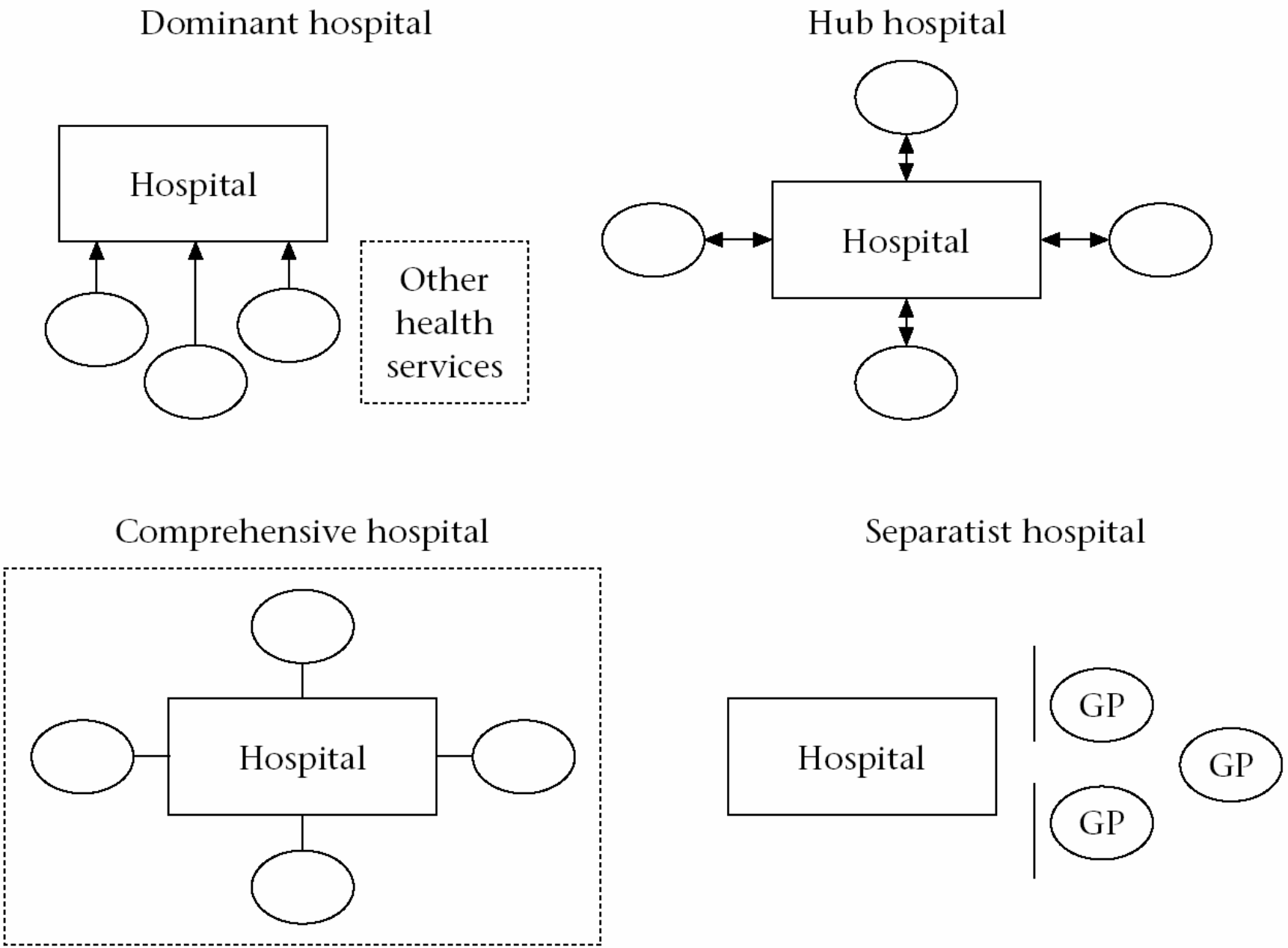


Table 4.2 Describing a hospital: dimensions and measures

Dimensions	*Measures*
Location	
Geographical level	National, regional, city, district or community
Site structure	Single or multiple site
Governance	
Ownership	Federal, regional or local government; ministry of health or other ministry; autonomous public sector; voluntary sector not for profit; joint stock company; for-profit organization
Management	Managerial, technical, clinical or lay
Finances	
Main source of funds	State, sickness funds, patient charges or other
Cost structure	High cost versus low cost (per patient, patient category, budget year or bed), average salary per staff or staff category
Payment method	Line-item budget, global budget or activity-related budget
Size	
Population coverage	Geographical patient catchment or other (for example, military personnel)
Staff numbers	Total number, per bed, per 100 patients or physician: nurse ratio
Hospital size	Number of beds, inpatients or outpatients

