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Chapter 2 Motives for government intervention

2.1 Introduction

In 1998 health care expenditures in the Netherlands mounted up to approximately Dfl. 66,4 billion (Jaaroverzicht Zorg, 1998). Nearly four-fifth of this amount is paid publicly financed, notably from contributions to compulsory insurance under the Health Insurance Act and the Exceptional Medical Expenses Act. In addition, the government uses many other instruments to steer and contain the health care sector, including laws, regulation of supply and prices. The necessity of government intervention is an important issue. Some people maintain that government intervention is inevitable. Others claim that much of government intervention is not necessary and results in inefficiencies. To clarify this debate, in this chapter the traditional motives mentioned as a justification for government intervention in general will be discussed and applied to the health care sector. To better understand the background of the Dutch system, first major social theories are discussed (Section 2.2). Section 2.3 presents the consequences for the health care sector: why does the government regulate this particular sector? Section 2.4 surveys the methods of government intervention in the health care sector. Section 2.5 shows how the Dutch system fits into the framework of general theories on social justice and how economic evaluation can contribute to reaching a more utilitarian basis. Section 2.6 describes several methods of economic evaluations are described. Finally, Section 2.7 concludes.

2.2 Social theories on government intervention

Medical and economic literature offer different motives that may justify government intervention in the health care sector. From an economic point of view, government intervention is motivated to an important degree by the allocation of scarce resources. The ultimate goal is to maximise welfare given certain constraints. These follow from a particular view on social justice. Roughly, three types of social theories can be distinguished in analysing government goals: the libertarian, the liberal and the socialist view.

The **libertarians** are direct disciples of the 'laissez-faire' in the eighteenth century. They favour a minimal state with no or very little government intervention. Individual freedom is the central theme. Within this school, two distinct sets of philosophical arguments should be mentioned: natural right libertarians and utilitarian libertarians. The former argue that state intervention is morally wrong (Nozick, 1974). The latter, represented by writers like Hayek (1976), advocate free markets and are opposed to government regulation out of a belief that this will reduce total welfare (Barr, 1993). The only task they see for the government is to protect individuals from outside enemies and eventually from their fellow-citizens. For both wings, the distribution of services in the health care sector should be the result of freely negotiated transactions in the market-place. The end result may be unfortunate for some people, but as long as the rules are applied properly they cannot be considered unfair.

Liberal theories contain a principle of distribution which could, in certain circumstances, have egalitarian outcomes, i.e. in some situations income redistribution is thought to be an appropriate state function. One of the mainstream philosophies in liberal theory is utilitarianism. The utilitarian aim is to distribute goods in order to maximise the total utility of all individuals in society. Therefore, goods and services should be distributed efficiently among existing firms and allocated efficiently among consumers. Furthermore, a simultaneous equilibrium of production and consumption is needed. This concept is called *Pareto-optimality*¹ (Koutsoyannis, 1987). Pareto-optimality is the benchmark for all mainstream microeconomics. It is a simple but powerful guide to test whether a re-allocation of resources might improve social welfare. A resource distribution is considered to be Pareto-optimal when any change in distribution would make someone worse off, even if others are better off. This implies that reallocation is not possible in order to improve one person's welfare without making anyone else worse off. A major drawback of this approach is that programmes that only make people better off and none worse off are very rare. Therefore, a less restrictive standard, the *Kaldor-Hicks criterion* has been

¹ Although the concept is rather simple, the circumstances under which a situation is Pareto-optimal are rather complicated.

proposed. This compensation rule considers a programme an improvement in social welfare when those who gainers are willing to compensate the disadvantaged.

Various criticisms have been passed on the liberal approach, for instance whether the comparison of interpersonal utilities is possible (this requires cardinal utility) and whose utility should count in establishing the societal welfare function.

A special place, somewhere in between the liberal and socialist theories is taken by Rawls (1972). His beliefs are founded on the idea that the distribution of welfare in society should be based on social justice. All individuals come together as free agents to negotiate a social contract. To do this, they are placed behind '*a veil of ignorance*', which means they ignore all knowledge concerning themselves (their position in society, their cultural background, their historical background, etc.). Barr (1993) illustrates this concept by the example of an aircraft hijack. "*With distance from our personal interests, we may conclude that hijackers' demands should never be met in order to save more lives in the long run. The 'veil of ignorance' prevents giving in to threats, which is likely to happen if our personal loved ones would be in the plane.*" According to Rawls, under this "veil of ignorance", each rational individual will choose according to the 'maximin rule' which maximises the position of the least well-off individual.

