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VERTICAL AND HORIZONTAL EQUITY IN THE FINANCE OF HEALTH CARE SERVICES:

A COMPARATIVE STUDY OF USER CHARGES IN DENMARK, PORTUGAL AND UNITED KINGDOM

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I. Introduction

Over the past decade health policy has been an issue in the political agenda of most of the countries possessing an organised system of deliverance of health care. In spite of the specificities in the shape of each system, all of them seem to be facing a similar problem related to financing and are looking for similar paths to solve it.

Almost all governments are trying to find a way to cut the huge proportion of public money spent in the financing of health care systems. owever, to do this without giving rise to major complaints from the population or signing a defeat in the next elections almost requires a 'step of magic'. When designing a health care system an assortment of aims such as equity, efficiency, redistributional objectives, etc. should be considered. The problem lies in the achievement of some of these goals simultaneously, considering that they may be in conflict with each other.

The financing of health care systems will be at the core of this work. This problem will be approached in two different stages: **1)** we will look at the equity in the financing of the health care systems; **2)** the focus will be on how governments require users' participation in the financing of national health systems, besides taxes.

1.1 Methodological issues

There is common agreement about the complexity and difficulties of comparative studies; however, comparisons are needed and required to a better understanding of the reality surrounding us[1]. One of the first problems the researcher may have to face is while collecting data: Schieber and Poullier (1990) affirm that "international comparisons are only as good as the basic underlying data upon which they are based".

Quantitative data, as well as recent one, and qualitative and descriptive data would have been perfect to carry out this work if they could have been found. Data about the impacts of the implementation of user charges and copayments in prescriptions would have been very useful, as well as data about the amounts raised through both and the managerial costs of a system like this. When quantitative data was found, several times it was not comparable because the treatment given to the raw data was different and consequently produced different results. To find quantitative and recent data about the equity in the financing of the NHSs that I am taking as an example is difficult. Thus, reliance on secondary literature is the procedure adopted to present information about this topic.

Therefore, the option for qualitative and descriptive data seemed more sensible; however, this does not mean that problems were not faced. Specifically, data concerning Denmark was particularly difficult to gather considering the problem of the

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1 As Klein (1991, p. 279) states "I think, that comparative studies can distort as well as illuminate; that they bring risks as well as benefits". Further on, in the same article it is said that "comparisons are essential if one is to achieve an understanding of one's own national health care system".

language. Besides, I was told that equity is not an issue of major interest in the health care field. Since it is assumed that the system is equitable[2], the literature on the topic is very scarce. To achieve a better understanding about the Danish National Health Service, interviews were carried out with people possessing key information for the present work.

II. A rationale for user charges and copayments

When countries reached a comprehensive and universal medical regimen they might have thought that health care expenditure would decrease due to the expected decline in the demand for health care. Additionally, scientific progress in what refers to medical science supported this idea. However, all prognostics failed and the opposite situation came true.

Due to a greater health consciousness, to the development of highly-priced pharmaceuticals as well as treatments for diseases considered as incurable, and to the growing populations, countries' expenditure on health care had to rise to face the needs presented. Undoubtedly, the observable change in the population's age structure in the vast majority of countries, with a growing proportion of elderly people, can also be considered as an explanatory variable. As a consequence of the situation described above, cost-containment in health care has become a prime issue in most of the countries possessing an organised health service. Nevertheless, before addressing this issue other health systems' features ought to be discussed.

In a study carried out by OECD in 1987, about health services financing and delivering characteristics in OECD countries, evidence was found that "all systems attempt to achieve allocational efficiency and distributional equity" (OCDE; 1987, p. 24). Further on, "redistribution, social protection, and assuring the efficient production and consumption of health services" (p. 25) were pinpointed as being the main objectives of health care policy in all OECD countries. From this it is perceivable that redistributional principles - if only implicit ones - underly not only health care policy but the system itself. Moreover, as it is said further on in the same survey (p. 25) "financing procedures affect the redistributive impact of the system, the allocation of resources, and overall economic growth". Redistributional goals therefore limit the options for a financing method. In a survey about reforming health care in seven European countries conducted by Hurst (1991) the same evidence is highlighted, i.e. an attentive examination of health care policy goals over the past few years in different countries suggests a similarity in the objectives pursued. However, differences in the emphasis placed on these goals is visible.

At this stage it seems pertinent to regard at the process through which countries finance their health care systems. This can assume one, or a mix, of the following procedures: **i)** through general taxation (on personal income, corporate profits, VAT, etc.); **ii)** specific taxes (e.g. excise taxes on specific commodities, taxes on specific

2 In the interview I had with Ms. Liselotte Freilev I was told that there were no reasons to think that the Danish Health Care Services were inequitable since all the citizens are covered, the wages are not very different, the taxes imposed on income vary in a short interval, and the distance the citizens have to go to get to health care services is pratically the same for all of them.

factors of production); **iii)** premiums; **iv)** user charges (co-insurance and deductibles); **v)** and charitable contributions. Nonetheless, it should be noted that the most common situation found is a mix of some of the above mentioned procedures. If these are the methods to raise money to finance health care expenditure the needs for health care are also a determinant factor of that expenditure.

Nevertheless, the available share of GDP spent on health services, to which Hurst made mention, is determined by governments. So, as he also says further on, "it seems that central governments feel that only they can balance the marginal benefits with the marginal costs of extra public spending on health care" (1991, p. 19)[3]. From this statement it would seem that expenditure is synonymous with opportunity cost, however, this does not correspond entirely to the reality.

We could say that much of the concern expressed about cost-containment is mainly a concern about the share that health care expenditure assumes in total public expenditure and in GDP. Thus, it is visible an assumption that cost-containment is a problem of public expenditure. So, as Abel-Smith (1992, p. 394) affirms "shifting expenditure from the public to the private sector is an acceptable solution, even though the total is not much reduced"

A clearly defined cost-containment policy which means either a reduction in services utilisation or tapping other financial sources[4], does not necessarily mean cost-sharing by consumers. Providers could also play a role in such sort of policies if different delivery arrangements and health planning and delivery systems controls were settled. Entailing the common participation of consumers and providers through administrative reviews would be another form of achieving such aims.

Through cost-sharing three different goals can be sought: **i)** to raise revenue (resulting in a reduction in public expenditure); **ii)** to discourage user demand; **iii)** to signal to the doctor or dentist authorising the use of resources that the user will have to pay, with the aim of encouraging more economical authorisation (Abel-Smith, B.; 1992, p. 398).

In the 1987 OECD study evidence was found that cost-sharing is implemented "as a financing and/or resource allocation mechanism in most OECD countries" (p. 95). However, it is not clear whether consumption of services over the long-run is reduced by cost-sharing as well as about the effects caused on health status and thus on long-run costs. Scepticism also exists in what refers to the effectiveness of cost-sharing as an allocational mechanism and its likely conflict with distributional objectives[5].

In conclusion, a rationale for cost-containment in health public expenditure exists, it is understandable that governments have other public needs to meet. Besides, low or declining rates of economic growth and tax resistance impose a 'diet' on total public expenditure. Thus, it sounds that cost-containment has to be accomplished, so people

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3 "The overall expenditure (public and private) on health care is worthwhile only for what it enables the system to accomplish, bearing in mind that benefits at the margin from extra health spending have as their real costs the nonhealth benefits that could have been had, but were not, because less is being spent on other sources of human welfare. (These are opportunity costs)." (Culyer, A. J.; 1991, p. 29).

4 Here it is assumed that the entity pursuing such policy is the State.

5 Since some 5 per cent of individuals account for half of all spending.

have to understand it and be made aware of costs, but to realize if the best way to do this is by cost-sharing (i.e. user charges and copayments) is what we shall see in the next chapters.

III. Equity - a theoretical discussion

3.1. Equity - what is it after all?

Equity is recognised to be a significant policy objective in health care policy, therefore, it is a goal that is sought by policy makers in all types of health care systems. Although this is a feature, explicitly stated equity principles are difficult to be found; as Rutten oibserves "policy statements on equity in the finance of health are somewhat vague" (Rutten, F.; 1993, p. 88)

3.1.2. Equity in payment at the point of consumption

So far, equity in the finance of health care has been discussed in terms of the individual's pre-tax income. However, in order to assess equity in user charges other concepts of vertical and horizontal equity are necessary. Obviously user charges are another form of financing health care. However this payment is avoidable if an individual does not need health care[6]; consequently, they are imposed only at the point of consumption and borne only by those who need to use health care services.