Complexity	
Teaching status	Teaching or non-teaching
Type	Secondary versus tertiary; general versus specialist; acute, convalescent, palliative care or mixed
Specialties	Single or multiple; number and type of specialties
Technology	Type and amount of technology
Performance	
Accreditation	Whether accredited
Outcomes	Ranking on performance indicators
Patient management	Primary nurse, multidisciplinary teamwork
Patient satisfaction	Patient surveys, number of complaints
Responsiveness	Waiting lists and waiting times
Staff satisfaction	Recruitment and retention rates
Activity	High or low
Patient volume	Inpatients, day cases, outpatients, episodes and case mix
Occupancy	Average annual occupied beds
Admissions	Per 100 population
Average length of stay	Number of days
Outcomes	
Clinical performance	30-day mortality, percentage of hospital-caused (nosocomial) infections, percentage of 'medical errors' among patients and emergency readmission within 28 days of discharge

Figure 1.1 The hospital as a system: opportunities for change

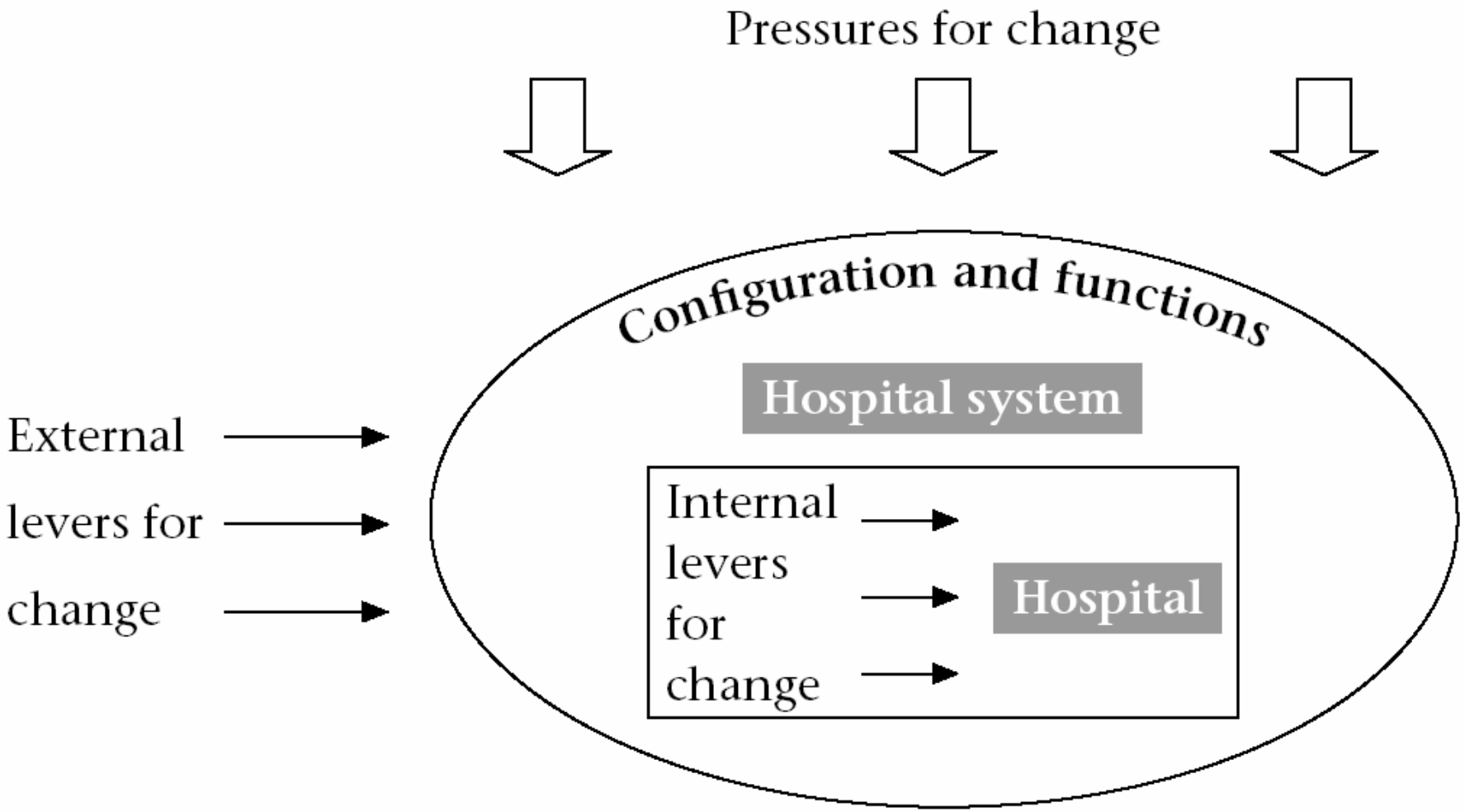


Figure 3.1 Pressures for change in hospitals

Demand-side changes	Supply-side changes	Wider societal changes
Demographics	Technology and clinical knowledge	Financial pressures
Patterns of disease	Health care workforce	Internationalization of health care systems
Public expectations		Global market for research and development