Criticism on Rawls concentrates mainly on the concept of the 'veil of ignorance'. Removing all cultural and personal knowledge would immobilise negotiators resulting in no contract at all (Miller, 1976). Miller argues that social justice has three different components: rights, what one deserves and needs. Each component leads to a moral claim. It is just that an individual should have the right to keep his own income if he has earned it legally (*a right*), it is just that someone who works longer should receive more pay (*he deserves this amount of money*) and it is just that someone who is incapable to work should not be allowed to starve (*he is in need*). Miller concludes that a general theory of social justice is impossible. His view can be summarised as follows: the concept of social justice comprises of conflicting principles. How much value is attached to

these principles may vary tremendously between different individuals and societal value systems.

Socialists consider rights and needs as dominant elements of social justice. They agree on the importance of equality. This concept can only be put into practice through government intervention, because the market is perceived as being undemocratic and unjust. Socialists argue that the increased role of the government has greatly reduced the damage done by capitalism and the market system, leading to more equality, freedom and fraternity. Some disagree with their fellow-socialists on the question whether socialist goals could be achieved within a market system. Like the liberals, most socialists feel that the best system is some sort of mixed economy that accepts private property and the market mechanism but does not rule out government intervention to correct for undesirable outcomes. **Marxists** stress the exploitation of labour under a free market economy. The ruling elite will prosper, which leads to a class conflict and to economical and political inequality. In Miller's terms, need is the dominant element in their theory of justice.

It is evident that these different views of a just society lead to different policy implications for government intervention. Libertarians criticise the inclusion of needs in aims of government policy, because the resulting instruments (like taxation) impede on natural rights and reduce economic efficiency. Natural right libertarians regard the goal of equality as an unacceptable violation of individual liberty, so according to them even in the health care sector there is no role for government intervention. Utilitarian libertarians acknowledge that a free society based on private property and competitive markets is likely to foster inequality. Limited state action is acceptable to relieve poverty and to provide certain public goods.

The liberal/utilitarian concept includes a certain degree of economic security for all. Justice comprises needs, rights and deserts. The market, according to the libertarians a simple game with winners and losers, can be seen as a boxing tournament in which the participants are not divided into different weight classes (Barr, 1993). According to Mooney (1992) the

utilitarian approach is the guiding principle in health care. The main argument in favour of utilitarianism is that it makes efficient use of scarce resources.

The socialist concept regards this vision as too narrow. Equality and economic security are an integral part of freedom. The boxing tournament without weight classes (a strict application of utilitarianism) would yield several results that are not in keeping with the value system of most Western countries, and certainly not with that of the Netherlands (De Jong and Rutten, 1983). For instance, elderly patients and non-workers would be discriminated.

The goal to reduce social inequalities leads to the application of the maximin rule (maximising the utility of the least well-off individuals), egalitarianism (those most in need will be assigned the highest priority) or the equal-access principle (it does not really matter what level of wants is satisfied, as long as everyone has equal access). The latter principle avoids having to judge the effectiveness of services or the need of individuals. Even the most obdurate Marxist would not hold on to the principle of equal access if this would mean that nobody gets anything.

2.3 Consequences for the health care sector

As Arrow (1963) pointed out, the market for health care is a very peculiar one. It follows that general views of the welfare state may not always apply to this sector. Arrow stresses the non-marketability of health care commodities (pp. 944-46) and the imperfect marketability of information, which leads to non-competitive behaviour of the health care market and to a general consensus that a laissez-faire approach of this market leads to intolerable outcomes. If we accept this theory, an important question will be how to allocate resources between sectors, treatment programmes, diseases, individuals, and so on.

In this paragraph, we analyse specific characteristics of the health care market and their implications for economic policy for societies in general and for the case of the Netherlands in particular. First, Arrow's statement is analysed and an answer is given to the question 'why is government

intervention in the health care sector necessary'. The second question is: 'On what basis should resources be allocated?'. Following this philosophical discussion, the Dutch system is briefly set out, followed by a first exploration of the role of economic evaluations in decision making, a subject which will be revisited in Chapter 8.

2.3.1 Efficiency motives for government intervention

In the view of many, health care is a basic necessity and it should therefore be provided by the government. This conclusion does not unconditionally follow from the premise. For example, food can be seen as a basic necessity too, but the market system is, under normal circumstances, perfectly capable of providing this product. Therefore, there must be other reasons for intervention. According to Arrow, an answer to the question concerning government intervention in the health care sector depends on the differences of this sector with regard to the norm of welfare economics, a competitive market oriented model. The assumption of efficient market allocation only holds when the market equilibrium is based on perfect competition, which means there are (see Koutsoyannis 1987):

- 1- many suppliers and consumers without entry barriers;
- 2- homogeneous products;
- 3- perfect mobility of production factors;
- 4- transparent market; consumers and suppliers have insight in each others preferences.

