

1

Frameworks for Analysis

OVERVIEW

- Health care is a system involving inputs (finance, workforce), processes, outputs and outcomes. It is situated in a broader socio-political environment which it both is affected by and affects.
- The outputs and outcomes of the health care system include individual or person-level outputs (patients treated) and outcomes (improved quality of life) and wider outputs/outcomes (research outputs, strong communities, changed environments). Health outputs and health outcomes may not be distributed evenly across all members of society.
- The health care system can be evaluated in terms of its impact on equity, quality, efficiency and acceptability.
- The organisation and design of health systems must have regard to the differences between the need, demand and supply of health services. The 'need' for health services is not objective but is framed within a social and political context. Health policy can intervene to shape need, including converting need to demand, as well as influencing the supply of health services.
- Another key design element in health systems relates to whether there is separation between the purchasing, funding and provision of health services.

KEY CONCEPTS

- Universality
- Safety nets
- Systems perspective
- Social capital
- Social solidarity
- Stewardship
- Equity
- Quality
- Efficiency (technical, dynamic, allocative)
- Acceptability
- Ethical principles
- Need
- Demand
- Pooling of funding
- Purchasing
- Purchaser-provider split
- Capitation

Choices about who pays for health services are very political

THE BIG CHOICES IN HEALTH CARE

A visit by a consumer to a health provider can be described in terms of the characteristics of the provider (where, what sort of provider), the characteristics of the consumer (age, gender) and the characteristics of that specific interaction (diagnosis, treatment). One important set of characteristics of the provider and the interaction is about ownership and funding. Is the provider publicly owned or a private company or partnership? Is the provider profit-making or not? In terms of funding, is this interaction publicly funded? Is a consumer contribution required?

Choices about the balance of public and private funding (who pays) are very political. The 2014 Federal Budget ignited a political furore with a proposal to introduce mandatory co-payments into Medicare.

The language that is used in political debates reflects different perspectives on the role of public and private financing. Those who see a greater role for public financing in health care typically emphasise ‘universality’, while those who see a greater role for private contributions will refer to ‘safety nets’.

‘Privatisation’ is another term used in political debates about health care. Privatisation can have a number of meanings, including the following:

- Transfer of public assets to private operators or developing new assets as privately owned rather than publicly owned (‘privatisation of ownership’).
- An increase in the proportion of health services delivered by private entities.
- An increase in the proportion of health care costs that are met by private health insurance or as out-of-pocket costs (‘privatisation of funding’).
- Contracting out management of public sector health services to private companies (‘privatisation of management’) or increased use of private sector techniques in the management of public sector health services.
- The relative control consumers have over the type and mix of services they use (Powell & Miller 2014).

It is important to distinguish the different types of privatisation as they have quite different impacts on key dimensions of health care such as equity. Debates about privatisation of ownership are the most prominent but the evidence about the relative merits of public or private ownership in terms of quality of care is quite mixed (Devereaux et al. 2002; Thornlow & Stukenborg 2006; Shen et al. 2007; Eggleston et al. 2008; Edwards & Lewis 2008). At least in the United States of America, for-profit hospitals are more inclined to respond to financial incentives in terms of selecting more profitable patient types than not-for-profit hospitals (Horwitz 2005; Horwitz & Nichols 2009). The vast bulk of health care interactions are with private providers (almost all general practitioners, for example, own their own practices as a partnership or work for a private health care chain).

This book will help you navigate these debates, and provide context about how the health system is funded and how provision is organised.

INTERACTIONS IN HEALTH CARE

This book primarily focuses on the ‘anatomy’ of the health system: what its structures and organisations are. The ‘physiology’ of the health system is what gives the health system its life: how it all works.

Provision of health care involves a series of interactions between individuals: a care provider (professional or non-professional support worker) and a consumer (typically labelled 'patient' or 'client'). Each of those interactions in turn comprises verbal and non-verbal exchanges or processes, together termed here the 'micro-processes' of care. The quality of the interaction is affected by the provider's skill, but also by the external influences on the provider (setting, mood). The interaction can occur in any setting (hospital, professional office, school) and can be a simple dyad, a team of several providers with a single patient or a group of consumers with a single provider. Most health care relies on teams, often provided through sequential individual interactions, sometimes with information loss in the hand-over from one provider to the next, which can affect consumer satisfaction and, potentially, outcome. The micro-processes of care have an impact on how services are perceived by potential consumers (how appropriate are they culturally?) and thus affect the manner and extent of their use.

Interactions between doctor and patient (and between other health professionals and clients or patients) are complex. They are essentially relations of power, but are often presented paternalistically as being entirely about 'caring' for the patient's interest. Health professionals may make their own judgment about what treatment is in the patient's best interest rather than allowing patients to make such decisions themselves. Complaints lodged against doctors are often about the way in which the patient was treated, not in the medical sense of the word but in terms of the respect shown by the doctor to the patient. This lack of respect shows itself in terms of the dignity with which the patient is treated, the extent to which the patient's concerns and questions are heard, and also in the information given to the patient about the course of his or her treatment and the likely outcome. Increasingly, patients are questioning the content of the doctor-patient interaction, and lodging complaints or taking legal action when not satisfied with the processes or outcomes of care, calling into question the premise of paternalism in health.

The functioning of health care institutions reflects both the organisational structures of these institutions and the myriad interactions between patients and the health care providers working within the organisations. It has been argued that the internal processes of hospitals and residential aged care services are structured to protect health professionals, not consumers (Millman 1977). Changing this balance is going to be one of the most difficult issues for managers, professionals, consumer advocates and health policy-makers in the future.

Shifting the balance back to consumers will require opening the 'black box' of the institutions. There are hopeful signs that this will occur as government-sponsored patient satisfaction surveys and other strategies to involve consumers are implemented. In the USA it is common for governments to publish score cards of case fatality rates by hospital and, in some states, by surgeon. The professions have generally opposed this exposure. In the long term, however, consumer confidence in the professions and continued support for professional training (and for the high incomes that health professionals generally enjoy) will be facilitated by opening up the processes and demonstrating that action is taken where processes and outcomes do not meet patients' expectations of dignity, compassion, information provision and involvement when they are ill.