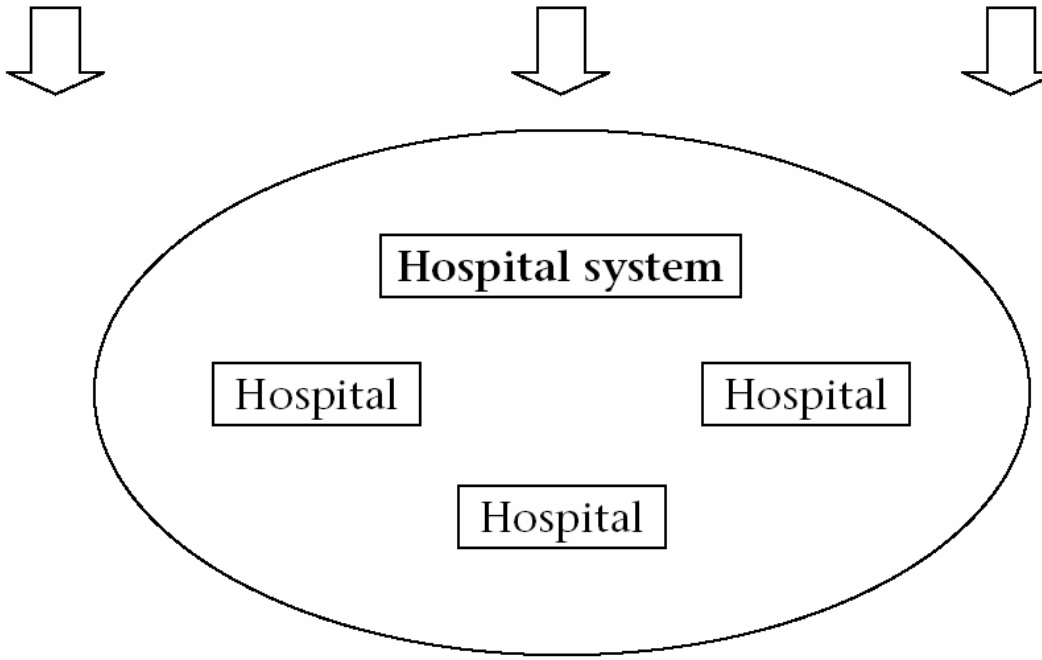


Figure 2.9 Trends in beds (per 1000 population), United Kingdom 1977–96: ◆ acute care; ■ psychiatric care; ▲ nursing home