It is at the point of consumption of health care services that considerations about equity in the finance and equity in the delivery of health care meet. Although the previous statements about vertical and horizontal equity in the financing of health care services are valid, they can only be seen as a necessary but not sufficient condition to the accomplishment of equity in the finance of health care services at the point of consumption.

When individuals are seeking health care most of the time the differences between them are, at least temporarily, more numerous than the similarities. Not only are there people with distinct incomes but also people with different needs, with different health status, with different capacities to benefit from health care, and so on. Thus, to accomplish equity at the point of consumption these differences have somehow to be considered since they influence the kind of treatment the individual ought to have.

Horizontal equity would therefore require the equal treatment of equals and vertical equity the unequal treatment of unequals (still conforming to the Aristotle's principle, in proportion to their inequality). However, to determine which the relevant characteristics are according to which individuals are equal or unequal is difficult. For example, to consider that the relevant characteristics should be age-related or medical condition-related depends on personal judgement values. Seemingly, a relevant characteristic could be need for health care. Consequently, horizontal equity would be defined as persons having the same need for health care ought to be regarded equally and persons having a greater need for health care ought to be regarded relatively

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6 In this section 'health care' has a very broad scope, including not only health care services like consultations, diagnosis tests, etc. but also medicines.

favourably. Nevertheless, there is no single definition of need, which will raise some problems further on in the present work.

IV. User and prescription charges - the discussion

4.1 Motives for charging

In this section and in the following ones, I will draw heavily on Glennerster (1992) considering that he brought together many of the motives and cases for and against charging.

One reason evoked for charging may be symbolism, to express an ideological position regardless of the economic value of the charge itself. It is argued that in a capitalistic economy people feel stigmatised when they receive something free, so one objective of charging may be to avoid stigma. For those who had to pay, the charge also signified a 'psychological' change in their economic status since they were able to pay for the services they were getting as any other person. So, not only do they stop feeling stigmatised but thus will also gain self-esteem. This objective can also be applied to the service itself as Parker, quoted in Judge, says "...(the charge) was viewed as an important step in the upgrading of a low quality service" (Judge, K.; 1978, p. 116). Another objective was a symbolic deterrent to make people feel that, despite the provision by the State of certain services, they still have a responsibility. So, to affect a symbolic motive to charges in health care services may be accepted as a plausible argument.

Nevertheless, these symbolic arguments are highly dependent on people's own feelings about the way they see society, what they consider as their responsibilities and the way they see themselves in society. If the main feeling among those who cannot pay for a service is that they should get it for free because they already have so little, they would feel the implementation of a charge as highly unfair. Only if health care services were provided freely at a minimum standard to meet poor people needs exclusively, would thus be a reason for those receiving free health care to feel stigmatised, and then feel happier and more like other people in society if a charge was imposed.

If health care services are provided free at the point of consumption for everybody, there is no apparent reason why someone should feel stigmatised to get health care for free. Moreover, if health care services are being financed through general taxation whoever is consuming the service has already paid for it. As Green (1988, p. 5) observed "personal payment cannot be escaped". However, the form that the payment assumes, i.e. a tax or a freely paid price, influences the perception the consumer has towards payment. As Green further notes "paying a price is a disposal of income, whereas a tax is a deduction from income which takes away personal responsibility for selecting the best arrangements for the supply of medical services" (Green, D.; 1988, p. 5)[7].

[7] In fact, this is the attitude of most people but it can be claimed that governments would not like to see it changed. The taxpayer that sees him/herself as a person without abilities to make judgements about

Another reason to charge was to reduce the cost of a service to the general taxpayer by raising the revenue from users. Very similar to this reason is the one presented to deter people with the objective of reducing the cost to the taxpayer by reducing demand for a service. In fact, Logan *et al.* (1970, p. 1) considered not only these motives but also a third one - efficiency. Apparently, the most important leitmotif to introduce charges is the reduction of the cost of service provision to the taxpayer by reaching the two objectives envisaged. However, as Judge (1978, p. 115) notes "much of the confusion about the consequences of charging policies arises from a failure to recognise that the deterrent effect of charges is at least as important as their ability to raise revenue".

To introduce charges in order to raise revenue from users sounds like a fair justification. Why should those taxpayers that do not use health care services support the burden raised by those who do? But if we accept this where does social solidarity lie? As Logan *et al.* (1970, p. 1) recognise if charges are considered simply as a means of raising money, there is no space for social or medical considerations.

However, if the expected outcome of charging is a rise in revenues, in reality the result is not always so. Not rarely, at the same time charges are introduced also is an exemption scheme. Most of the times the exemptions are related to users' income, so means-tests are involved and "it obviously makes financial sense not to charge those clients who are assessed to pay contributions which are less than the costs of collection" (Judge, K.; 1978, p. 115). However, in terms of equity some problems are raised "when departments charge clients assessed to pay a little more than the collection costs while clients assessed at a marginally lower rate pay nothing" (Judge, K.; 1978, p. 115). Moreover, if the abovementioned efficiency concerns are taken into consideration, a collision with symbolic motives to introduce charges is likely to occur.

Often, the introduction of charges is advocated to reduce demand. Behind this arguments lies the assumption that demand for health care does not always coincide with need. However, an individual cannot assess by himself if his demand for health care represents a true need or not. Thus, how can it be expected that raising charges will reduce only unnecessary demand, i.e. demand that does not correspond to a need for health care? And what can be considered as an excessive demand of health care?

A fourth motive that can be put forward is to check abuse (Judge, K.; 1978; and Maynard, A.; 1980). But what does abuse exactly mean when we are talking about health care services? If an individual is extremely concerned with his health and he consumes health care frequently is he abusing the system? And even if he has to pay and he is still consuming the same amount of health care, was he, then, abusing the system previously? Is the consumption of preventive care abuse, considering that an individual is not in apparent need for health care and he is demanding for it?

Priorities understood as the concentration of available funds on priority services and charges for less urgent facilities is the fifth motive presented. However, there is a

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the selection of the best allocation of his/her money is the one preferred by governments. Governments would not like to see every individual aware of his personal responsibility and attempting to exert it at the moment decisions have to be taken. Moreover, it can be said that when people vote they are, or they would be, exercising their personal responsibilities since they defer to those for whom they are voting the right to make choices and to take responsibilities for them.

reasonable doubt that any government would justify the implementation of charges in health care services on these grounds. It hardly can be found a person that would not consider health care services as having priority over any others.

4.2. The case for and against charges

4.2.1. Charging, appreciation, and self-respect

The argument advanced is that the individual feels no sense of charity or obligation in a market exchange, i.e. when he has to pay. Glennerster (1992, p. 135) quotes the works of Pruger (1973) and Uttley (1980) to illustrate this feature. Those authors consider that individuals receiving free services perceive themselves to be in debt in two senses: **(1)** they are in a vague way in debt to society or the state, what induces a sense of compliance; **(2)** professionals who are already in a powerful position over their patients because of their superior knowledge can also induce a feeling of deference because the client has not paid for the service. Additionally, a third argument is that the professionals may make more effort, knowing that the client is paying good money for his or her services, in a society that values things that are paid for and tends to devaluate those that are not.

The statements concerning doctors' attitudes require a little discussion. If the doctor seeks to induce a feeling of deference in the patient because the latter is not paying for the service at the point of consumption or if the effort he puts on his work is greater, is he acting in accordance with the oath he made? And, after all, if the system is financed through general taxation has not the patient already paid? And it can be added that not only had the patient already paid for the service but also that he had paid good money for it.

At the same time, it is claimed that even having to pay, the poor can benefit from the services because it is possible to implement some procedures that would reduce the burden on them. The following four strategies can be advanced: **(i)** to vary the charges with the income of the recipient and, if the recipient is poor enough, to waive the charge; **(ii)** to enable the poor to recover the charge from an agency like the Department of Social Security in the UK; **(iii)** to provide everyone with a voucher that can be used instead of money to purchase a minimum amount of that particular service; **(iv)** to ensure through general redistributive tax and cash benefit policies that all families have sufficient resources to purchase these services if they wish.

However, it seems that efficiency considerations are ignored in these strategies. The management costs and bureaucracy involved to establish such procedures would be considerable. These arguments can be put forward to make the case for pricing at cost; however, what they do not do is to make the case for charging token sums to a small minority of users.