Australian health services rapidly adopt new technologies and treatments developed in other countries

THE CHANGING HEALTH CARE ENVIRONMENT

The 'black box' of the processes of care is one of the most dynamic aspects of the health system. The health professions in Australia, especially the medical profession, are exposed to the developments and innovations in diagnosis, treatment and management that occur throughout the world. Health professionals in teaching hospitals, especially doctors, regularly travel to international conferences and develop professional relationships with their colleagues in other countries. This means that they are able to act as conduits for the rapid transmission of innovations in diagnosis and treatment. Similarly, global companies are keen to market their new diagnostic, treatment and management technologies in Australia.

Diagnostic and treatment technologies are changing rapidly. New anaesthetic agents and minimally invasive surgery have transformed surgical practice in Australia and internationally. This has led to substantial reductions in the average length of stay in hospital for most surgical procedures, and changed the nature of risk of many surgical operations, thus expanding the population who might safely undergo a surgical procedure. There has also been a transformation in the way patients are diagnosed and treated. Diagnosis is now typically complete before a hospital admission, and most hospital treatment can now be done on a same-day basis. The increase in the proportion of patients who can be treated on a day-only basis has major implications for the design and operation of hospitals.

Hospitals will also be affected by the development of genetic technologies, not only through the identification of genetic predisposition to certain diseases and thus possibly affecting opportunities for prevention, but also through the development of a new generation of pharmaceuticals that will enable medical rather than surgical treatment of diseases and tailoring of medication to the specific genetic make-up of individual patients and their specific response to the medication (see Kaufert 2000 for some of the wider implications of the 'new genetics'). New pharmaceuticals may also reduce the demand for hospital admission for medical treatment because highly targeted drugs may not require the same level of supervision during their delivery.

Management technologies are also changing the processes of care. The most notable development of management technology has been an improved ability to describe patients through development of casemix measures (see Chapter 8), and the introduction of casemix funding. Casemix funding has changed the nature of incentives for hospitals and has often led to changes in the organisational structure of hospitals.

Information and communication technologies are also having a profound impact on the health care system (Goldsmith 2000). Information technology and the development of the internet are leading to a more informed patient clientele, because consumers are able to access information about their disease both directly on the internet and through information exchanges with other people with similar conditions through disease-related chat groups. In many cases consumers may thus be more informed about the latest development in treatment technologies than their treating practitioners. Web-based technologies are also empowering consumers in their interaction with hospitals, for example by allowing patients to book their own outpatient clinic appointments.

Although it is unlikely that an integrated electronic record will achieve all the benefits identified by its advocates (Mount et al. 2000), it does have the potential to change the nature of health care provision. The new information technology brings with it certain challenges, not least being the need to ensure that the patient record is just that, namely a record owned by the patient with access to the information it contains

controlled by the patient rather than providers and/or companies involved in selling drugs and other services to the patient (Carter 2000). Information technology has the ability not only to transform the relationship between consumer and provider, but also relationships between providers by facilitating changed payment arrangements; longitudinal or episode-of-care payment is only feasible with records linking the number and type of interactions between a consumer and/or providers. New information technology may also improve efficiency in terms of reducing duplication of diagnostic work-ups and assessments.

REFLECT AND DISCUSS ►



The health system is increasingly a digitised one, with electronic health records being seen as a way of improving quality and communication in the system and reducing costs.

Australia's track record in introducing such a system is a sorry one, with the most recent attempt at a Personally Controlled Electronic Health Record becoming mired in professional politics and opposition. It was designed to be 'consumer facing' (Pearce & Bainbridge 2014), with consumers being able to add or amend items in the record. The new digitised record became a patient's record not a doctor's record. Some doctors then questioned how they could trust any item in the record. The new system was described as a 'digital disruption of moral orders' (Garrety et al. 2014).

What are the benefits of patients controlling their own information? Should patients be able to limit the information they disclose to their treating practitioners? Should there be a trade-off in this area, because if doctors can't trust patient information some of the mooted benefits of electronic records might not be achieved (e.g. eliminating duplication of test ordering)?



These changes in information technology, pressure from consumers, research advances and demographic changes in the population impact on health systems.

A SYSTEMS PERSPECTIVE ON HEALTH

Models are used to help us simplify the world around us. All organisations can be described in terms of a system, with inputs, processes, outputs and outcomes (Kast & Rosenzweig 1972). Figure 1.1 shows a general outline of the organisation of health services as a system. This framework is used in this book to describe the Australian health care system. A similar systems framework has been used by the World Health Organization (WHO) as part of its framework for evaluating health systems (WHO 2000).

INPUTS

The inputs allow the provision of care through a variety of processes. The underpinning of any set of inputs into the health care system is the ability to pay for those inputs, and hence financing is critical to creating or obtaining the other inputs: the workforce, capital, information and communication technologies, and supplies. A qualitatively different type of input is 'political and social support'. This derives from Easton's (1979)

conceptualisation of the political process as a system. The extent of political or social support for the health system is reflected in the trust people have in the system and the ability of the system to garner additional resources, either from taxation or individual contributions.

As Figure 1.1 shows, inputs such as staff (workforce), capital and supplies are combined in the institutions of care provision (such as hospitals and community health services) and public health programs to create outputs and outcomes. As discussed above, the actual work of care provision in those institutions occurs in clinical teams or ‘micro-systems’ (Nelson et al. 2007), what we have called the ‘micro-processes’ of care.