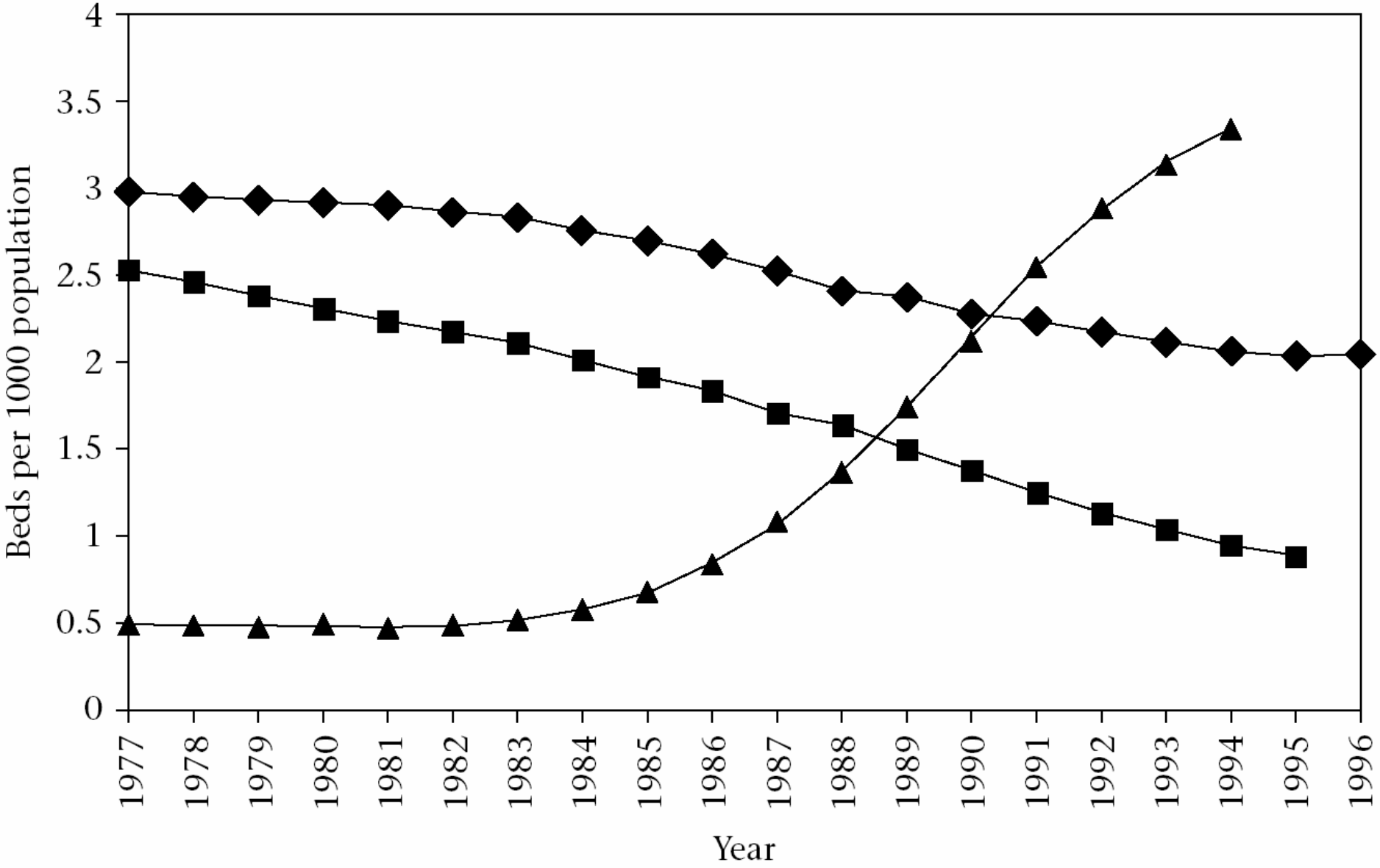
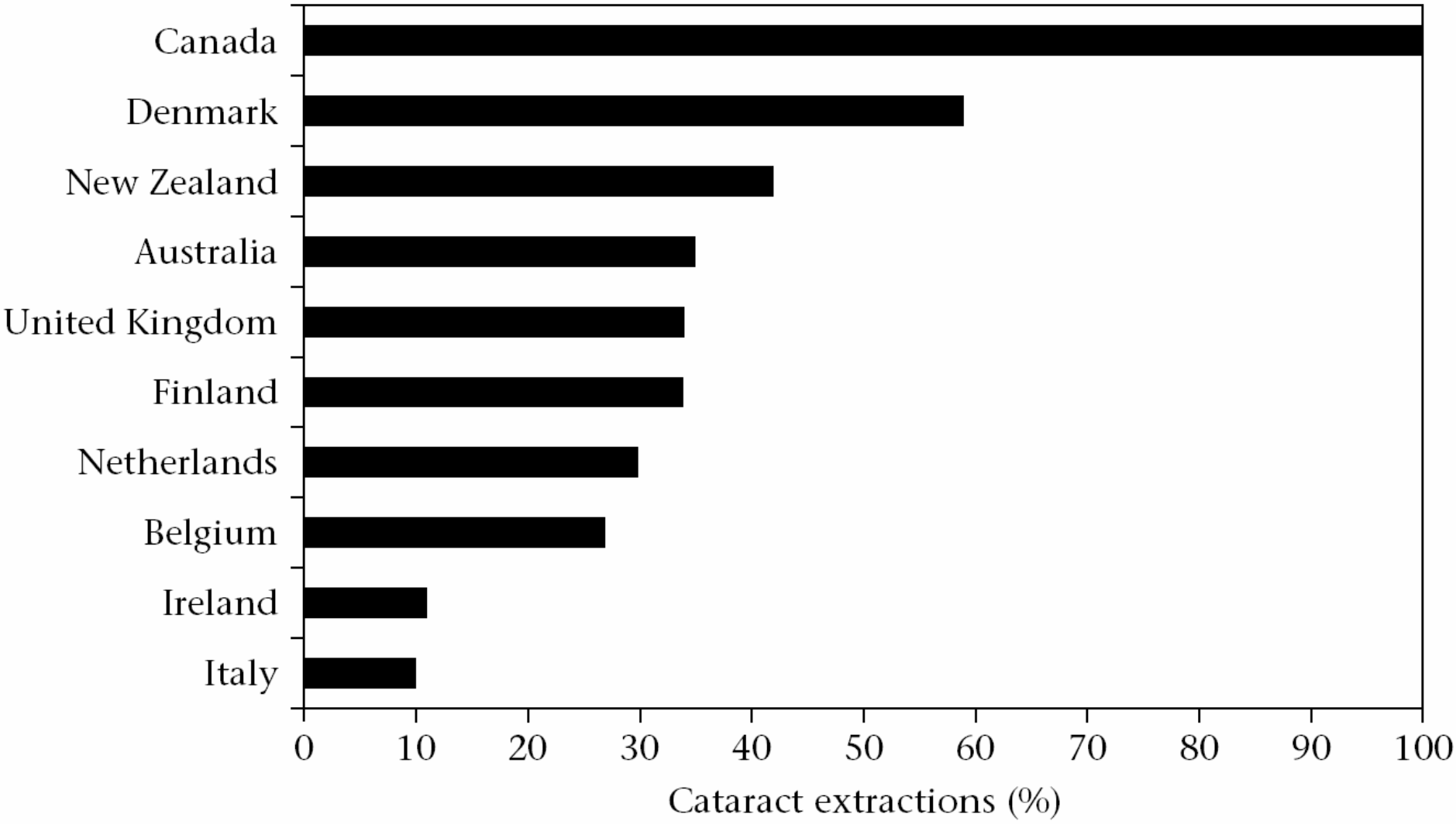


Figure 4.2 Percentage of cataract extractions performed as day cases in ten industrialized countries (latest available year)



Source: Poullier (2000)