Nevertheless, to reduce charges for low income groups may present other problems. If what is seen as socially acceptable to do is 'pay your own way', then in case the poor had the charges waived or reduced they could feel as undeserving or in receipt of

special favours. This feeling may inhibit people from applying for a different treatment because they may suffer loss of self-respect if they receive the service freely.

So far the discussion has emphasised the economic aspect of the question, i.e. it has been assumed that to pay the charges or to be exempted is income related. However, not always does this correspond to the reality. If a child is exempted from a charge should she feel stigma or loss of self-respect? If an individual suffers from a chronicle disease and, consequently, is exempted from payments should his attitude towards his free health care be to see himself as an action of charity for the others?

It is said that people value goods with a price and devalue the 'free lunch', but, not surprisingly, there may exist some institutions, professional relationships and situations viewed in a different perspective.

4.2.2. Encouraging efficiency versus markets can be inefficient

To charge on grounds of efficiency is more related to the provision of the service than with its consumption because it is sought to change the attitude and behaviour of the supplier towards the service. It is argued that when a service is free it is difficult for consumers to express dissatisfaction. Thus, if consumers had to pay they would demand a better service from the providers and, then, the service would be more efficient.

It is also claimed that the higher the charge the nearer will the service be to the private alternative. Thus the public provider would be put in direct and healthy competition with the private providers. But should the consumer pay just because the providers are inefficient? Is that the consumers' fault?

Also, inefficiencies can occur in market situations, i.e. we do not know whether the market motivation is more effective in promoting high standards of care than professional value systems, ethical standards and organisational tradition of public service, professional and peer review, inspectorates, public criticism and evaluative research. Habitually it is assumed that incentives to good performance can only be provided by market forces. The public sector is different from the private one; thus, also the incentives for an efficient performance and efficiency are different from the ones found in the market. To disregard these differences and to assume that they cannot co-exist and that one has to be worse than the other, does not express a wise viewpoint.

4.2.3. To reveal consumer preferences and to counter moral hazard

The most common argument to support charging is the general case for pricing in a competitive economy. It is argued that when people wish to consume a service they will know what resources it uses because they are faced with a price which just covers the additional resources that are needed to provide it. If people consider that price as too high relatively to the value or importance they attribute to the service they will not purchase it. So, through this value judgement people are revealing their preferences in a realistic way. It is also argued that if people only have to face a zero price they may opt to have the service just because it is free, while not feeling very strongly about it one way or the other.

This discussion leads us to consumer moral hazard and the necessity to oppose it. Consumer moral hazard can be defined as follows: "a zero or reduced price at the point of use encourages a higher rate of use than would otherwise be considered efficient; there is a wedge driven between paying for the cost of what is provided and the value of, or willingness to pay for, what is provided" (Donaldson and Gerard; 1989, p. 237).

To the extent that moral hazard exists it can be regulated through cost sharing which attempts to limit overconsumption by shifting some of the costs incurred at the point of consumption back to the individual. Nevertheless, forms of regulation to counter moral hazard can lead to problems of exclusion. If it is recognised that inability to pay for health care should not be a criterion for exclusion, then cost sharing may present some problems.

4.2.4. Social services are not different versus social services consumers are different

Most social services are not pure public goods and charging for them is technically possible. Of course that this can be applied to health care services, nevertheless it is also recognised that health care services present such distinctive features that they cannot be seen as many other social services.

Unlike the case for charging, the opposite perspective holds that social services consumers are not like in a supermarket. Considering this, it is assumed that users are not able, or are less able, to reveal their preferences through market mechanisms. Three reasons can be pinpointed for this:

i) Enforced consumers: This feature can be better understood if illustrated by the following example. In Portugal there is a national vaccination programme that is compulsory for every citizen. At the act of registration of a child or a teenager at any level of education, the presentation of the vaccines bulletin is required. If it is not in day the child or teenager cannot be registered until appropriately vaccinated.

ii) Vulnerable consumers: Due to the fact that a good health status is essential to lead what can be called a 'normal life', when people feel that something is wrong they become weak and vulnerable. This happens because individuals are not able to assess the seriousness of those feelings and, thus, they cannot determine whether they are really ill or not. So, they have to rely on doctors' judgements.

In the literature this situation is usually denominated informational asymmetry. As McGuire *et al.* (1991; p. 8) express, "in the context of health care, the derived nature of the consumers demand implies that he must obtain information about the production relationships which govern the effectiveness of all available treatments. Consumers lack information about: **(i)** the timing of consumption needs; **(ii)** the level and form of treatment required; **(iii)** and its effectiveness. (...) However, the complexity of the technical data, the multiplicity of choices, and the distress state of mind of many who discover that they are ill, result in the consumer relying on the supplier for the provision of information"

As a consequence of their vulnerability they are potentially exploitable consumers of a service. If the patients are in an inferior position to bargain with doctors, the model of equal bargaining partners is not appropriate.

iii) Second-hand consumers: Not only are patients vulnerable but, additionally, it is argued that they cannot really be considered as consumers. If patients have to rely on doctors' judgements the latter are in an overwhelmingly powerful position. The doctor is the voice of the demand for health care because he is the one who determines whether treatment is necessary, what kind and for how long the consumer shall receive it, what denotes a situation that is different from a normal market one.

4.2.5. Raising revenue

So far, the arguments advanced for pricing can be, more or less easily, refuted. However, this one is more problematic. If the money raised through general taxation is not enough to support all the services provided freely at the point of consumption by the State, what else can be demanded to their users but a charge? It can be answered that taxes could be raised but knowing how citizens oppose such solution would any government dare to suggest it? It should also be noted that to increase tax revenues may create more serious inequity problems than the ones created by charging.

However, as Creese (1991, p. 310) notes "concern to promote cost-recovery in the health sector, as part of a general policy to restructure the role of the government in the economy as a whole, has led to a narrow focus on revenue-raising as an end in itself".

So far the arguments presented for or against charging only speculate about the hypothetical effects of undertaking, or not, such a measure. Thus it is required to look at the actual effects of charging. This is the theme of the next section.

4.3. The effects of charging or not charging - some empirical evidence

It should also be noted that the attitude towards user charges has changed over the years. At the present people are much more prepared to accept user charges than in the past because their nature changed. If in the past user charges were seen as something that the system could do without, at the present moment they are seen not only as more desirable than ever but also as vital. When in 1970 Logan *et al.* wrote that "charges would at best be a temporary expedient designed to prevent cuts in the budget of the NHS, not a long-term solution designed to increase productivity and the real resources available" (Logan *et al.*; 1970, p. 1), it was unpredictable that user charges would become precisely that.

There is no conclusive evidence about the effects of charging in health care services: "some assert that it helps control total expenditures by giving consumers a stake in how much medical care is purchased. Others assert that coinsurance is irrelevant to choice , since the physician makes the decisions about using medical services for his patients" (Phelps and Newhouse; 1974, p. 334). However, after some studies[8] the assertion that coinsurance was irrelevant to choice was rejected since it was found that coinsurance does affect demand for services.

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8 The studies referred by the authors are the ones of Davis-Russel 1972, Feldstein 1971 and Rosett-Huang 1973 which addressed the price elasticity of demand for medical services.

The most comprehensive and exhaustive study about the effects of cost-sharing in the consumption of health care services is the one performed by RAND Health Insurance Experiment, which started in 1974 and had its main findings published in 1993. The main findings of this study, referring to the American health care market, highlight some points under discussion.

i) The effects of cost sharing on use: In the Experiment the amount of initial cost sharing, i.e. the amount families had to pay out-of-pocket for medical services up to a specified annual limit, was varied. The insurance plans under observation do not cover individuals over 65; therefore, these were not part of the population under analysis. There are reasons to believe that if they had been considered the results could have been different.

The first finding concerning use is that "the more families had to pay out-of-pocket the fewer medical services they use" (Newhouse, J.; 1993, p. 338). The plan with most cost sharing required that families had to pay 95 per cent coinsurance up to a $1000 limit on family out-of-pocket expenditure[9]. Comparing this plan with the one where care was free to the family, it was observed that expenditure was reduced about 25 to 30 per cent, relatively.

All types of services[10] saw a decrease in demand with cost sharing; thus, the "results suggest that decisions about how much to cover various services need not be importantly influenced by the responsiveness of demand to coverage" (Newhouse, J.; 1993, p. 339).

ii) The effects of cost sharing on health: The second relevant finding of this Experiment is that "the reduced service use under the cost sharing plans had little or no net adverse effect on health for the average person" (Newhouse, J.; 1993, p. 339). It as observed that health among the sick poor - approximately the most disadvantaged 6% of the population - was adversely affected[11].