Apart from perfect competition the standard assumptions of the Invisible Hand Theorem, which asserts that the market clearing set of outputs will be efficient, include the absence of market failures and perfect information. When these assumptions are satisfied, the government can have a legitimate role to intervene in a certain market by several motives, such as the existence of a monopoly, information asymmetry, external effects, public goods, or increasing returns to scale.

Existence of a monopoly

Take for example the pharmaceutical industry, where many drugs are produced in a monopolist market. This inevitably has a direct impact on both quantity and price of the products concerned. In a market with plenty of suppliers, the demand curve faced by the producers is completely elastic. Individual suppliers have no influence on the market price, they are price-takers. In contrast, a monopolist faces a demand curve with finite elasticity. By manipulating the produced quantity, he is able to influence

the market price. This will lead to a non-optimal quantity produced and a price that is too high.

Apart from the pharmaceutical industry, the health care sector knows monopolies in the supply of services by certain specialists, and regional monopolies of general hospitals.

Information asymmetry

In a competitive market all subjects have access to the same information. There is a complete certainty about manufacture and production factors, technological developments, demand, consumer tastes, etc. In the health care sector this is not the case. According to Evans (1984) "Asymmetry of information between provider and user, and the resulting professional agency relation, are the most fundamental sources of "differentness" of health care as a commodity". In other words, the consumer does not have sufficient knowledge to make a correct medical diagnosis and assess his own needs for treatment. Furthermore, he lacks information about the quality of treatments, quality of suppliers and the fairness of the prices they charge. The information asymmetry can be divided into four different problems:

- a- insufficient knowledge of needs;
- b- insufficient knowledge of quality;
- c- insufficient knowledge of prices;
- d- insufficient knowledge of the future.

Ad a: The patient lacks sufficient knowledge of medical devices and treatments. He does not know which types of treatment are available and what outcomes can be expected of each of them. The decision is made by a medical doctor, who has studied for at least six years to decide which medical actions are necessary to treat the ailment in question. General practitioners and specialists in hospitals ought to consider the patient's needs. At the same moment, however, they are suppliers of medical services. As a consequence, there might be a financial incentive to supply as many services as possible, even when a patient does not really need them. A complete unregulated health care market could therefore lead to over-production and over-treatment.

- Ad b: The patient is not able to judge the quality of medical services. The risk of inferior products being supplied is considerable. This is one of the reasons why the government demands certain quality standards for the supply of medical services, as laid down in the Dutch Occupations in Individual Health Care Act (Wet op de Beroepen in de Individuele Gezondheidszorg) and those upheld by the Health Inspector (Inspectie van de Volksgezondheid).
- Ad c: The prices and charges in the health care sector not adequately reflect real cost. They are the result of negotiations. Furthermore, information about prices and charges is scant. A consumer makes his choice depending on his indifference curve and his budget constraint. If he has no insight in either of them, a rational choice is impossible. The price mechanism, therefore, is not working properly, leading to an imperfect balance between demand and supply.
- Ad d: Utility maximisation in the long run requires information about the future. Consumers in the health care market are unable to predict their usage of health care services. They might be involved in an accident, develop a fatal disease, and so on. For such cases the market solution is to offer private insurance as a protection against risk. However, there are several complications in the health care insurance market. One of them is the problem of asymmetric information. The purchaser of insurance may have a greater insight in his own state of health than the supplier. This is called the concept of 'lemons' (Akerlof, 1970): the purchaser may be a poor risk, leading to adverse selection. If the insurance company is not able to distinguish high-risk and low-risk individuals, it will set a comparatively high average premium for all individuals. Low-risk individuals might choose not to insure themselves and people with chronic diseases may be excluded from insurance coverage. This problem particularly surfaces in relation with medical insurance for the elderly.

Other complications with health care insurance are (among others) the problem of 'moral hazard'. If an individual's insurance covers all medical costs, health care is, at the margin, free to this

individual. On the supply side, however, a doctor knowing the insurance company will pay the bills of his patient is not constrained by the patient's ability to pay which might lead to excess supply. Thus a system of health insurance is likely to result in over-consumption, which is sometimes referred to as supplier-induced demand. As a result, an upward pressure on insurance premiums can be expected (further comments on conditions for an efficient private market for health care insurance are discussed by Arrow, 1963; Pauly, 1986).

All four aspects disrupt the market mechanism in the health care sector. If suppliers are able to manipulate demand, the demand curve will no longer be autonomous but becomes a function of the supply curve. The Invisible Hand is no longer working. This situation may lead to an inefficient allocation of resources, a serious argument for government intervention. Other departures from the Invisible Hand Theorem occur when there are market failures, like external effects, the presence of public goods or increasing returns to scale.