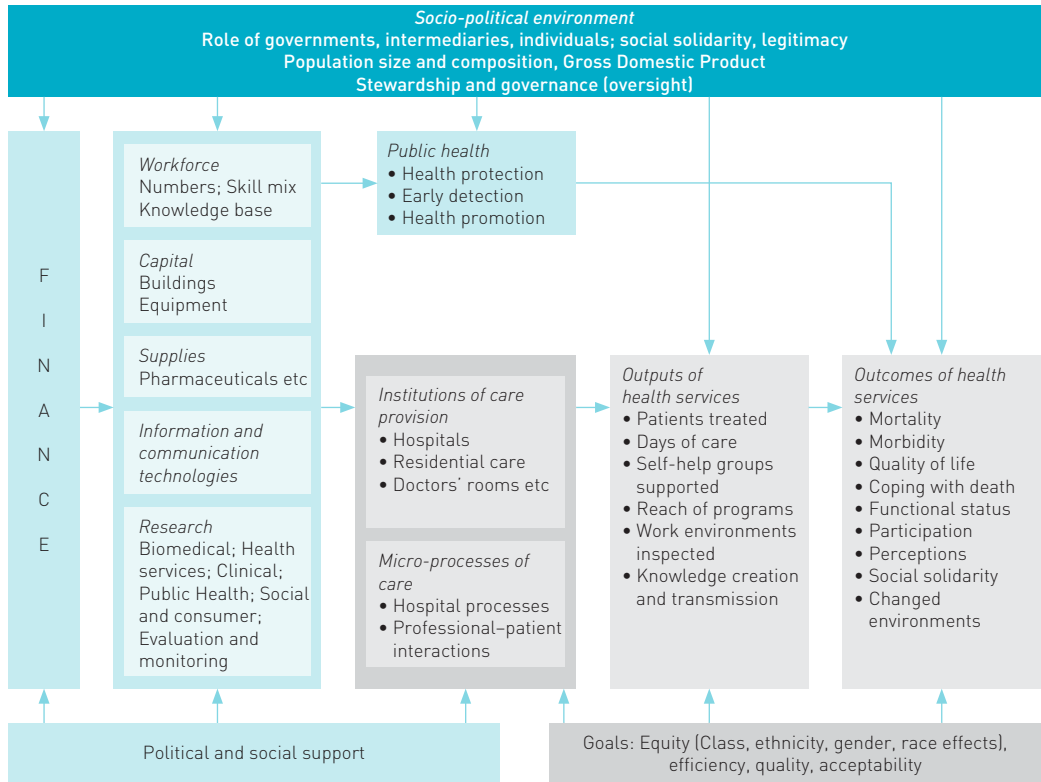
OUTPUTS AND OUTCOMES

The principal outputs vary across the different types of health services and processes and include patients treated, days of care, and so on. These outputs are distributed unevenly across beneficiary groups: sick versus well; rich versus poor; men and women; Indigenous Australians; various stages of the life cycle. There are also intermediate outputs, such as pathology tests, which are themselves inputs into care processes.

The principal outcomes are of two kinds. The health system impacts on health status, usually measured in terms of length and quality of life (Aday 2004), and, as with outputs, outcomes are distributed unevenly. There are also other outcomes of the health system and individual interactions with it. At the individual level, the outcomes include perceptions of the quality of the interaction; for example, the extent to which a person felt their dignity had been protected or infringed, and the extent of information provided. More broadly, the outcomes include the contribution of the system to building ‘social capital’; for example, does the health system help to build a stronger community or to enhance equity in society?

The principal outputs vary across the different types of health services and processes, and include patients treated and days of care

FIGURE 1.1 Organisation of health services—a systems perspective



Health system design choices have implications for equity

THE SOCIO-POLITICAL ENVIRONMENT

It is important to stress that the Australian health care system is not some free-floating entity existing in a social vacuum. The health care system exists in a socio-political environment that has particular characteristics: the place of women, racial discrimination and discrimination against people from a non-English-speaking background and the role of class divisions. These characteristics affect the health care system both in its interaction with other aspects of society (e.g. the education system) and in the *modus operandi* of the system itself. The interaction with the environment plays out at every level of the system: the whole health care system affects and is affected by its environment, but so too with an individual health facility. In many rural towns, the local hospital is the largest employer (affecting its environment) and the way the micro-processes of care work within the hospital may be affected by the socio-political environment of the town.

Choices in the design of health care systems have implications for equity: which groups are winners and which are losers? The social determinants of health are able to be changed by political action (Bambra et al. 2005; Marmot 2005) and health policy is often as much about politics and wider factors as about health care (Lewis 2005b). Decisions about the relative role of government versus individuals and whether or not there is a government response to needs are not taken solely within the bounds of the health care system. The wider political environment shapes the choices that are on the political agenda, and these in turn shape the outcome of political debates. The political environment can, of course, change over time, which can affect the nature of what health system design choices are seen as appropriate or viable politically (Schlesinger 2002). Culyer (2014) identifies a number of 'social values' that shape design choices, such as an emphasis on markets or government as determining allocations of resources, or the role of experts versus citizens.

The health care system also has an impact on the wider social system. Australia's health insurance scheme, Medicare, is designed to ensure that all Australians have equal access to care in a public system. This means that all Australians have a stake in ensuring that the public system functions effectively; Medicare thus contributes to social cohesion and social solidarity (Duckett 2008a). The more Medicare is relegated to being a system for the 'poor' and the more middle-class or wealthy individuals seek to opt out of a public system to rely on private insurance and private services for their care, the more social solidarity will be weakened and government expenditure on Medicare and the public system will be questioned by those groups who do not see themselves benefiting from that expenditure.

Stakeholders in the health care system are an important part of its political environment. Direct stakeholder groups include groups of consumers (self-help and advocacy groups), as well as those who benefit from provision (employees, contractors, suppliers, manufacturers).

The WHO has identified 'stewardship' as an important component of the health care system and its environment (Saltman & Ferroussier-Davis 2000). The stewardship function provides the oversight and overall governance of the health system as a whole. Stewardship is about designing the regulatory framework for the system and ensuring compliance, establishing the roles of the agencies and authorities and adjusting the system on the basis of monitoring and feedback systems. Although 'stewards' may be participants in the health system, they can and do change the shape of the overall health care system and so have been placed as part of the environment in Figure 1.1.

The final aspect of a system, not shown in Figure 1.1, is feedback. A system adapts and changes in response to its environment, and through evaluation of the adequacy of

the processes and outcomes. Feedback processes can be formal (committees of review, research studies) or informal. Feedback can work through political processes to change major aspects of the system or at local levels, bringing research results or feedback from consumers to bear on choice about treatment or organisational processes.

EVALUATING THE AUSTRALIAN HEALTH SYSTEM

A number of authors have proposed frameworks for describing or evaluating a health care system. One of the early frameworks was that of the American Public Health Association (Myers 1965), which proposed evaluating health care systems in terms of accessibility, quality, continuity and efficiency. Subsequently Aday et al. (2004) suggested three main criteria: equity, efficiency and effectiveness.