Nevertheless, to define the average person does not seem an easy task. Average person being relevant what? The income? The health status? The number of visits to the doctor in the previous year?

Shall the sick poor, and the effects of charging on their health, be regarded as less important than the other groups in society?

iii) Effects on different income groups: It is reported that "the percentage reduction in expenditure caused by cost sharing did not differ strikingly by income group, but which services fell did[12]" (Newhouse, J.; 1993, p. 340). However, as Newhouse says,

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9 The limit was reduced for low income families.

10 Services were: physician services, hospital admissions, prescriptions, dental visits, and mental health service use.

11 In particular, the poor who began the Experiment with elevated blood pressure had their blood pressure lowered more on the free plan than on the cost sharing plan.

12 Ambulatory services were more responsive to cost sharing for the poor than for the well-to-do; the opposite was true for hospital service.

the ultimate test of a reduction in use is its effect on outcomes and evidence was found that these did differ by income group.

In assessing the effects of cost sharing in hospital admissions, the study concluded that higher initial cost sharing decreased admission rates among persons under 65. But is was difficult to quantify how much of the drop should be attributed to the increased cost sharing.

The effects of such a reduction according to the Experiment results imply that for the average person the costs in term of health outcomes were minimal. However, three points should be taken into consideration related to this:

1. The authors observed "adverse health consequences in the Experiment from cost sharing, concentrated among the sick poor" (p. 344).
2. For the chronically ill any increase in initial cost sharing is repeated year after year. As Newhouse states "it is possible to provide some protection, for example by waiving a deductible if it is satisfied frequently enough, but doing so will dilute the cost savings" (p. 344).
3. It is supported by the authors that "the health benefits among the sick poor could be achieved at substantially lower cost than free care for all services" (p. 344). It is suggested that an insurance benefit covering only vision and dental care services can obtain the health gains (if they are worth their costs) without incurring the costs of covering all other medical services.

The more remarkable effects on health outcomes were found among the sick poor (and among all poor children in the case of anaemia). However, the authors consider that the decision of providing free care for the sick poor is not entirely justified by the results, being more a case of an ethical or moral decision.

From the results and the conclusions achieved in this study it appears that health care services should be more concerned with making money, or at least in covering the costs they have, than with anything else. A way was always found to justify cost sharing, and cost sharing was found to produce always the same, or no worse, health outcomes than the provision of free care.

Maynard (1980) appraised the revenue and the demand effects of pricing in the NHS and the first thing he recognised was that the revenue of the NHS would only be increased by price if a number of conditions were met. The first condition is "that if pricing increases revenues and the additional revenues accrue to the NHS, other revenues should not fall *pari passu* (p. 92). Most of the times those who advocate the introduction of charges forget this quite obvious argument. The revenues for health care services will only be increased if the other revenue flows remain equal. However, almost always charges are seen as an instrument that will allow a lower expenditure by the government on health care services. Thus, the obvious conclusion is that the total revenue of the NHS would not be increased through charges.

The second condition presented by Maynard refers to exemptions, and he says that "exemptions from pricing because of low incomes or other socio-economic measures of 'need' will reduce the potential revenue of pricing devices" (Maynard, A.; 1980, p. 92). It is known that the bulk of the users of health care services consists of individuals

that would be exempted due to their income, age, etc.; thus, the revenue would never be so high as it could be expected.

The third condition states that "the advocates of pricing adopt vague or ambiguous attitudes when examining the problem of the administrative costs of pricing systems" (Maynard, A.; 1980, p. 93). If what is sought with charges is large new revenues then their administrative costs have to be small. A charging system with a wide range of exemptions to the prices implies large administrative costs, since they are correlated. And there is another problem: "exceptions by means-testing have the problem that 'take-up' rates tend to be below the number of people eligible for exemptions. For example, it is estimated that free NHS prescriptions are claimed by 50 to 60 per cent of those people who are eligible for exemption from charges" (Maynard, A.; 1980, p. 93).

It is widely acknowledged that charges have an impact on demand for health care, which will influence the revenue raised. If the consumption of health care services is largely reduced after the introduction of charges the predicted and the actual revenue flows from pricing will differ.

As Maynard remarks "the quantity and the quality of the evidence available on the effects of pricing on patients' demands for health care is relatively poor" (Maynard, A.; 1980, p. 93). Most of the studies were performed in the United States and Canada in health markets presenting very different characteristics from those of the NHSs.

Maynard examines the results of three experiments that took place in the United States during the 1960s and 1970s. The first is the Palo Alto experiment, where an attempt was made to reduce the demand for health care services of a group health plan (GHP) by making members pay, along with their premia, a co-insurance of 25% for any clinic service used. Phelps and Newhouse found that a year before the plan has been introduced the number of visits was 4.27 but a year after the introduction of a price it fell to 2.9 visits, i.e. a fall of 32%. Some families left the GHP after the introduction of co-insurance and others did not purchase all their health care requirements from GHP.

The Medi-Cal experiment, which took place in California, provided free medical services (i.e. free physician services, free hospital and nursing home care, and free laboratory, radiology and prescription drug services) for those defined as 'medically needy' and, it is said further on, 'to the relatively poor'. Between the beginning of 1972 and the end of June 1973 potential beneficiaries above a certain 'wealth' level had to pay $1 for each of their first two visits each month to service providers and $0.50 for each of their first two prescriptions each month. It was concluded by Brian and Gibbens (Maynard, A.; 1980, p. 95) that in most cases the use of services by co-payers was less than that of non-copayers and they also reported that co-payers received fewer services during each visit to their physicians - in some cases the level of services provided fell by 30%.

However, it should be noted that the differences in use were not very siginificant, what may be explained by the fact that all the population covered was considered as 'medically needy'. Thus, individuals who were facing a real need for the services provided were not deterred by the charge they had to face. Another important factor to explain the results achieved would be to know how the 'wealth' level was defined. What is visible in the results produced is that doctor services, laboratory and radiology

services, and prescriptions filled were slightly less used by those facing charges. However, the consumption of dental care and regular care if pregnant was higher in the group facing the co-payments, mainly the latter.

The third experiment mentioned by Maynard is the Saskatchewan one, in which a free health care programme introduced in 1962 was changed so that during the period April 1968 to August 1971 a co-payment policy was adopted. Physicians charged $1.50 for office visits and $2 for home, hospital outpatient or emergency visits. It was estimated that after the introduction of co-payments the use of physicians services by the poor had been reduced by 18%.

After these studies information was also found about the effects of pricing on other aspects of demand. When a charge is imposed on one service not only is its absolute price changed but also its relative price is affected. As Maynard (1980, p. 97) remarks, "if the prices are charged for visits to general practitioners only, the relative price of hospital outpatients' departments will fall and the demand for such facilities may rise".

Also relevant is the effect of the introduction of prices on the utilisation by different income groups because of the distributional objectives stated in most of the NHSs. In the Palo Alto experiment the introduction of payments had almost no differential effect on patient demands. In the Saskatchewan experiment, although the utilisation of poor groups fell, conclusions about differential effects were not possible at the time Maynard was writing. Bice, Rabin, Starfield and White, quoted in Maynard (1980, p. 98), demonstrated that the reduction of financial barriers increased the utilisation by groups who had 'under used' service previously.

After these studies it was also attempted to appraise the effects of pricing on users according to their need for health care services. In the Medi-Cal experiment it was concluded "that the policy had little effect on the demand for care of those with significant illnesses but that the demand levels of co-payers with illnesses of intermediate or no significance were reduced" (Maynard, A.; 1980, p. 98). If the introduction of pricing policies postpones utilisation by the ill it can be predicted that in the long term the costs of health care for such persons will be higher; then, "pricing by deterring consumption may, in the longer term, inflate health care expenditure" (Maynard, A.; 1980, p. 98).

In the previous discussion doctors were never mentioned. However they play a role as important as the one played by the patient in the demand for health care services. The decisions made by doctors while reflecting patients' preferences, also reflect, as Feldstein states, "their own self interest, the pressures from their professional colleagues, a sense of medical ethics and a concern to make good use of hospital resources" (in Maynard, A.; 1980, p. 100). The doctor, being the patient's agent, has discretionary power to determine demand, which means that the demand may be affected by supply-side factors. Maynard (1980, p. 103) concludes that "prices which affect the behaviour of patients-demanders are inefficient. Prices, or rewards, which affect the behaviour of doctor-demanders are to be welcomed as a method by which the efficiency of the delivery of health care can be improved"[13].