External effects

External effects exist when certain activities of consumers or producers have consequences for others, advantageous or disadvantageous, that are not reflected in prices. Dasgupta and Pearce (1972) describe them as follows: "An external effect will be said to exist whenever (a) an economic activity in the form of production or consumption affects the production or utility levels of other producers or consumers and (b) the effect is unpriced and uncompensated". In such a case, the societal costs do not match the private costs. As prices do not give adequate information about costs and benefits, resources are likely to be allocated inefficiently. Production quantities will be either too low (in case of positive external effects) or too high (in case of negative external effects). This way, external effects do not only influence the efficiency, but also the equity of the allocation of resources. Some individuals receive benefits as a consequence of an external effect for which they don't pay to the producer. Others are confronted with costs they will not be compensated for (for example: future generations).

The best solution to cope with this inefficiency, seems to be to internalise the external effect by correcting the price in such a way that it reveals actual societal costs and benefits. Another possibility is to change consumption and production patterns by means of laws and regulations (Coase, 1960).

Examples of external effects in the health care sector are vaccination programmes, providing clean drinking water, investment in sewerage, etc. As a consequence of one individual being vaccinated the probability of someone else being contaminated decreases. A recent study on the use of pesticide-treated bednets in Gambia for instance has shown that the incidence of malaria decreased among those who did not use bednets (Hammer, 1996).

According to Labelle and Hurley (1992) the option value can be seen as an external effect too. Individuals are willing to pay for the assurance that health care will be available in the future. The possibility of future consumption, whenever necessary, is seen as a benefit the price of which is not included in the current charge.

Public goods

Under the regime of the Invisible Hand some goods and services will not be provided in adequate amounts. This is what Arrow called the "non-marketability" of such goods. Normally, market prices arise from a confrontation between demand and supply. On the market money is exchanged for goods. This exchange can only take place when the property rights of goods are clearly described and exclusive. It must be possible to exclude people who do not pay from consumption. Once a good is produced non-excludability makes it impossible to prevent people from using it, hence it is not possible to levy charges (the free-rider problem). In some cases exclusion from usage is not possible, because transaction costs are high or property rights are not enforceable (non-rejectability, e.g. air pollution). Another feature of public goods is non-rivalness. Non-rivalness implies that the marginal cost of an additional user is zero. In the health care sector the presence of pure public goods only plays a role with contamination and sewerage.

Increasing returns to scale

Increasing returns to scale occur when doubling the input more than doubles the output. Average costs (AC) will exceed marginal costs (MC), while the price (P) is equal to the marginal costs ($P=MC$). As a consequence firms probably cannot reach the most efficient level of outcome (where $AC = MC$), and in that case will be driven out of business. The industry will either be monopolised or cease to exist at all. In both cases the government can decide to regulate or to take production into its own hands. For instance, this kind of regulation could be necessary in the case of high medical technology, which needs only to be available in one or two hospitals. Centralised production leads to lower costs for society in general, as a consequence of smaller overhead costs.

Special cost argument

A further motive for financial support of the government in the health care sector is when a product's characteristic make this support indispensable. This is a special cost argument. Baumol (1967) concluded in 1967 that the art sector had a technological structure that increased real costs in comparison to other sectors of the economy. This 'disease of personal services' or 'Baumol's disease' also applies to the health care sector. According to Baumol there is a differential productivity development between different sectors of the economy. He suggests a division within activities in the production process. Firstly, activities with a progressive technology which stimulates labour productivity through innovations and capital accumulation. The output per man hour is rising in this sector. On the other hand, there are sectors where labour costs per unit of product will increase through the years because of an insufficient productivity increase. If there is a perfect mobility of production factors between sectors, wages in both sectors will increase correspondingly. As a consequence, in the second sector the wages rise, while the productivity stays on the same level. The labour costs per unit of product will then rise exponentially. The 'disease of personal services' includes activities like education, performing arts, and health care. It is said that these sector cannot exist without government support. Generally, this is only a secondary argument for government intervention: if the government decides to support the health care sector, the support tends to increase

over the years. Furthermore, there is debate about the potential productivity increase in the care sector (Baumol, 1993; Färe et al., 1997, especially for laboratory diagnostics and medication). In the care sector, however, the argument remains relevant.

2.3.2 Equity motives for government intervention

Efficiency considerations are not the only possible motive for government intervention in the health care sector. Due to the special characteristics of health and health care as a commodity the government can have a paternalistic motivation to intervene.