Figure 7.1 External levers to improve hospital performance

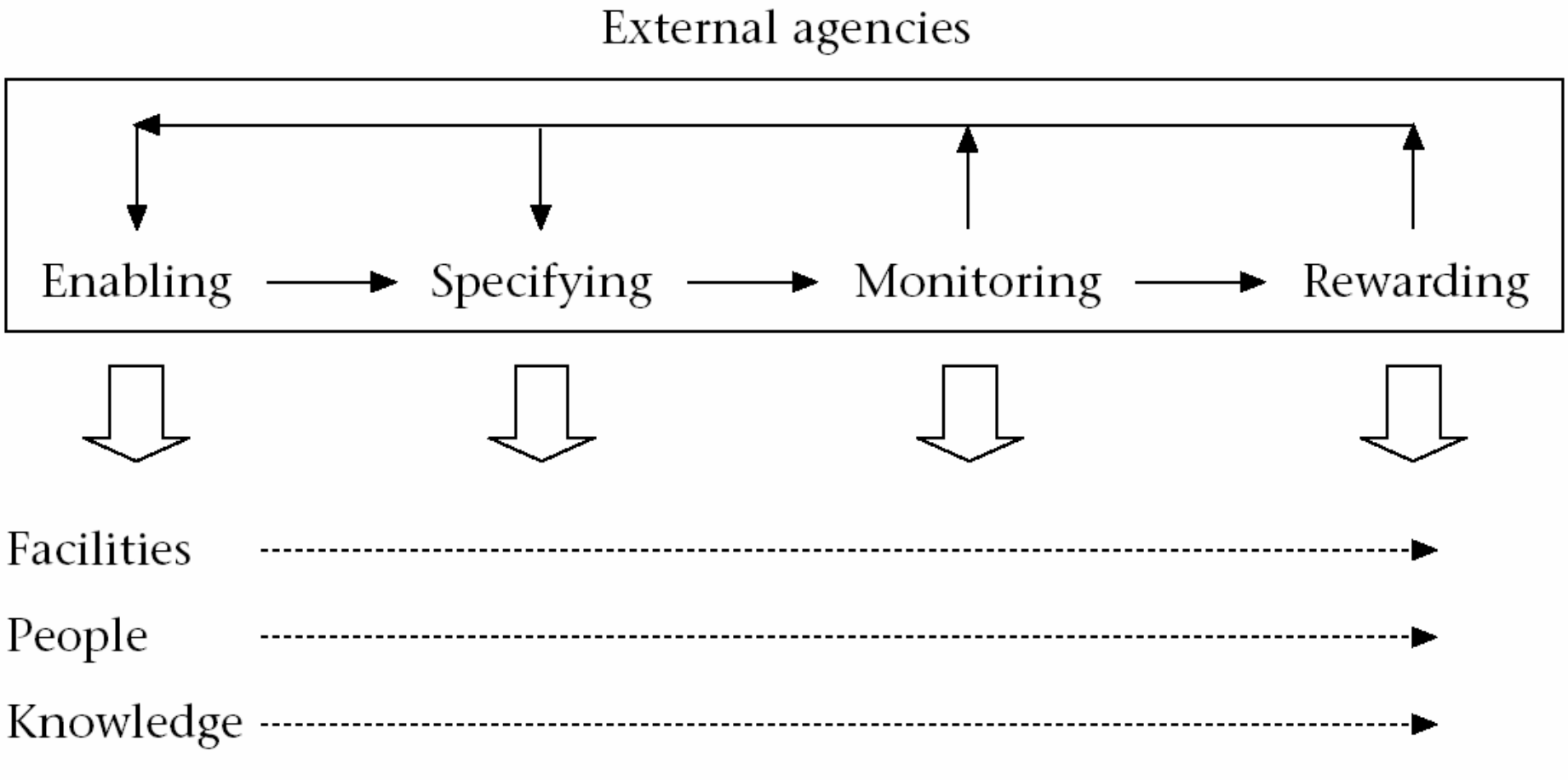
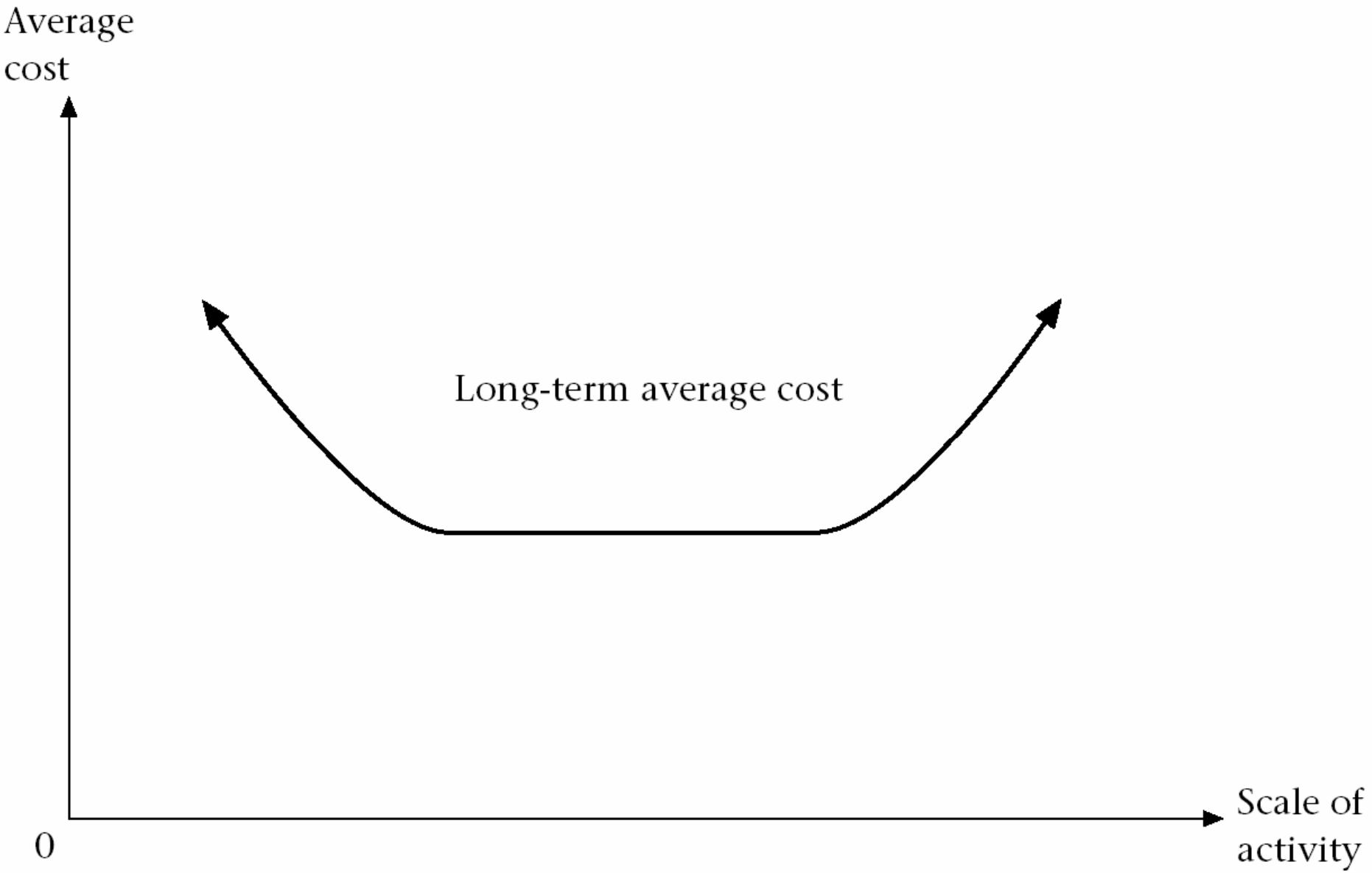