[13] It must be noted that this is the argument put forward by the needologists.

Donaldson and Gerard (1989) reviewed some studies designed to determine the effects of co-payments in countering moral hazard in public and private health care systems. It is argued that the main objective of countering consumers moral hazard is to reduce 'over-utilisation' but this situation due to moral hazard may be overstated. According to Donaldson and Gerard "there are powerful grounds for supposing that the rate of utilisation chosen at prices reflecting the full cost of care would be too low anyway" (1989, p. 237).

The schemes introduced so far in the United States by insurance companies differ according to the nature of the financial arrangement but take four main forms (Donaldson and Gerard; 1989, p. 239): **(i)** a flat rate charge for each unit of service; **(ii)** coinsurance (the insured individual has to pay a certain proportion of each unit of health care consumed); **(iii)** a deductible - the individual pays 100 per cent of all bills in a given period up to some maximum amount beyond which insurance benefits are paid in full; **(iv)** or a combination of the latter two.

The studies they review were based on data from the RAND Experiment and they looked at the results of Lohr *et al*. (1986) to show that the effect of cost sharing was often greater among low-income than higher income persons. These results are consistent to the ones reviewed by Maynard, for example the analysis performed by Beck (1974).

Lohr *et al.* (1986) also appraised whether reductions in utilisation were for inappropriate care or unnecessary medical use. Differences between poor and non-poor children were found. For instance, ambulatory care for poor children in cost-sharing plans was 56% of the level for those with free care compared to 85% for non-poor children, for episodes considered as highly effective.

In 1987 Manning *et al.* reported that the price elasticities for health care are in the -0.1 to -0.2 range, i. e. each time the user price increases by 10 per cent demand will fall by 1 to 2 per cent. From these results it is strongly supported that a 'deterrent effect' does happen when the patient is asked to cost share his health care.

4.4. Prescription charges

Prescription charges, analogously to user charges, are a controversial subject. For Huttin the explanation lies in that "any increase in prescription charges in order to make consumers sensitive to the price of medicines places additional financial burdens on the patient" (Huttin, C.; 1994, p. 54). However, the financial constraints governments have to face at the moment impel them to attempt to lower the expenditure on health care services at any cost.

Huttin (1994, p. 54/55) identifies four forms of direct financial contribution by the patient: **(i)** a prescription charge, i.e. a fixed contribution per item of prescription; **(ii)** a prepayment system, i.e. the patient pays an access fee, after which, the use of pharmaceutical dispensing services is free at the point of delivery; **(iii)** a co-payment system, i.e. the patient pays a percentage of the cost of medicines, with the percentage paid varying in accordance to the category of medicine or by type of illness; **(iv)** a deductible system, i.e. the consumer pays 100% up to a certain level, and after that the

price is subsidised; most of the times this method is combined with one of those previously described.

Seemingly these four types of cost sharing by the consumer would have different effects on equity and efficiency. It seems adequate to raise questions such as which medicines should be targeted for direct payment, on which groups in the population and among all the forms of direct payment, which should be chosen.

Huttin contributes a review of the results of some major studies that analyse the effects of changes in the financial participation of the patient for prescription medicines. Considering that the empirical evidence of these studies will provide us with a better understanding of the charging policy it emerges as being reasonable to present a summary of their major findings at this stage.

On the basis of results from the RAND Experiment published in 1985 and 1989, Huttin reports that "age and gender are key variables" (p. 62) in the consumption of medicines. Another finding relates prices and generic substitution, and it was discovered that higher prices encourage more generic substitution. There was also evidence that medicine expenditure is associated with visits to the doctor.

However, in Newhouse (1993, p. 365) it is said that "the effect on demand or health outcomes of not covering drugs (or covering them less well than other medical services) while covering other medical services" was not measured. Nevertheless, some of the findings can shed some light on drugs coverage (Newhouse, J.; 1993, p. 365)[14]: **(i)** about 8% of total spending was for drugs; **(ii)** other than through its effect on visits, the plan did little to alter drug use; **(iii)** although some evidence was seen of medically inappropriate overprescribing, the proportion of inappropriate prescribing did not vary much by plan; **(iv)** cost sharing reduced the use of both prescription and nonprescription drugs; there was no evidence of substitution of over-the-counter drugs for prescription drugs as cost sharing increased.

From this it is perceivable that there are different interpretations concerning the same results. The findings published at the end of the RAND Experiment do not always correspond to the intermediate results published by its participants.

The next study considered by Huttin (1994, p. 62) is that by Avorn-Soumerai located in the United States. The prescription charge policy under study fixed limits to the number of medicine prescription reimbursed per month, and patients made a co-payment of one dollar per item prescribed. The two policies - the 'cap' policy and the co-payment policy - presented differentiated effects on categories of medicines[15].

One positive observed effect of this policy was a reduction in medicine prescription for the most ineffective medicines (58% reduction) versus a reduction of 28% for effective

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14 It should be noticed that a claim had to be filed by the patients and the pecuniary reward for doing so was rather low,: "on the 95 per cent coinsurance plan for a $10 prescription the participant would have received $.50 for filing the claim" (Newhouse, J.; 1993, p. 168). The way the system operated shall require some cautiousness when extrapolating the results.

15 Medications were classified according to criteria of efficacy and whether they were considered as essential medicines.

medicines. It was also observed that expensive essential medicines suffered a less important reduction in the number of prescriptions than the inexpensive ones.

This study allows considerations about equity and efficiency. Either applying a 'cap' or a prescription charge per item policy, those who need to use medicines more often are penalised[16], thus there being an inequitable situation resulting from the policy implemented. In what concerns efficiency, changes in the prescribing practice were ascertained, for example more repeated prescribing or changes in the size of prescription. These effects were perceived as a lack of efficiency stemming from the policies.

However, the main finding of this study indicated that the overall use of medicines remained unchanged because replacement therapies were widely used. Inexpensive medicines, which were no longer covered under the scheme, were substituted by more expensive medicines still covered. (This seems a much more obvious lack of efficiency than those pointed out by the authors.)

The third study mentioned is the one by Nelson, Reeder and Dickson, located in the United States too, where the prescription charge policy under examination was a fixed amount per item of prescription: 50 per cent per prescription medicine. The results were not very encouraging considering that the co-payment system had limited effects on medicine usage. However, the authors attempted to explain it, and one reason they advance for the failure of such policy may be a too low level of co-payment to induce any significant effect on medicine usage. The authors also bring forward as a main reason the regular climb in the cost of prescriptions (either through an increase of the average prescription quantity or through the inflation of ingredient costs). The decrease in use of essential medications was more significant.

4.4.1. What does the empirical evidence in the countries under analysis tell us?

4.4.1.1. Denmark

The authors of "Primary care in Denmark" declare that no controlled experiment has been conducted in Denmark about the effects of user charges. However, evidence from 'natural' experiments suggests that the Danish demand for health care is indeed price sensitive.

The first fact that could lead us to such a conclusion is the nature of the system itself. If we consider that people have the opportunity to chose to be a Group I or a Group II[17] patient and that 97.5% chose to be a Group I patient the natural conclusion seems to be that user charges play a role in the choice. User charges at the point of consumption of health care services may be felt by the Danish as a deterrent device since the majority opt for not paying the ones they can avoid.

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16 Multiple medicine recipients, for instance, have had to face a reduction of medicine consumption of 46% over the period studied under the implementation of this plan, while all other patients had a much smaller decrease (17%) in the average number of Medicaid prescriptions filled.

17 An explanation of the differences between the two groups will be done in Chapter V.

There are two paradigmatic examples of the effects of user charges in Denmark. Sometimes conflicts between physicians groups and the PHSS resulted in the suspension of the agreement involving the relevant physician group. Whenever this happens, physicians continue to practice but the PHSS no longer reimburses GPs directly for their service. Consequently, patients (Group I included) have to pay for their medical care out-of-pocket and then get their charges reimbursed from the county government. In "Primary care in Denmark" it is stated that "the quantity of health care services demanded during these conflicts declined significantly (as measured by the expenditure for health care services). But as soon as the contract has been renegotiated (and health care once again has become free of charge) health care expenditures have returned to their pre-conflict level" (p. 10/11).