Merit goods

In welfare economics consumer sovereignty is a central concept: an individual is thought to know best what is good for himself. A necessary precondition for this concept is that the information needed to come to a rational choice is available. The 'merit good' motive is built on the hypothesis that this precondition is not always satisfied. The government can decide to correct the preferences of individual actors in the economy because they cannot understand the importance of certain products (due to imperfect information or a misunderstanding of information). With a market mechanism this could lead to over- or underconsumption and an inefficient production pattern. The government may decide that a certain product is very important for its citizens, for example museums, monuments, safety belts and crash helmets. The government might assume that health is a useful product and that individuals will underestimate its value with total consumer sovereignty. One of the main reasons for this could be that health is not only a consumption good, but also an investment good: when a worker is healthy, he will be able to have a positive impact on the Gross National Product (GNP). The government can stimulate the consumption and production of certain goods by giving a subsidy or by regulation, as with safety belts and crash helmets. On the other hand, destimulation of 'demerit goods' can be accomplished by levying a tax (tobacco and alcohol) or a total ban (hard drugs). According to Margolis (1982) this argument is used too much, 'merit goods' are "any item of public expenditure that seems socially reasonable but cannot be accounted for within ordinary economic theory of demand.

It is a kind of escape clause." In the Netherlands the merit good argument was used to defend housing subsidies. This is no longer so, because people tend to understand the importance of good housing. As 60% of the people considers health as the most important aspect in life (SCP, 1997), the 'merit good' argument will not hold.

The health care sector has certain characteristics that can lead to a discrepancy between the choices an individual makes and the choices he should have made in order to increase his utility. Examples are the unpredictability of the incidence of disease, the unpredictability of the costs brought about by this disease, the uncertainty regarding the quality of the product, consequences of the disease for his position in society, etc. The government sees itself as interested party for individuals who are not able to make rational choices because of the limited information. In this view health is a good that people should have, regardless of their ability or their willingness to pay for it. This view has rather far-fetching consequences. If the poor would be willing to give up some health care in exchange for cash and the rich would gladly trade the equivalent amount of cash for additional health care, welfare economics would see this as a possibility for trade (according to the Pareto-criterium), because it would make poor and rich people better off in terms of their utility function (meaning that in their present situation health is less important than cash in the individual utility function of the poor). Extra-welfarists regard such trade as unacceptable, because health is a merit good and people are not able to judge its importance for their own lives.

Equity considerations

If we accept fostering social justice as one of the aims of the welfare state, equity considerations can be another reason for government intervention. Equity considerations may have a certain impact on the entry barriers that individuals encounter in health care consumption. Equity concerns the diffusion process of medical technology, the dispersion of health care in a fair way. Within this diffusion process a distinction can be drawn between horizontal equity and vertical equity.

Horizontal equity deals with aims like equal access, equal opportunity and minimum standards for certain goods and services. If one's house has inadequate sewage disposal, public health hazards may be an argument for minimum standards laid down in building codes. Furthermore, if individuals are not able to follow their preferences due to unequal power relations, as in an employer-employee relation, safety standards might be enforced by government agencies. Other horizontal equity considerations concern regional planning of services, know-how of entitlements under public insurance, etc.

Barr (1993) notes: "The horizontal equity argument should not be overstated. Where the standard assumptions hold, any problems of unacceptable standards or unequal access are generally *income distribution problems*".

Vertical equity concerns redistribution of income or consumption from rich to poor. Individuals from lower socioeconomic classes must be able to consume health care services needed². This is one of the main points of departure for organising the health care system in Western European countries. To natural libertarians this is a devil in disguise, because the goal of equity is an unacceptable violation of individual freedom. Others, liberals, socialists and Marxists see a bigger role for the government in establishing and guarding vertical equity, be it in different graduations.

2.4 The Dutch system

According to Culyer et al. (1990) the foundations of the Dutch health care system are merely based on principles of equity. The Dutch Council of Health (1986) and Hutubessy and Ament (1994) regard the system to be based on egalitarian principles. This means that somebody who is ill and needs treatment, has a right to medical care. Not the ability to pay but the need for care determines the allocation of health care resources. These thoughts of solidarity have materialised in certain laws (AWBZ, Ziekenfondswet), which especially guarantee access to health care for lower income groups. However, as mentioned in Chapter 1, during the last

²Need can be defined in several ways: need as initial health, need as a capacity to benefit, need as expenditures a person ought to have (see Culyer and Wagstaff, 1993). However, this does not change the essence of the discussion, even though the resulting government action depends largely on the definition of need.

decade efficiency, flexibility, and consumer sovereignty became important co-goals. Several solutions for cost containment were considered: more market elements (Plan Dekker, 1987), substitution (Goudriaan, 1990; IOO, 1995), stimulation of individual responsibility for health and self-care, introducing tight budgeting at all levels of health care decision making (for example functional hospital budgeting), prioritising based on cost-effectiveness studies (Postma, 1995) and reducing the level of service provision to which access is guaranteed (lowering the safety-net). In 1991 a special committee was established which investigated the possibilities of making more rational choices in the health care sector (Choices in Health Care Committee, 1992). The recommendations of this committee drew attention to the organisation of the Dutch health care system on a utilitarian basis.