Australia developed a National Health Performance Framework to guide reports on performance of the health sector and to evaluate the health system. The Australian Institute of Health and Welfare's flagship publication, *Australia's Health* (AIHW 2014a), includes reporting of data against this Framework. The Framework postulates three tiers of reporting. The first relates to health status and outcomes and addresses questions, such as how healthy are Australians? Is it the same for everyone? This tier incorporates measures of health conditions, such as the prevalence of disease, human function, life expectancy and well-being, and mortality rates. The second tier addresses determinants of health, such as environmental factors, socio-economic factors and community capacity. The third tier directly addresses aspects of health system performance and incorporates nine attributes: effective, appropriate, efficient, responsive, accessible, safe, continuous, capable and sustainable. The three tiers address very different aspects of the health system and so the system could perform poorly using the health system performance measure (tier 3) in terms of accessibility, for example, with long waits for admission to hospital or non-availability of services in emergency, and yet at the same time the overall health status and outcomes as measured in tier 1 may be quite satisfactory.

An influential evaluation framework used to report across all areas of government is the Report on Government Services (RoGS) framework (Steering Committee 2014). This framework has three broad performance criteria: access, effectiveness (which includes appropriateness and quality as well as access) and efficiency.

Evaluation can focus on what is achieved (outputs and outcomes) and how this achievement occurs (processes). This book uses four criteria for evaluation: equity, quality, efficiency and acceptability.

EQUITY

A focus on equity requires analysis of health status or health care differences in geography, class, race, ethnic origin, gender, and so on, with the aim of reducing such differences. Which groups are analysed is a matter of value choice and is always limited by the availability of data. The relative emphasis placed on equity versus efficiency issues (to the extent that they are trade-offs) will also in part depend on one's value position. A policy focus on equity can be cast in a number of different ways. The system difference or attribute being analysed is critically important: whether the measurement of equity is in terms of processes of care (overlapping with the criterion of acceptability), outputs—usually described as 'equity of access' and highlighted by Myers (1965) as the separate

criterion of accessibility—or a focus on equity of outcomes, which is much stronger but more difficult to achieve.

Equity is different from the other criteria in that, in addition to being an objective or evaluation criterion in itself, it is also a qualifier or second dimension to quality and acceptability. Both of these latter criteria need to be assessed in terms of their *level* of attainment and the *equity* of that attainment.

QUALITY

Quality of service provision has a number of components, and different stakeholders in health care might place different emphasis or value on different aspects of quality (Duckett & Ward 2008). Clinicians typically emphasise clinical quality: was the service provided safely and were the outcomes of care as expected? In addition, consumers judge services on timeliness of access and cultural appropriateness, which again overlaps with the criterion of acceptability. At the systems level, high-quality services should contribute to social solidarity, fostering a sense of social inclusion (here overlapping with the criterion relating to equity). (Chapter 8 includes a more comprehensive discussion of measurement of quality of care, focusing on measurement of quality of hospital care.)

EFFICIENCY

System efficiency has three key contributing factors: technical, dynamic and allocative efficiency. Technical efficiency can be defined as efficiency in production, normally operationalised as inputs, such as costs, divided by outputs, such as patients treated, and it reflects how the processes of care are designed or managed. Dynamic efficiency is the extent to which a system is able to change and adapt to change. Allocative efficiency can be defined as ensuring that there is an optimum allocation of resources so that the marginal dollar spent on any program yields the same level of marginal benefit as the last dollar spent in any other program. Allocative efficiency thus involves a focus on outcomes (such as improved quality of life) relative to inputs. Improving allocative efficiency (reducing inputs per outcome or increasing outcomes per input) can be achieved by improving technical efficiency (reducing inputs per output) or improving effectiveness (reducing outputs needed to achieve a given outcome or increasing outcomes for each output).

Clearly, understanding efficiency requires us to measure the clinical outcomes of programs. This can be done using specific clinical measures (e.g. scales developed for specific diseases or conditions), but more generic measures, such as quality of life measures, are required for comparisons of outcomes across different programs.

Effectiveness has two components: efficacy (the maximum extent to which a given output can contribute to an outcome, usually achieved under controlled research conditions) and the extent to which a particular service or program is able to approach that 'ideal'. This latter component is essentially a measure of the clinical quality of the service, while other aspects of quality measure patient acceptability, regardless of clinical quality. Systematic measurement of quality using outcome measures has been handicapped by lack of agreement on appropriate means to standardise for risk or casemix, essential prerequisites for any comparison of effectiveness (Iezzoni 1994). Outcomes have many dimensions, from short-term clinical changes to longer-term changes in a patient's quality of life.

Dynamic efficiency is about how readily the health system can change and adapt to change

The health care system should be seen to be fair and to operate ethically

ACCEPTABILITY

The final criterion for evaluating health systems is acceptability of the system from the perspective of patients, communities and providers. This criterion is especially relevant in publicly funded health systems where political and social support for the system is an important determinant of the level of resourcing. Conversely, changes in the health system that are not seen as acceptable may impact adversely in the wider political environment.

A key element of acceptability is that the health care system should be seen to be fair and should be seen to operate ethically. Beauchamp and Childress (2013) have distilled the key principles that contribute to the acceptability of the health care system or contribute to an ethical health care system. They identified four key ethical principles for health care systems. The first is respect for autonomy, from which concepts of informed consent derive. The second is non-maleficence, the obligation not to inflict harm intentionally, from which is derived the obligation on health services to ensure that health care systems provide safe environments and that adverse events associated with care are minimised. The third principle is beneficence, which in contrast to the previous principle is a positive one about doing good; this principle also requires that the benefits and drawbacks of care be balanced. The fourth principle is justice in health care, which requires that treatment is allocated fairly, equitably and appropriately.

Some of these principles involve contentious elements; for example, the principle of non-maleficence may conflict with the role of the medical profession in assisted death for people who are chronically ill and in continuing pain not amenable to alleviation. The principle of autonomy may require health professionals to recognise that patient choice must sometimes override what is otherwise considered to be 'evidence-based medicine' (Berwick 2009). Justice is also contentious as there are different conceptions of what fairness means, for example whether it requires equal states of health (fairness in outcomes) or whether those in the same state of health can access care equally (fairness in access or processes). Although most health care providers would agree with these principles, they may not be fully operationalised. Designing a system that fully accepts autonomy would require a much better understanding of consumer wishes and would present information to enable choice in ways different to the current norm (Lubalin & Harris-Kojetin 1999).