It must be noted that the charge imposed was not really a charge since the whole cost was fully reimbursed by the counties' governments. Thus, to conclude from this that the Danish are price sensitive seems precipitate, although this may correspond to the reality. From the facts reported, there is evidence that people, having to face a gap between the moment of payment and the moment they are reimbursed, are more likely to be deterred from seeking health care. Moreover, the procedure implemented to get the refund may have been so complex or so time-costly that acted as a deterrent device.

Table 1

Contribution of GP and specialists to health care insurance of Groups I and II

	1986		1988		1989		1992		1993	
	G I	G II	G I	G II	GI	G II	G I	G II	G I	G II
GPs	7.19	3.89	7.24	4.08	7.24	4.05	7.18	4.17	6.96	4.31
Otologists	0.34	0.35	0.40	0.35	0.40	0.35	0.43	0.33	0.42	0.34
Ophthalmologists	0.25	0.31	0.26	0.33	0.26	0.33	0.31	0.44	0.24	0.34
Other specialists	0.76	1.44	0.86	1.67	0.86	1.87	0.97	1.93	1.00	2.08
Total	8.54	5.99	8.46	6.43	8.76	6.6	8.89	6.87	8.62	7.07

Source: Tal og Data.
Note: Data was not available for 1990 and 1991.

From the data available, it is observable that the demand for GP health care services decreased over time for Group I patients and increased for Group II patients. An explanation for this trend may lie, oddly, in the decrease of people being covered

through Group II (in 1986 about 5% of the Danes were in Group II but by 1993 they were only 2.5%), since those who are in this group may be the ones less price sensitive.

The fact that Group I patients have to be referred by their GP to go to specialists also explains the difference in GPs contributions in the two groups. Moreover, it seems that, in fact, GPs act as a rationing device in the demand for specialists health care services. Those in Group I have on average one contact with a specialist while those in Group II have 2.08. To go to otologists or ophthalmologists none of the groups has to be referred by a GP and the differences between them are not considerable.

However, the data suggests that charges are not being as effective as expected. Charges in Group II were mainly implemented to deter people from unnecessary consumption of health care services. Nevertheless, what is seen is that the consumption of health care by Group II patients has increased over time and now is closer to the one of Group I patients than ever. The trade-off is between GPs consultations and other specialists ones, the principal advantage being a reduction in costs. Undoubtedly, that GPs consultations are less expensive than specialists ones, and this is also likely to be reflected in the type of medicines prescribed and in the type of diagnosis tests demanded.

What can be seen as another example of a natural experiment occurred in the Spring of 1989, when a number of drugs were moved from prescription to OTC-status , whereby reimbursement was then lost. Besides, a decision was taken about introducing a self risk of 800 Danish Kroner per person per year before reimbursement was released. It is remarked in "Primary care in Denmark" that this law resulted in a substantial drop in the total expenditure on medicines and a public outcry that ultimately resulted in the rescinding of the law. The Government took this decision relatively fast considering that as early as in 1990 it was decided to abolish the two mentioned decisions as per January 1991.

The Danish population's reaction can best be understood by looking at **Table 2**, which shows the trend of medicines' reimbursements by the State. If in 1980 health insurance[18] costs of medicines were around 26%, in 1989 this percentage was 28%. Discernible are also the effects of the policy implemented in the Spring of 1989: in 1990 the State insurance costs on medicines had dropped to 24%.

Table 2

HEALTH INSURANCE COSTS IN DENMARK

DKK 1 000	1980	1989	1990	1991	1992
General practioners	1 511	2 852	2 943	3 435	3 775
Specialists	567	1 000	1 080	1 149	1 228
Dentists	755	824	843	906	954
Medicines	1061	1 945	1 683	2 805	3 089

18 In Denmark, the State, while providing health care services, sees itself as an insurance company. Thus, in this context the insurance costs mentioned are the ones borne by the State.

Physiotherapy	141	146	183	224	256
Other health care	53	156	186	165	120
Total	4 088	6 923	6 918	8 684	9 422

Source: Tal og Data.

In percentage of the total	**1980**	**1989**	**1990**	**1991**	**1992**
General practioners	39,96	41,20	42,54	39,55	40,06
Specialists	13,87	14,44	15,61	13,23	13,03
Dentists	18,47	11,90	12,18	10,43	10,12
Medicines	25,95	28,09	24,32	32,30	32,78
Physiotherapy	3,45	2,11	2,64	2,58	2,71
Other health care	1,30	2,25	2,69	1,90	1,27
Total	100,00	100,00	100,00	100,00	100,00

Source: Tal og Data.

Not surprisingly, in this year medicines' compensation to members of "Danmark"[19] reached a peak of 37% in the total of the compensations done **(Table 3)**. In 1991, once the law was withdrawn, the State insurance costs in medicines rose to 32.3% of the total of costs reimbursed.

Nevertheless, it has to be added that changes in the costs can be a result of inflation, which would bias the information and the results obtained. However, it is known that inflation rates in Denmark were not so high to justify these changes by themselves. It can also be argued that the change in "Danmark" compensations was due to the increase in the number of members. However, the number of members also increased in the following year and compensations due to medicines' expenditures diminished to 30%.

Table 3

COMPENSATION TO MEMBERS OF THE PRIVATE HEALTH CARE INSURANCE "DANMARK"

DKK 1 000	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**
GP/specialists	46,00	47,60	46,90	60,60	66,70	99,20	83,50
General dental treatment	184,50	229,60	156,10	322,00	346,00	379,90	402,70
Medicines	154,80	181,90	233,90	310,40	238,40	270,00	295,50
Total	536,50	631,10	718,60	830,80	795,40	910,60	953,10
	%	**%**	**%**	**%**	**%**	**%**	**%**
GP/specialists	8,57	7,54	6,53	7,29	8,39	10,89	8,76
General dental treatment	34,39	36,38	21,72	38,76	43,50	41,72	42,25
Medicines	28,85	28,82	32,55	37,36	29,97	29,65	31,00
Total	71,82	72,75	60,80	83,41	81,86	82,26	82,02

19 "Danmark" is the most important private insurance company existing in Denmark offering coverage against health care expenditure.

Total number of members	752 590	996 177	1 041 640	1 081 476	1 140 240	1 215 854	1 285 336

Source: Tal og Data.

The costs of dental care borne by the State decreased substantially from 1980 to 1992. Nevertheless, to say that people are being deterred from dentists consultations may not correspond to the reality. The trend presented by compensations to general dental treatment is of permanent increase. As before, part of this increase may be explained by the augmented number of members but to explain the changes only by this factor is dubious.

The large increase in the number of members of "Danmark" in seven years may suggest an increase in the costs that have to be supported by the individual himself, which are a justification for demanding further coverage.

4.4.1.2. Portugal

Campos (1983) refers to a study carried out around 1980 in a district in the interior of Portugal to analyse the reasons of the permanent increase in medicines' expenditure. Surprisingly, the preponderant factors found to explain the phenomenon under observation did not correspond at all to what was expected.

A change in the number of individuals covered only contributed by 5.8% to increase medicines' expenditure. The contribution of a change in the number of consultations was no more than 2.6%, while a change in the number of medicines prescribed per consultation represented an increase of 4.6% in the expenditure on medicines. More significant was the change in consumers' prices, which explained 24% of the change. However 63% of the change was explained by a change in the type of medicines prescribed. Thus, it follows that the biggest increases were due to the arrival of new and more expensive pharmaceuticals, from which only a few are innovations. This study was conducted at a micro-level and not on a nation wide scale; therefore, to extrapolate its results to the rest of the country may be too hazardous.

By the end of 1980 the rhythm at which expenditures on health were increasing became a serious concern to the government. User charges were implemented as from 1981, but only in the services provided by the health centres, and on some diagnosis tests like blood tests, X-rays, physiotherapy, and so on. The exemptions scheme at the time was more strict than the one existing at the present. Only pregnant women, children up to 1 year old, those retired due to disability and the elderly were exempt. The results of a study carried out in 1981 show that the demand was completely rigid in consultations, but highly elastic in home visits and more moderate in diagnosis tests.

Campos argues that "among the different possible ways to control expenditures, to introduce barriers on demand was the one chosen" (1983, p. 283). He comments that the price barrier introduced aiming at a moderation in consumption turned out to have also goals of co-financing, and says that "no matter how perfect would be the exemptions scheme introduced, and assuming that its administrative costs are low, inevitably equity in the system will be affected" (Campos, A.C.; 1983, p. 283).