2.5 Economic evaluations

In a utilitarian system there is much room for economic evaluations, for which several methods are available. If alternative interventions all lead to the same outcome and one only seeks the treatment which has the lowest cost, this is called a *cost-minimisation analysis*. In this case, the benefits of the different treatment modalities are assumed to be the same.

Therefore, it is not necessary to distinguish between different outcomes. One merely searches for cost differences to find the most efficient way of service delivery.

If certain differences in outcome are likely to result from the treatment options under evaluation, both costs and consequences have to be considered. The literature distinguishes between three methods. If the outcome of the different treatment options can be measured by one single physical unit (such as life years saved), this is called *cost-effectiveness analysis* (CEA). If the differences in outcomes manifest themselves in different dimensions (for instance physical, psychological and social functioning), further analysis is needed. It is common practice to use preference ratings to aggregate these dimensions into one single index (like the time trade-off method or the Standard Gamble method, that both ultimately lead to an index called 'Quality Adjusted Life Years' (QALY)). This approach is called *cost utility analysis* (CUA). Finally, if the differences in outcome are measured in monetary terms (with willingness-

to-pay or willingness-to-accept procedures), this is called *cost-benefit analysis* (CBA). However, it is still highly controversial to apply a monetary value to a life year (Lee-Jones, 1979). Furthermore, there is strong disagreement on whether clinical outcomes as a result of medical interventions and converted into monetary equivalents can be compared with a money measure of costs (Sloan, 1995; Reinhardt, 1997). The problem becomes even more evident when the cost of treatment is not fully paid for by the patient, but by persons other than those who benefit from it (e.g. taxpayers).

Therefore, CEA and CUA are most often applied in economic evaluations. The central purpose of cost-effectiveness analysis is to compare the relative value of different interventions in creating better health and/or prolong life. The results of such evaluations are typically summarised in a cost-effectiveness ratio, where the denominator reflects the gain in health from a candidate intervention and the nominator reflects the costs of obtaining that health gain (Gold et al., 1996). Ideally, one would wish to be able to array a 'league table', in which a rank order of the cost-effectiveness of all different programmes for different diseases could be established, although the opinions about this approach are mixed given the present state-of-the-art (see Drummond et al., 1993; Birch and Gafni, 1994 and Drummond et al., 1995).

2.6 Summary

In a perfectly competitive market there is no reason for government intervention to improve the allocation of resources. However, the health care market fails to meet the traditional assumptions of the Invisible Hand, which are perfect competition, no market failures and perfect information. Consumer information in health care is highly imperfect due to the complex and very technical character of the goods and services traded. Moreover, technologies are rapidly changing. In addition, consumer information about prices and quality is limited. Knowledge about future demand is impossible, which give rise to practical problems in organising a private health insurance system. These information problems lead to inefficiencies. The result can either be under-consumption or over-consumption.

Summarising, due to several causes the health care market is not competitive and does generate considerable external effects (for instance: vaccination, sewerage). The question remains why the government has to intervene. Why do not producers and consumers act themselves? Several reasons could be mentioned:

- external effects are difficult to observe for consumers and even more importantly, very difficult to quantify;
- high transaction costs of negotiation in terms of time and money;
- external effects have the characteristics of a public good. Individuals who are not involved in the negotiations and as such do not contribute to the costs, can profit from the outcome.

When the government suspects that the individuals deciding on their health care consumption fail to take these aspects into consideration, this can be a reason to influence the demand or supply of health care services.

Furthermore, there is a general claim that the nature of the product health care makes support indispensable, because labour productivity in this sector lags behind that in other sectors of the economy. Baumol and Bowen (1976) conclude that between 1945 and 1965 the financial gaps in the performing art sector rose as a consequence of increasing labour costs. However, although this “disease of personal services” seems a fashionable argument in the health care sector, it is not a motive for government

intervention per se. It only means that if the government decides to intervene in the health care sector (on other grounds, efficiency or equity), the funds involved will increase over the years.

Nevertheless, there seem to be a lot of reasons for government intervention. Lack of competition and information failures may justify regulation. Externalities and insurance problems may justify public funding. What type of intervention is appropriate and how do we allocate resources if we accept the fact that public funding is necessary?