CHOICES IN HEALTH SYSTEM DESIGN

There are some common design issues that are relevant to the design of any health and community care program. Essentially, every such program is designed to respond to a 'need'. The choices as to which needs are recognised and how those needs are framed are important in terms of both social policy debates and the design of service systems to respond to those needs. Which 'needs' are seen as important and the priority accorded them is a value choice (Shiell 1997; James 1999). Funding and policy arrangements for social service systems have some common elements. Except to the extent that the service system has been internationalised, all the funds for operation of the system arise in the household sector (this is discussed further in Chapter 3). The way in which funds flow

from households to providers reflects the key programmatic choices in the design of the service system response to ‘needs.’

‘NEED’

The concept of need is one that has been the subject of much debate. Who defines needs? Are needs that are identified by professionals more relevant in social policy terms than those identified by consumers? Has society identified some ‘basic needs’ that must be met and funded by taxpayers? Translation of some illnesses into needs is self-evident and obvious: a person with a broken leg would clearly benefit from medical care and all would recognise that such a person has a need for health care. The situation of a person with a headache is much more complex. Different people react to a headache differently: some do nothing; some simply take pain relievers from their cupboard; some take a day off work; and some immediately go to a doctor. Thus the very recognition of a need for action varies between individuals.

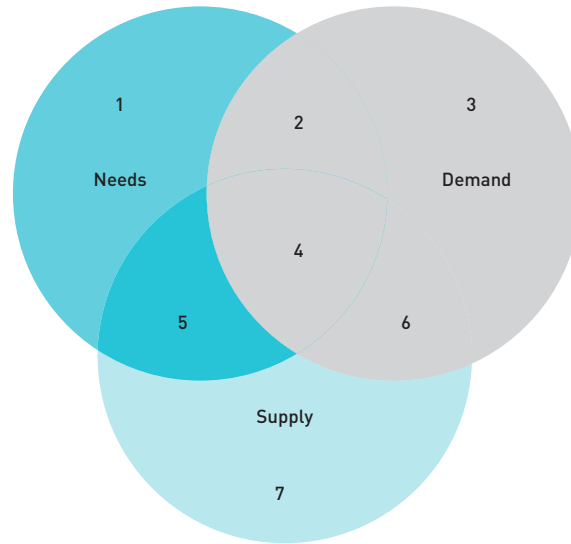
Needs are framed in different ways by consumers, providers and policy-makers (Donabedian 1973; Long 1994). Eagar et al. (2001) distinguish between ‘normative’ needs (those that are defined through standards based on expert opinion), ‘expressed’ needs (those that can be inferred through observing the actual use of services), ‘comparative’ needs (those that are based on examining differences between populations or geographic areas) and ‘felt’ needs (what people say they want). However, there is rarely any external, objective ‘needometer’ that enables needs to be empirically determined and measured without regard to a social context. Rather, needs are best understood as being determined and framed within a social and political context (Braybrooke 1987).

REFLECT AND DISCUSS ►

Is ‘need’ a useful concept in health policy and planning? In an environment where people don’t have to pay for their own care, are needs infinite? Should health policy and planning only consider needs that someone is willing to pay for? Is it helpful to distinguish between ‘services that are needed’ and the ‘neediness of the population’ (Frankel 1991)?

Just as needs must be considered within a social and political context, so too with the nature of the service system response: the personal, social and political environment will determine what needs are seen as deserving of a societal or government response and what needs will be seen as being the responsibility of individuals directly or through a market, and whether a mix or balance of collective and individual responsibility is appropriate. A similar range of environmental factors, together with economic factors, will affect the extent to which needs are translated into demands for services.

Needs, supply and demand are three distinct concepts that Dror et al. (2002) have portrayed as three overlapping circles (Figure 1.2) that generate seven distinct zones (Table 1.1). In the Dror model, needs are distinguished from demand in that the latter is paid for.

FIGURE 1.2 Schematic description—interaction of needs, demand and supply**TABLE 1.1** Intersections between need, supply and demand in health care

RELATIONSHIP BETWEEN NEED, SUPPLY AND DEMAND	EXAMPLE
1. Extant but unmet needs	Improving water or air quality beyond designated thresholds, where the costs are high but there is a benefit
2. Needs in demand but no supply	Immunisation against vaccine-preventable disease where the immunisation program has not been established
3. Demand for services of low need, but no supply	Demand for unnecessary surgery not met by supply
4. Adequate supply to meet priority needs, for which individuals or society will pay	Aim to maximise this zone
5. Needs and supply but no demand	Unpopular preventive measure
6. Supplier-induced demand for low-priority needs	Supply of unnecessary diagnostic services
7. Excess supply: neither need nor demand	Inappropriately located, poor-quality services or services responding to needs that have passed

Health policy can intervene to shape need, including converting ‘need’ to demand, as well as influencing the supply of health services. The impact of different policy mixes can be considered in terms of their effect on the different zones of need, and their conversion to demand. In broad terms there are five possible responses:

- Neglect/ignore/exclude. Ignoring a need could be implicit, could involve explicit exclusions (such as determining that cosmetic surgery would not be subsidised) or other pricing strategies to exclude that need from being met by public or private funds.

- Delay/deferral. This can be achieved covertly or overtly through waiting list strategies.
- Prevention through primary prevention (to reduce the incidence of a condition) or secondary prevention (interfering in the natural history of a disease at an early stage thereby preventing full manifestation of the condition).
- Treatment.
- Reframing/diversion. This might involve attempting, through advertising or telephone triage, to get the person to resolve the need themselves (self-care), or shifting the way, or the location, of meeting the need (e.g. from acute services to primary health care; from surgery to medical treatment for a condition or enhanced pain relief).

THE DISTRIBUTION OF BENEFITS

The different approaches have different costs to consumers and, of course, different costs politically. As Evans (2005) has pointed out, each of these responses can be assessed in terms of three ‘distributional axes’:

- Who pays for care (and how much)?
- Who gets care (what kind, when, from whom, where)?
- Who gets paid (and how much)?