Table 7.1 Inputs and policy levers: examples of strategies

Inputs	*Enabling*	*Specifying*	*Monitoring*	*Rewarding*
Facilities	Access to capital	Directing investment		Incentives to invest
People	Training and education	Workforce size and mix Revalidation Patients' rights	Performance monitoring	
Knowledge	Research and development	Population needs assessment Guidance on effectiveness		

Figure 6.2 Observed long-term average cost curve

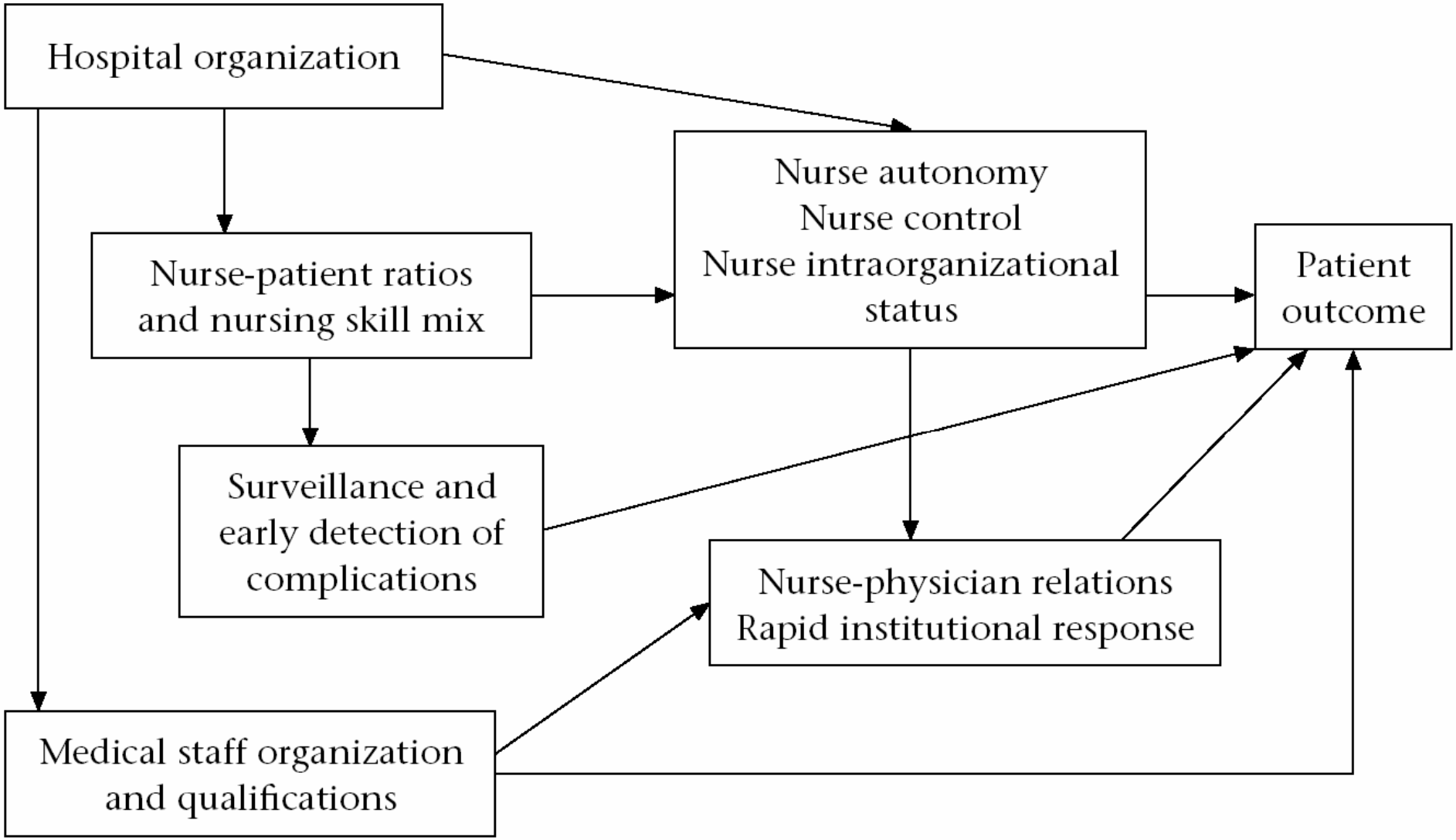


Source: Adapted from Aletras *et al.* (1997)

Table 6.2 Evidence of relationship between volume and quality for various health care procedures or services or conditions from the best-quality studies

Procedure, service or condition	*Evidence*
Coronary artery bypass graft surgery	Slightly reduced risk of in-hospital mortality in hospitals carrying out more than 200 procedures per year (odds ratio = 0.90; 95% confidence interval = 0.82–0.98)
Paediatric heart surgery	Reduced death rate in hospitals with more than 300 cases per year compared with hospitals with less than 10 cases (odds ratio = 0.125) and more than 300 cases (odds ratio = 0.33)
Acute myocardial infarction	No significant difference for in-hospital mortality but higher 6-month mortality and lower rate of re-infarction in hospitals with more than 300 beds (mortality 17% versus 12%) Significant negative relationship between in-hospital mortality and physician volume but not hospital volume
Cardiac catheterization	No relationship with physician volume found. Mortality declines by 0.1% for every 100 increase in the annual number of hospital procedures (average number of treatments = 400)

Figure 14.1 Hospital organization, nurse staffing and patient outcomes



Source: Adapted from Aiken *et al.* (1997b)

Table 13.1 Rates of intervention (per cent) among patients in 306 hospital referral regions participating in the Cooperative Cardiovascular Project by type of intervention, among patients meeting clinical criteria for each type of intervention

Intervention	*Number of eligible patients*	*Mean*	*Range*	*20th to 80th percentiles*
Aspirin during hospitalization	96 246	86.2	67.8–100	82.6–90.1
Aspirin post-hospitalization	60 044	77.8	52.1–96.0	72.5–83.9
Thrombolysis or percutaneous transluminal angioplasty	17 071	67.2	33.0–93.3	59.8–75.1
Beta-blocker on discharge	14 839	49.5	0.0–92.7	35.8–61.5
Angiotensin-converting enzyme inhibitors at discharge	18 114	59.3	6.7–100.0	49.2–69.2
Calcium channel blockers withheld in impaired left ventricular function	9 083	81.9	42.7–100.0	73.6–90.8
Smoking cessation advice given	22 024	41.9	7.3–81.7	32.8–51.3

Source: O'Connor *et al.* (1999)

4.3.1 Organizing and delivery secondary/ inpatient care

- How are secondary and tertiary care services organized?
- How are specialized ambulatory medical services provided: specialists working in their own practices, polyclinics of specialities, out-patient departments of hospitals, etc.?
- Method of providing specialized ambulatory services under the statutory system (i.e. excluding the voluntary system): are these provided according to the integrated (directly employed) or the contracted (indirect) method?
- Describe public/private ownership mix of specialized ambulatory services and hospital services: public, quasi-public, private for-profit and private not-for-profit.
- Describe the main categories of hospitals, functions and distribution (e.g. district general hospitals, teaching hospitals, “single speciality” hospitals (maternity, orthopaedics, etc.).
- What is the method of providing hospital services under the statutory system (i.e. excluding the voluntary system): are these provided according to the integrated (directly employed) or the contracted (indirect) method?
- Discuss public/private ownership mix of hospital services (public, quasi-public, private for-profit and private not-for-profit).