In 1987 Carapinheiro and Pinto assessed the effects of user charges implemented as a demand rationalising device. The services considered were consultations, emergency services (at hospitals), X-rays, blood tests and other tests, and medicines. In 1982 the demand for emergency services decreased 10.9% when compared with the previous year, however, in 1983 the demand for this type of care returned to its previous rising trend. Such reduction may be associated with the implementation of user charges since it is said that "only 6 to 8% of the emergencies result in admissions in hospitals, thus it is assumed that many of the false emergencies were deterred by the implementation of user charges" (Carapinheiro and Pinto; 1987, p. 95).

The evolution of the number of consultations is very irregular. Nevertheless, the authors remark that the most visible decrease took place in 1982, but there are doubts whether such behaviour can be fully explained by the implementation of user charges. The consumption of medicines was highly affected by the changes introduced in the government's co-payments scheme.

The situation regarding diagnosis procedures and therapeutical acts is rather different. The number of diagnosis procedures and therapeutical acts performed increased, but in a smoother way than in the previous years. If we bear in mind that the number of consultations performed diminished, the conclusion seems to be that the number of exams prescribed per patient and per consultation increased. As we can see from this example doctors play a very important role in a policy seeking the rationalisation of the demand. In this case the rationalising intentions of the policy were subverted by doctors' behaviour.

The authors advance one explanation for such result: the fact that the number of young doctors, who, due to their short experience, present a tendency to prescribe more complementary diagnosis exams, had increased in the past years. Coupled to this, it is suggested that the advances achieved in medical technology require more and more sophisticated exams, but, as the authors say "in this case it is obvious the supply inducing effect on demand" (Carapinheiro and Pinto; 1987, p. 97).

Lucas (1990) investigated whether user charges were a barrier or a stimulus to the consumption of health care services in the Lisbon Area. He started by characterising the users of the service and the demand for it. No more than 60% of the demand for health care services was for services provided by the NHS. However, the utilisation of NHS services, especially health centres, is not independent either from the social status or from the level of income of the user. Evidence was also found concerning a higher consumption of health care services provided by the NHS for the elder population. More than 54% of the elderly in the Lisbon Area made use of the services provided by the health centres, while this percentage for the rest of the population was only of 43.5%.

It was observable the existence of three different patterns of health care consumption. Those with a lower education level are more likely to use health centres, while those with a higher level of education are more likely to consume privately provided health care. Those having an intermediate level of education, depending on the situations, go either to the NHS either to services privately provided. It was concluded that it is the middle-class, and mainly the women, which presents a consumption of health care services much higher than the other classes.

The author suggests that middle-class users overuse health care services because they have a better knowledge of both markets - public and private. At the same time, unlike the upper-class, they do not face psychological barriers such as being afraid of losing their prestige in case of using public health services; and unlike to the lower class, they do not face significant economic barriers considering that the low relative value of user charges, compared with their level of income, is irrelevant for their decision-making. User charges for them only present a nominal value, or their low relative value may even be understood as a marketing stimulus to attract demand.

This study have been carried out with data concerning no more than the Lisbon Area, the extrapolation of the results for the rest of the country may be slightly forced. Nevertheless, there is no reason to believe that users' behaviour in other regions would not be similar or even reinforcing of the conclusions reached.

4.4.1.3. United Kingdom

O'Brien (1989) studied National Health Services (NHS) prescription drug utilisation through a time-series regression analysis. The dependent variables of the model estimated were the monthly volume of items dispensed with and without charge in England, since 1969 and until 1986. Nevertheless, his results demand some caution considering that the sample can hardly be said to be representative. The figures used were estimated based upon prescriptions submitted to the Prescription Pricing Authority by no more than a 5% sample of chemists.

When assessing prescription charges policies two objectives can be sought: "firstly, to estimate the magnitude of any quantitative relationship between changes and utilisation; secondly, to determine *which* population groups are deterred from using prescription medicines and whether such action has deleterious health effects which may have future health service cost consequences" (O'Brien, B.; 1989, p. 109/110). Nevertheless, in this study O'Brien only appraised the first of these issues.

From the results achieved by the RAND Health Insurance Experiment, it is suggested that prescription drug utilisation is negatively related to the degree of cost-sharing. O'Brien quotes Leibowitz *et al.* (1985), who used to work within the RAND Experiment, and who concluded that "... individuals with more generous insurance buy more prescription drugs". (O'Brien, B.; 1989, p. 110).

Some authors tried to quantify prescription co-payments effects in the UK using aggregate time-series data to model prescription dispensing as a function of co-payment changes [Lavers (1977, 1983); O'Brien (1981)], and the conclusions reached point towards significant negative own-price elasticities between -0.1 and -0.2.

The hypotheses tested in this model were that "the monthly number of chargeable prescriptions dispensed at time *t* and exempt prescriptions at time *t* will be a function of four types of variables; *financial variables* such as real (deflated by the monthly Retail Price Index) prescription charges, real price of substitutes, and real personal disposable income; *demographic variables* such as the number of the elderly in the population, the number of under 16s, those of working age and a morbidity indicator of new claims for sickness and invalidity benefit; eleven *seasonal dummies* to allow for

systematic monthly variations and *shift dummie* for the extension of exempt categories in 1974, the introduction of no-charge contraceptives in 1975 and the introduction of a limited prescribing list in 1985.

However, it should be noted that the two dependent variables, i.e. chargeable and exempt items, are measures of prescribing volume rather than per capita utilisation. It would be more interesting if the model had been estimated using per capita utilisation, but as the author himself recognises, there are numerous data problem which inhibit such procedure. The methodology adopted lies in the modelling of utilisation in terms of exempt and non-exempt dispensing volume, and demographic variables are considered as explanatory variables on the right hand side of equations.

Administrative data collected was aggregated. Thus it was not possible to assess from the items dispensed without charge, which were dispensed under prepayment certificates.

The main result of O'Brien's work is "that there exists a negative relationship between the prescription charge and utilisation as measured by the volume of non-exempt items dispensed, and this relationship appears to be consistent over time" (O'Brien, B.; 1989, p. 125). The own-price elasticity estimated for the period as a whole was of -0.33. Moreover, the author split the period 1969-1986 in two sub-periods (1969-1977 and 1978-1986) and found out evidence that in the second period own-price elasticity was considerably higher than in the first one. From this it can be said that utilisation became more responsive to charges increases.

The existence of a positive cross-price elasticity between OTC products and prescription medicines is also patent from the analysis. Nevertheless, whether potential patients substitute OTC products for GP consultations or whether the substitution is on the recommendation of the GP is not clear.

Definitive conclusions about prescriptions dispensed under pre-payment certificates are not possible. Obviously, holders of pre-payment certificates face a different situation than those who have to pay per-item charge, considering that once the pre-payment certificate is purchased the patient faces zero charge at the point of consumption and hence has no incentives to restrain consumption.

Looking at charges as a policy tool the author wonders "whether the use of prescription charge, which deters utilisation is an efficient and equitable policy" (O'Brien, B.; 1989, p. 127). In the author's opinion, in the UK the only objective of charging is to raise revenue but considering that one of the effects of increasing charges is to reduce utilisation "it is not clear from policy statements whether this is an objective of charging policy" (O'Brien, B.; 1989, p. 127).

In 1991 another study was done on the same subject by Ryan and Birch, who found estimated elasticities of -0.109 in the short run and -0.09 in the long run for the same period. This difference in relation to the previous study may be explained by the treatment given to the holders of pre-payment certificates or by the data used which was different. Ryan and Birch considered the holders of pre-payment certificates as belonging to the exempt population and they only used estimated figures for the exempt and non-exempt populations, using criteria like age and income. Nevertheless,

it can be said that the results are consistent since all the studies carried out so far have found negative charge elasticities.

In 1968 Greenlick[20] examined the effect of prepayment as compared against out-of-pocket payments on the Ontario metropolitan area. This study may highlight the UK studies and the problems of estimation faced with pre-payment certificates, despite the fact that it is not a recent one.

Greenlick found that the annual number of prescriptions and the annual expenditure per person increased approximately to the double when the patient held a prescription pre-payment, as compared with those who had to face out-of-pocket payments.