Strictly libertarian health policy would only favour those public health facilities for which no alternative exists. In practice these are practically none, except perhaps public goods like water supply and sewerage. The utilitarian approach is said to lead to a focus on prevention, cure and in certain circumstances rehabilitation. Care receives low priority because it contributes little to health status and is consequently valued less (De Jong and Rutten, 1983). In more socialist-inspired systems, like egalitarianism, this is fundamentally different. The worst-off are the first to receive help. This means that the chronically ill, the aged and the mentally handicapped receive ample attention. The equal access principle leads to a rather arbitrary level of health care production which is accepted as long as everyone has the same access. This principle is not workable for policy ends such as the allocation of scarce resources.

In the Netherlands the health care system is a hybrid of the utilitarian and the extremely egalitarian approach. This system is based on a historical development in which both efficiency and equity considerations have played an important role. If we accept equity as a strategic policy goal - regarding reduction of existing inequalities as a strategy to improve of public health by which (in addition) human capital is maintained- the underlying policy goal can be efficiency or: "How do policy makers allocate resources in such a way that they reach their strategic policy goal?" In this view, there is not necessarily a contradiction between the goal of equity and the goal of efficiency. In a way, maximising total health will benefit the least well-off and thus promote equity. As Vagero (1994) argues: "It should be possible to be in favour of both cost containment and

more efficient (in terms of health outcome) methods of cure and care without giving up the objective of equity in health." The belief that we should start with principles of equity, and then proceed to considerations of efficiency, is the foundation upon which most health care systems have been built (Rice, 1997).

Against that background, the maximisation of welfare is not likely to get much support as the single policy aim in the Netherlands, for this concept implies that the distribution of possible gains in health outcome does not matter to the general public. This view is contradicted by many publications in the field of health economics. For instance, Nord et al. (1995) show that treatment of younger people should have some priority over treatment of the elderly. This is possibly most efficient too. However, this does not necessarily lead to favouring treatment of people with a 'healthy' lifestyle over that of patients with an 'unhealthy' lifestyle (Charny et al., 1989), or to help people with a very low health status first (Nord et al., 1995). Equity considerations seem to play an important role in public views of health care and as a strategic goal for government policy. Taking equity considerations as a starting point for the organisation of the Dutch health care system does not imply that efficiency concerns should not play an important role any longer. For instance, the earmarked redistribution of income specifically for consumption in the health care sector, is not advisable from a welfare economic point of view (Feldstein 1984). The available evidence from a microeconomic point of view suggests that individuals with lower incomes may well prefer a higher income to more medical care, other things being equal, in which case the egalitarian approach does not serve them as well as other public policies that would require the same public expenditure on their behalf (Phelps, 1995). In such a case, it seems preferably to conduct a generic income policy, wherein unrestrained income transfers and levying of taxes take care of this redistribution.

In view of the recent developments described in Chapter 1, a greater impact of utilitarian procedures is defensible. This thesis is concerned with the role that economic evaluations can play at different levels of policymaking. In the following chapters 3-7, a number of examples of

economic evaluations are presented, with their possible contributions to policymaking.