The balance of social and ‘private’ service or policy response to needs and demand will change over time. This balance will differ between cultures, reflecting political factors relating to the power of the relevant interest groups, the contemporary economic situation of the country, its history, culture and dominant ‘values’, and other factors (Gibson 1998). Different emphases on key values (such as the value of individual freedom and choice versus the value of equity) lead to different choices in terms of system design; see Williams (1988, 1997) for a review of the implications for health systems of two contrasting value positions: libertarian and egalitarian.

DESIGN PARAMETERS FOR HEALTH SYSTEMS

Table 1.2, which extends a schema developed by Hacker and Marmor (1999), describes a number of dimensions on which different national health systems make different choices about the structure or supply of services. Further, there may be differences in these dimensions within a given country for different elements of the health system.

The extent to which there is pooling of funding is probably the critical component of system design. The requirement for pooling stems from the fact that health care costs can be large and unpredictable (Arrow 1963), and these are the very circumstances where insurance arrangements are the most appropriate. Pooling addresses the first of Evans’s (2005) distributional axes and can cover the whole population for a broad range of services or it can be relatively limited (either to population segments or to a defined range of activities). Most developed countries have recognised the importance of pooling of funding, mainly on equity grounds, to ensure that financial barriers do not inhibit access to needed care. However, compulsory insurance programs have also enhanced efficiency (Evans 1995).

Decisions on funds pooling link directly to decisions on the extent of coverage of health care. Pooling of funding for the whole population can also be described as universal coverage (coverage of the whole population). There are three dimensions to coverage decisions: the population covered (breadth), the services covered (depth) and the extent of costs covered (height). The World Health Organisation, which promulgates this model, portrays this as the ‘coverage cube’ (Busse et al. 2007; WHO 2010; Kutzin 2013).

TABLE 1.2 Key dimensions in health system design

DIMENSION	EXPLANATIONS/OPTIONS
Pooling of funding (including scope, eligible population and type of financing)	<p>Degree to which funding is shared across consumers. Ranges from pooling across whole populations (e.g. compulsory insurance or government tax-funded provision), through part-population (e.g. voluntary insurance or targeted programs) to no insurance (individual payment). Insurance may or may not be subsidised by government.</p> <p>Also affected by the extent of co-payments (i.e. patient contributions): the greater the level of co-payments, the lower the level of pooling.</p> <p>Whole population pooling can be undertaken either via tax-funded arrangements, compulsory 'savings' programs or 'social insurance'. The latter two types of programs involve individuals making designated contributions to a funds pool.</p> <p>The extent of pooling also involves determining what is the scope of services included in a scheme or 'covered' by the insurance or other arrangements (how this is effected may vary; see the final point under 'Constraints on provider choices' in this table).</p>
Service provision and administration	<p>Choices include direct government provision or regulation/subsidy of non-government provision with a subsidiary choice of whether non-government providers can only be not-for-profit or whether for-profit providers are allowed.</p> <p>Administration of the program can be by a government department, separate statutory authority, or through private intermediaries.</p>
Constraints on provider choices	<p>The extent to which providers' choices are constrained. Options include:</p> <ul style="list-style-type: none"> • constraint on treatment choices (a number of managed care programs in the USA limit providers in this way, through utilisation review or requirements for adherence to approved treatment protocols). Formal rules and regulations can be used, or strategies based on information including feedback about relative performance. • constraints on ability to charge co-payments or determine client eligibility. Co-payments may be proscribed or only able to be charged in accordance with guidelines or can be provider-determined. Co-payments may supplement or offset funded payments. • constraints on consumer prioritisation. Priority-setting processes may be according to specific guidelines or providers may have autonomy in prioritisation. • constraints on service scope. The range of funded services may effectively vary with local autonomy on scope of provision or services funded may be tightly specified.
Constraints on consumer choices	<p>Consumers may have free choice of any (registered) provider or be limited to seek treatment/care from a subset of providers. Consumers may also be restricted in access to some services (e.g. secondary care) without prior authorisation ('gatekeeping'). The restriction may be absolute or in the form of a financial incentive (e.g. a higher rebate if prior approval or a referral has been obtained).</p>

DIMENSION	EXPLANATIONS/OPTIONS
Risk-pooling with providers	The extent to which the funder shares (cost) risk with providers. Risk-pooling can be national; by state/region or specialty; in a specific plan; or by individual providers.
Payment arrangements	A variety of payment methods can be used, each creating different incentives: <ul style="list-style-type: none"> • Historical/political • Input-related (e.g. number of staff, hours of provision) • Output or volume-related (normally according to a designated schedule with different prices for different types of services). Output/volume-related funding may also require specification of a volume cap. The fee schedule can be predetermined or may vary in response to bids or tenders. • Population or 'capitation' payment, usually weighted for population attributes (e.g. age, sex).

In Australia, hospital, pharmaceutical, medical and residential aged care services have very high degrees of pooling and risk-sharing of funding, while dental services, for example, are mostly funded by individuals. Table 1.3 identifies the relationship (including potential trade-offs) between pooling and constraints on consumer choice.

TABLE 1.3 Design choices in Australian health services

SERVICE	POOLING OF FUNDING	CONSTRAINTS ON CONSUMER CHOICES	WORLD HEALTH ORGANIZATION COVERAGE DIMENSIONS
Public hospital services	High degree of pooling with costs shared across all taxpayers	Patients can use any public hospital, but private hospitals are not covered under Medicare	Broad, deep, high
Medical services	Moderate degree of pooling for the medical benefit paid by the Commonwealth Government; Some pooling of 'gap' medical payments for in-hospital medical services covered by private health insurance	Patients have free choice of GP and specialist services provided in the community; There is no 'choice of doctor' for publicly provided medical services for patients in public hospitals	Broad, moderately deep (e.g. cosmetic surgery excluded), moderately high (most General Practitioner (GP) services bulk-billed, most specialist services have co-payments)
Private dental services	Pooling across private health insurers for the privately insured population; No pooling of the costs for people without private health insurance	Some private health insurers have 'preferred provider' arrangements with some dentists; this minimises out-of-pocket costs but reduces consumer choice of provider	Narrow, somewhat shallow (e.g. limitations on coverage for certain orthodontic items), low

The extent of pooling of funding does not predetermine the organisational structure of provision as there are five distinct functions affecting the health care system or found within it: stewardship, funding, purchasing, provision and ownership.