4.3.1 Organizing and delivery secondary/ inpatient care (cont'd)

Discuss the geographical distribution of secondary and hospital care facilities. Provide an indication of the quality of hospital services. This may be related to the age, state of repair, and standards of equipment and facilities. If possible use evidence from official reviews of services.

Discuss the relationship between primary and secondary care and other public sectors such as social care. Consider:

- Substitution policies which have been, are currently, or are being planned for the future that involve the replacement of the relatively more expensive hospital (in-patient) care by the relatively less expensive out-patient care or home care.
- What is the degree of co-operation between secondary care and social care providers?
- Possible imbalances that may be present between the importance of primary health care relative to hospital care.
- What is the degree of cooperation between primary health care and secondary care (out-patient and in-patient) providers?

4.3.1 Organizing and delivery secondary/ inpatient care (cont'd)

Describe major changes that may have occurred in recent years in any of the above issues. With regard to all of the above issues, discuss the problems or challenges that have emerged. What reform plans and expectations for change, if any, are there at present in connection with the future development of all of the above areas?

Table: Inpatient utilization and "performance" of inpatient services in acute hospi-tals in countries in the WHO European region (STANDARD TABLE A)

Or if there are no data on acute hospitals: Inpatient utilization and "performance" in all hospitals in some countries in WHO European region (STANDARD TABLE B)

4.3.2 Paying for secondary/inpatient care

- Consider the following classification of payment methods:
- *Retrospective payment* (reimbursement) at "full cost". Third-party payers reimburse providers for all expenses incurred in health care provision. There are no clear constraints on the price (P) or quantity (Q) of health care services provided.
- *Prospective payment* methods.
- *Fixing price (P) with or without fixing quantity (Q) of services provided.* Third-party payers reimburse providers for all services provided at a prospectively fixed rate of payment (P). Alternatively third-party payers can also fix the quantity of services provided. There are three main methods available according to the way health care activity is measured (or units of payment):
- *Fee-for-Service or charge list*. Third-party payers pay hospitals according to a price list of separate services provided to patients such as the use of operating room, tests, drugs, medical supplies, or physicians' fees.
- *Per diem fees or daily charge*. Third-party payers pay hospitals a daily charge. Per diem fees cover all services and expenses per patient per day and do not vary according to treatment.

4.3.2 Paying for secondary/inpatient care (cont'd)

- *Case payment*. Third-party payers pay hospitals according to the cases treated rather than treatments provided or bed days. Case payment can be based on a single flat rate per case, but in most cases is based on a schedule of payment by diagnosis. The most widely-known case classification (mix) approach is the Diagnostic Related Groups (DRGs). Other methods include the Patient Management Categories (PMCs) and Disease Staging.
- *Global budgets*. Payment of a particular sum to cover the operating costs of services provided by the hospital in a given period of time. The budget may be calculated on the basis of:
- *Actual costs* of a particular provider unit[1].;
- *Historical incrementalism*, based on previous year's allocation adjusted by inflation and budget growth;
- *Provision of inputs* (i.e. based on the number of beds and/or doctors provided);
- *Population covered* (i.e. per capita);
- Volume of *bed days*;
- Volume and mix of *cases*.
-

[1] This is essentially a retrospective system.

4.3.2 Paying for secondary/inpatient care (cont'd)

Mixed formulae. There are no pure payment methods. In most cases, hospitals are paid on the basis of a combination of some of the above. For instance fee-for-service systems are usually combined with a daily charge to cover basic services, such as nursing, food and overheads. In most payment methods there is a budget component to finance investment. Similarly, most systems can be supplemented by *bonus payments* as an incentive to health-care providers to achieve certain objectives.

Describe how hospitals (public, quasi-public, private-for-profit, and private not-for-profit) are being paid at present.

Comment on methods of deciding the rates (e.g. negotiation, rate regulation, payer dictation, etc.). What is the extent of government regulation in this process?

What role if any do direct out-of-pocket payments play in paying for services? If available what proportion of total payments do these out-of-pocket payments represent?

Have there recently been any changes in methods of payment? Indicate problems that triggered change.

What problems are associated with present forms of hospital payment (e.g. lack of regard for cost effectiveness, adverse selection, etc.)?

If new payment mechanisms have been introduced:

- How widespread has their use been to date?
- Have there been any problems/difficulties with implementation?

Are there any reforms being planned?

4.3.2.1 Incentives for health care professionals working in the secondary care sector

Within secondary care institutions what financial (and non financial) incentives are in place for health care professionals in order to help attain specific objectives, e.g. number of patients treated, prescribing practices adopted, quality of health outcomes achieved?

What access to health care professionals have to on going training and education?

What problems are associated with the present forms of public health professional payment (e.g. lack of regard for cost effectiveness, low quality of services, low professional satisfaction, morale, etc.)?