References

- Akerlof G.A.; 'The Market for 'Lemons': Qualitative Uncertainty and the Market Mechanism. *Quarterly Journal of Economics*, 1970: 84, pp. 488-500.
- Arrow K.J. Uncertainty and the Welfare Economics of Medical Care. *The American Economic Review*, 1963: 53, pp. 941-73.
- Atkinson A.B.; Stiglitz J.E. *Lectures on Public Economics*. McGraw-Hill, London/New York, 1980.
- Barr N. *The Economics of the Welfare State*. Oxford University Press, Oxford, 1993.
- Baumol W.J. Macroeconomics of Unbalanced Growth: The Anatomy of the Urban Crisis. *The American Economic Review*, 1967, pp. 415-26.
- Baumol W.J.; Bowen W.G. "On the Performing Arts: The Anatomy of their Economic Problems", in: *The Economics of the Arts*, Londen, 1976, pp. 218-26.
- Birch S.; Gafni A. Cost-Effectiveness Ratios: in a League of their Own. *Health Policy*, 1994, p. 133-41
- Charny M.C.; Lewis P.A.; Farrow S.C. Choosing Who Shall Not Be Treated in the NHS. *Social Science and Medicine*, 1989, 28: pp. 1331.
- Coase R.H.; The Problem of Social Cost. *Journal of Law and Economics*, 1960, pp.
- Commissie Structuur en Financiering Gezondheidszorg, *Bereidheid tot verandering*, 1991.
- Culyer A.J. The Normative Economics of Health Care Finance and Provision. *Oxford Review of Economic Policy*, 1990: 5, pp. 34-58.
- Culyer A.J. Equity and Equality in Health and health Care. *Journal of Health Economics*, 1993, pp. 431-57.
- Culyer A.J.; Wagstaff A. Equity and Equality in Health and Health Care. *Journal of Health Economics*, 1993: 12, pp. 431-57.
- Dasgupta A.K.; Pearce D.W. *Cost-Benefit Analysis: Theory and Practice*. Houndmills, MacMillan Press Ltd, 1972.
- Drummond M.F.; Stoddart G.L.; Torrance G.W. *Methods for the Economic Evaluation of Health Care Programmes*, Oxford University Press, Oxford, 1987.
- Drummond M.; Torrance G.; Mason J.; Cost-Effectiveness League Tables: More Harm than Good? *Social Science and Medicine*, 1993: 37, pp. 33-40.
- Evans R.G. *Strained Mercy, The Economics of Canadian Health Care*, Toronto, 1984.
- Feldstein P.J. *Health Care Economics*. John Wiley and Sons, New York, 1983.
- Gezondheidsraad, *Grenzen van de zorg*, Den Haag, 1986.
- Gold M.R.; Russell L.B.; Siegel J.E.; Weinstein M.C. *Cost-Effectiveness in Health and Medicine*, Oxford University Press, New York, 1996.
- Goudriaan F. *Substitutie van voorzieningen in de ouderenzorg: de mogelijkheden volgens onderzoek*. Ministerie van WVC, Rijswijk, 1990. Handboek Structuur en Financiering Gezondheidszorg. De Tijdstroom, Utrecht, 1993.

- Hayek F.A. *Law, Legislation and Liberty*. Routledge and Kegan Paul, London, 1976.
- Hutubessy R.; Ament A. *De afruil tussen een doelmatige en rechtvaardige verdeling van gezondheid: een aanzet tot operationalisering*. Rijksuniversiteit Limburg, Maastricht, 1994.
- Instituut voor Onderzoek van Overheidsuitgaven (IOO), *Kosten en opbrengsten van substitutie in de zorg voor ouderen*, Den Haag, 1995.
- Jong G.A. de; Rutten, F.F.H. Justice and Health for All. *Social Science and Medicine*, 1983, pp. 1085-95.
- Koutsoyannis a. *Modern Microeconomics*. MacMillan, London, 1987.
- Labelle R.J.; Hurley J.E.: Implications of Basing Health Care Resource Allocations on Cost-Utility Analysis in the Presence of Externalities. *Journal of Health Economics*, 1992; pp. 259-77.
- Margolis H. *Selfishness, Altruism and Rationality: a Theory of Social Choice*. Cambridge, Cambridge University Press, Cambridge, 1982.
- Miller D. *Social Justice*. Clarendon Press, Oxford, 1976.
- Ministerie van Volksgezondheid, Welzijn en Sport, *Jaar Overzicht Zorg*, Rijswijk, 1998.
- Mishan E.J., *Cost-benefit Analysis*, Unwin Hyman, London, 1988.
- Mooney G., *Economics, Medicine and Health Care*, Harvester Wheatsheaf, Hemel Hempstead, 1992.
- Nozick R. *Anarchy, the State and Utopia*. Basil Blackwell, Oxford, 1974.
- Nord E.; Richardson, J.; Street, a.; Kuhse, H.; Singer, P. Maximizing Health benefits versus Egalitarianism: An Australian Survey of Health Issues. *Social Science and Medicine*, 1995, 41: 10, pp. 1429-37.
- Pauly M.V. Taxation, Health Insurance and Market Failure in the Medical Economy, *Journal of Economic Literature*, 1986, 24: pp. 629-75.
- Phelps C.E. Perspectives in Health Economics. *Health Economics*, 1995: 4, pp. 335-54.
- Rawls J. *a Theory of Justice*. Oxford University Press, Oxford, 1972.
- Reinhardt U.E. Making Economic Evaluations Respectable. *Social Science and Medicine*, 1997, 45: 4, pp. 555-62.
- Rice T. Can Markets Give Us the Health System We Want? *Journal of Health Politics and Law*, 1997, 22:2, pp. 384-426.
- Sloan F.A.(eds). *Valuing Health Care*. Cambridge University Press, Cambridge, 1995.
- Tweede Kamer. *Jaaroverzicht Zorg 1997, 25 004*. SDU-Uitgeverij, Den Haag, 1997.
- Vagero D. Equity and Efficiency in Health Reform. a European View. *Social Science and Medicine*, 1994, 39: 9, pp. 1203-10.