PURCHASING VERSUS PROVIDING

The purchasing function contains a range of management and policy choices, which in turn involve decisions about four of the dimensions in Table 1.2. Purchasers may make decisions about the latter two of Evans's (2005) distributional axes (who gets care, who gets paid) in terms of service scope (i.e. what services will be within the pooling and coverage framework), aspects of constraining provider choices, and limitations on the availability of providers, thus constraining consumer choices.

The market structure of purchasing organisations varies considerably internationally (Busse et al. 2007) with most countries having single purchasers covering distinct regional (sub-national) areas (e.g. England), some countries having a single national purchaser (e.g. Korea), and others having multiple competing purchasers (e.g. Germany).

Different purchasers will structure payment arrangements and risk-pooling with providers in different ways (see Hacker & Marmor 1999 for a discussion about the use of the three dimensions of constraints on provider choices, risk-pooling and constraints on consumer choices in the US context).

Chernichovsky (1995) argues it is important that there are at least two separate structures across the broad functions of funding, purchasing and provision. In particular, he argues that the structure of the system is more efficient if there is either:

- separation of funding from purchasing and provision (the most notable examples of this form of organisation are the traditional Health Maintenance Organizations (HMOs) in the USA), or
- separation of provision from funding and purchasing functions, commonly referred to as a purchaser–provider split, exemplified in the early 1990s structural reforms of the United Kingdom (UK) National Health Service (NHS), in New Zealand and in hospital casemix funding arrangements (Flood 2003).

Case study 1.1. examines the history of Australian proposals to strengthen the purchasing function in health care.

CASE STUDY 1.1

Capitated purchasing: Always the bridesmaid ...

The 'purchaser' function in health care is partly designed to change the balance of power away from individual providers by introducing an organisation which would be more likely to invest in those interventions that would yield the most health gain. The best known manifestations of this approach are Health Maintenance Organizations (HMOs) in the USA. In their prototypical form, people are enrolled in the organisation for a fixed annual fee per enrollee ('capitated prepayment') and the organisation meets all their health care needs. Because the organisation bears the financial risk of all health care utilisation, it is argued that it has an incentive to keep people healthy (or 'maintain health' in the model title).

Australian interest in capitated models has waxed and waned.

1970s

A number of authors expressed interest in capitated models in the 1970s, before the introduction of universal health insurance in Australia. Sid Sax, an extremely influential health policy thinker at the time, in his book *Medical Care in the Melting Pot* (Sax 1972) described the contemporary developments in HMOs in the USA. Writing on the eve of the 1972 federal election that saw the election of the Whitlam Government and the introduction of Medibank, the precursor to Medicare, Sax argued that 'Delivery such as that within the Kaiser-Permanente programme (an HMO) is both more efficient and more effective than has yet been achieved by any other system' (1972, p. 170). He went on to say:

The least that can be expected is that new approaches should not be stifled. It may not be too much to ask that the major health funds, the Australian Hospitals Association and the Australian Medical Association devise a plan which can be available as an alternative that Australians may choose. A series of fully comprehensive prepaid group plans, sponsored by non-profit organizations and voluntarily negotiated, would be better than a single imposed government scheme. (p. 171)

Despite Sax's influential role in the 1970s (he was the inaugural chair of the Whitlam-era National Hospitals and Health Services Commission and remained influential in the Fraser period), comprehensive prepaid group plans were not introduced as part of any of the many changes to Australia's health insurance schemes over that decade.

1980s

The election of the Hawke Government in 1983 led to reintroduction of universal health insurance (Medicare) and a long period of policy stability led by Health Minister Neal Blewett (who served as health minister from 1983 to 1990). Nevertheless, at least some sections of the public service retained an interest in HMOs and in 1986 the Commonwealth Department of Health issued a 93-page paper entitled *Health Maintenance Organisations: A development program under Medicare*. Minister Blewett's introduction noted that legislation would be required to facilitate HMO introduction but looked forward to 'a broad and constructive debate ... in the coming months'.

The paper noted that:

Although the style and mode of operations of HMOs may need to be somewhat different for successful operation in Australia, it is expected that HMOs would produce benefits to the Australian health care system similar to those experienced in the U.S. Expected benefits include reduction in the cost of health care delivery, improvement in the quality of health care, improved coordination and integration of services, reduction of costs to and improvement of services for consumers. (Commonwealth Department of Health 1986, p. ix)

The paper invited proposals to be submitted and indicated that facilitatory legislation would be introduced after responses to the paper were received.

No trial HMOs were announced and no legislation was introduced.

1990s

Dick Scotton was one of the two economists responsible for designing and implementing universal health insurance in Australia (the other being John Deeble). In the 1990s, Scotton became a leading advocate of 'managed competition', designed to 'establish structures in which market incentives can increase economic efficiency—that is, make better use of resources to improve health outcomes and satisfy consumer wants' (Scotton 1999, p. 214).

From about the mid-1990s, Scotton developed his ideas and articulated an increasingly well-formulated proposal involving public and private 'budget holders'. Under his model, there could be competition between budget holders. Scotton recognised that managed competition is 'a complex concept, with implications for every aspect of the health system' (p. 214). His ideas were supported by the Productivity Commission, but were not adopted in practice.

2000s

The new Rudd Labor Government elected in 2008 promised sweeping reform of the health system and appointed a National Health and Hospitals Reform Commission (NHHRC) with broad terms of reference to recommend reform strategies. The Commission also recommended exploration of a 'uniquely Australian' version of HMOs:

We believe that there is a real need to further improve the responsiveness and efficiency of the health system and capacity for innovation. We agree that greater consumer choice and provider competition and better use of public and private health resources could offer the potential to achieve this, through the development of a uniquely Australian governance model for health care that builds on and expands Medicare. This new model is based on the establishment of health and hospital plans, and draws upon features of social health insurance as well as encompassing ideas of consumer choice, provider competition and strategic purchasing ... We recommend that the Commonwealth Government commits to explore the design benefits, risks and feasibility around the potential implementation of health and hospital plans to the governance of the Australian health system. (NHHRC 2009, p. 161)

But the Commission was no starry-eyed advocate, highlighting the need to examine both benefits and risks. Its recommendation was tempered by a litany of 13 issues that needed to be examined as part of the assessment of feasibility.

The government's response to the Commission's Report, which otherwise adopted almost all its recommendations, made no mention of any further exploration of 'health and hospital plans'.

So why is it that HMOs and prepaid group practice have been so often advocated to no avail? Certainly, as Scotton's work has shown, the theory behind these types of developments is sound. It is in the translation into a practical proposal that the failure occurs. Perhaps the clues lie in the NHHRC's list of issues. In order for HMO-type arrangements to be viable there has to be a 'value proposition': people must elect to participate. In the Australian context, with universal insurance, there is little reason for consumers to see HMO-type

arrangements as better than the current arrangements. The value proposition for private health insurance in Australia is about enhanced choice, by-passing wait times in the public sector or obtaining improved amenity. HMO-type arrangements often involve constraint on choice (see Table 1.2), so representing the antithesis of current insurance marketing strategies.

Although it is difficult to predict future gyrations of the Australian health care system, based on experience of the last 40 years we can predict further calls for experimentation, but HMOs may be destined to be always the bridesmaid and not taken to the altar of policy implementation.

DISCUSSION QUESTIONS

1. Why is there continuing interest in policy approaches involving pooling of all health funding for individuals or populations? How much is this a reaction to the existence of multiple funders (public/private, Commonwealth/state governments)?
2. Review the list of factors identified in the National Health and Hospital Reform Commission's Final Report that would need to be resolved before the implementation of 'health and hospital plans'. How much are these issues related to technical challenges versus broader political and stakeholder challenges about the current organisation of the health system?

The identification and development of the purchasing function mainly occurred from the early 1990s. Before then, there were few explicit efficiency constraints on consumer or provider choices in most health care systems. A purchaser function obviously requires an ability to specify or describe the products being purchased (Williamson 1975, 1986; Ashton 1997). The 1980s saw significant improvements in the ability to describe health care 'products', especially for hospital services with the development of Diagnosis Related Groups (DRGs) (Fetter 1991; White 2003; see Chapter 8).

The evolution of the purchaser function has in part occurred because of a breakdown of an 'implicit bargain' between the medical profession and government funders that gave the medical profession autonomy in treatment policy (Evans 1995). This breakdown was a reaction to accelerated cost escalation in the health sector but may also be attributed to increasing public scepticism that the medical profession is able to ensure effective priority-setting without some form of independent purchaser oversight.

Interventionist purchaser roles can bring risks in terms of accountability to consumers (see Rodwin 1995) and in terms of ensuring that priority-setting is done with the objective of promoting high-quality care rather than simply containing costs. The more a purchasing organisation is motivated by commercial considerations, the more it risks being influenced by short-run cost containment and profit maximisation rather than goals of maximising access for patients and quality of care, and the more consumers may question the legitimacy of purchaser choices (Jackson 2001a).

In most countries consumers are also involved in choices about health systems: at the macro level, their choices are exercised through political processes; at the micro level

they make choices about providers and treatments. However, consumer choice research (Bernstein & Gauthier 1999, pp. 19–20) suggests that

not all consumers have choices; those that do have access to information needed to contribute to their decisions do not necessarily have the information they most want or need; consumers cannot necessarily understand or use the information they are given; consumers do not necessarily want to make certain types of decisions about their health care, preferring instead to trust knowledgeable representatives to choose for them; choices may conflict depending on who is choosing, and representatives may have conflicting forces affecting their decisions that may not necessarily benefit the consumer; and health plans and providers, in particular, that are judged to be higher cost or lower quality appear to survive (at least so far).

The choices that are made about each of the dimensions in Table 1.2 vary within cultures and over time. This book assumes that the criteria for choice should be the impact on equity, efficiency, quality and acceptability of the system. Inevitably, there are trade-offs among these attributes. The more there are constraints on provider choices, for example, the lower will be the acceptability to providers. On the other hand, constraints on provider choices may promote efficiency and, in some cases, equity.

It is sometimes argued that equity and efficiency are intrinsically in conflict. Efficiency should be used in the economic sense of technical, allocative and dynamic efficiency. There is little evidence that there is any trade-off between equity and efficiency in these terms. Indeed, equity is most often achieved through pooling and risk-sharing of funding, which has been shown to bring with it efficiency improvements such as reduced administrative costs of one funding source rather than many (see also Evans 1990a, 1995, 1997).

There may be a trade-off, however, between equity and cost containment, since providing increased access (by eliminating financial barriers) inevitably results in expanded provision, which comes at a cost. This cost has benefits and decision-makers need to assess the cost–benefit trade-off. (Note that this trade-off is about cost containment or expenditure, not efficiency.)

The various choices made in health care systems also have an impact on the overall health status and access to adequate and comprehensive care for people in need. The success of the Australian health care system in this regard is discussed in Chapter 2.

FURTHER READING

Culyer, A. J. 2014, *Social values in health and social care: Background paper for Commission on the Future of Health and Social Care in England*, London: King's Fund.

Outlines the various design choices in health care highlighting contrasting social values.

Figueras, J. and M. McKee (eds) 2012, *Health systems, health, wealth and societal wellbeing: Assessing the case for investing in health systems*, Maidenhead: Open University Press.

Looks at the health system and health care from a positive point of view: investing in health care can contribute to economic growth.

Figueras, J., R. Robinson and E. Jakubowski (eds) 2005, *Purchasing to improve health systems performance*, Berkshire: Open University Press.

Outlines theory of purchasing and issues to be considered in its application.

Flood, C. M. 2003, *International health care reform: A legal, economic, and political analysis*, London: Routledge.

Describes issues in implementation of purchaser–provider split health reforms in four countries: England, the Netherlands, New Zealand and the United States.

Roberts, M. J., W. Hsiao, P. Berman & M. R. Reich 2008, *Getting health reform right: A guide to improving performance and equity*, New York: Oxford University Press.

Consistent with its title, this book outlines choices in health system design in terms of ‘control knobs’ (payment, regulation, behaviour).