As Huttin remarks "according to the researchers, medicine pre-payment systems are highly inefficient when the system is simply changes from out-of-pocket to pre-payment system as it leads to higher prices" (Huttin, C.; 1994, p. 68). However, it is not explained how a pre-payment system leads to higher prices and the causal relation expressed does not seem so obvious as the researchers assume. For the researchers mentioned the only way to obviate such inefficiency would be an introduction of changes in the distribution of pharmaceutical services at the same time that the pre-payment system is implemented (e.g. use of formulary system is the one suggested) because "the purchase of medicines can be concentrated and medicine prices kept low" (Huttin, C.; 1994, p. 68).

V. User charges and prescription charges in Denmark, Portugal and the United Kingdom

5.1. Denmark

In Denmark all citizens are guaranteed health insurance coverage; for most services free of charge (hospital, GP and specialist care) and for some with user charges (dental services and drugs). Additional health insurance to cover user charges may be obtained by those who are willing to pay for it.

Although all residents are compulsory insured they may make a choice between two groups of insurance - Group I and Group II. Those who are ensured in Group I enjoy free care by a GP, and specialist care in hospitals is also free, albeit on the condition of a reference of their personal GP. Group I patients may, however, see an ear-nose-and-throat specialist or an ophthalmologist without a referral he/she will be liable for the entire fee. Basic primary care services provided by the GP are free of charge; however, services that are considered as optional require full (100 per cent) co-payment.

Those who are insured in Group II are completely free in the choice of their GP, but they are only reimbursed the amount which corresponds to the tariffs for Group I which have been negotiated between the practitioners, organisations and the State.

Dental treatment, as specified in a list, is in principle 55% financed by the (Group I) patient himself, the rest being covered by social insurance; Group II patients are

20 Quoted in Huttin (1994).

reimbursed an amount which is equivalent to the part of the costs of the same dental treatment which is not borne by the Group I patients themselves. For young people (between 18 and 25 years old) the user charge is 35 or 50% of the fee. Care given to the children is completely free.

Public reimbursement of medicines has been restructured or reduced several times in recent years. In 1993 the reimbursement system was changed so that identical pharmaceuticals are now reimbursed by a fixed amount of Danish Kroner instead of a percentage of the price. There is a positive list and purchased medicines can be registered in List A (more important medicines) or List B (less important medicines), in the former list the user getting 75% reimbursement and in the latter 50%. Insulin is the only medicine that does not require any co-payment by the insured. The average price for the two cheapest pharmaceuticals in the same group of similar pharmaceuticals forms the basis of the calculation of the fixed reimbursement.

Public reimbursements of prescription medicines outside the hospitals amount to about 50% (consumption of medicines in hospitals is fully reimbursed). The State's contribution is by far the largest, namely about 90% in the form of health insurance reimbursements; the remaining 10% is contributed by the local councils in the form of reimbursement on drugs to the elderly people and reimbursements under the Social Security Act. The municipality in which the beneficiary has his or her permanent residence offers subsidies for pensioners whose income is below a certain level. They receive assistance with medical expenses in the form of a personal allowance. This allowance is not granted unless the pensioner's financial situation is particularly difficult. A private health care insurance company - "Danmark" - covers most of the pharmaceutical expenditures for its members. The rest of the expenditure is paid by patients directly.

If specific income and age conditions are met it is possible to get further payments for health expenditures through the social security system.

5.2. Portugal

In Portugal user charges are widely implemented under the NHS. Users are charged for auxiliary diagnosis and therapeutic procedures in ambulatory services as well as in hospital emergency services, in the emergency services of health care centres and in consultations in hospitals, health centres, and other public health services or stipulated private ones[21].

The exemption system implemented in Portugal is rather complex. This complexity reflects the attempt made to cover all the situations where people might need to be exempted from user charges. Thus, according to what seems to be the main criteria to exempt individuals, there are the following broad categories[22]:
a) children under 12;
b) income;
c) disabled people;
d) pregnant and parturient women;

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21 User charges cannot exceed one third of the prices set for the National Health Service.

22 The detailed exempt categories can be found in Annex I.

e) medical condition;
f) blood donors;
g) the chronically alcohol and drug addicted;
h) children and young people living in institutions.

When required, the proof of the abovementioned facts is done through a document issued by the appropriate official services. All the users, including the beneficiaries of health sub-systems or those for whom an entity, public or private, is responsible, are subject to the payment of user charges, except those who are exempt because they fall in the categories listed above.

The exemption of user charges' payments for blood donors depends on the exhibition of a statement, by the appropriate official services, in which the patient is reported to have given at least two blood donations in the previous year.

Portuguese citizens are also required to make a payment towards the cost of the medicines they consume. State co-payment in the price of medicines is established in accordance with the following ranks[23]:

a) Rank A - medicines whose cost is entirely supported by the State;
b) Rank B - State co-payment is 70% of medicines' selling price to the public;
c) Rank C - State co-payment is 40% of medicines' selling price to the public.

The government considers that a free minimum in medicines consumption is guaranteed, since the medicines whose costs are fully borne by the State are vital medicines which are, generally, consumed during a long period.

State co-payment in the cost of medicines included in ranks B and C is increased by 15% for pensioners having pensions of an amount no higher than the national minimum wage. Beneficiaries of this co-payment special regimen must provide proof of his/her condition through a document issued by the appropriate official services.

5.3. United Kingdom

User charges are not implemented in the UK's NHS as they are in the other countries under analysis. There are prescription charges and a co-payment is required from the users for dental care and sight tests and glasses provided by the NHS. However, only prescription charges and user charges for dental care will be described in the present chapter.

From 1 April 1993, each quantity of a drug or item on a prescription costs £4.75. However, if individuals anticipate that they will need a lot of prescriptions and will not get them for free they can purchase a "Certificate of Prepayment of Prescription Charges". For £24.60 a prepayment certificate for four months can be bought, and for £67.70 a prepayment certificate for twelve months.

The broad categories of individuals automatically entitled to get free prescriptions, following similar criteria to those adopted in Portugal, are[24]:

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23 To a more detailed information about the medicines included in each rank see Annex I.

24 For a more detailed description of the situations included in each category see Annex I.

a) men over 65 and women over 60;
b) children under 16;
c) full-time students in-between 16/19 years old;
d) income;
e) medical condition;
f) pregnant women and women who have had a baby in the last 12 months;
g) accepted disability.

From 1 April 1993, individuals will pay 80 per cent of the cost of dental treatment. The most individuals can be asked to pay for all that needs to be done during any one course of treatment is £275 from 1 April 1994.

People can get help with the cost of dental treatment if they can be included in one of the groups shown below[25]:
a) children under 18 years old;
b) full-time students under 19 years old;
c) income;
d) women pregnant before accepted for treatment;
e) women who had a baby during the 12 months before their treatment began;
f) accepted disability.

VI. Equity and efficiency of user charges schemes in Denmark, Portugal and the United Kingdom

To evaluate user charges schemes the following question will be addressed in relation to each of the countries considered: who is exempted?

The classification proposed, conceivably, is not consensual. Considering that equity concepts are permeated by personal opinions about fairness and justice, the classification presented here, undoubtedly, reflects the author's own opinions, despite the efforts made to be as impartial as possible.

By presenting this classification the aim sought was neither to determine which equity - vertical or horizontal - is more important nor to determine which of the inequalities - ability to pay or need - is of primary importance. The objective pursued was only to assess how do the exemption groups established perform in terms of equity, as it was defined previously.

Equity according to need is particularly difficult to assess, considering the difficulties to define need. If it is explicitly stated that the exempt individuals are considered as so due to particular needs they may present related to their age group or status at the moment (e.g. pregnant women) and if they are exempt from paying for health care services related to their specific needs, than the exemption can be considered equitable. Presumably, disabled persons would have a greater need for health care related to their disabilities than other persons, and children would have a greater need for paediatric care than other people, if the latter have any at all.

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25 More detailed information can be found in Annex I.

It is assumed throughout the analysis that once an individual is considered as belonging to an exempted group, then everybody inside the group present 'the same' need, i.e. if there exists a need for health care all individuals are regarded by the system similarly. It is assumed that inside an exempted group there is not scope for the existence of different needs, otherwise, an intra and an inter-group analysis of equity would be required. However, the complexity involved in such task would not add anything significant to the present analysis only unnecessary clutter. Moreover, intra group considerations about equity would require an assessment of each case individually to determine those that, besides being considered in greater need than the rest of the society for a certain type of health care, are also in greater need for the same health care than their 'peers'.

In the following discussion only when analysing equity of those who pay is an intra-group perspective adopted, since this group cannot be considered as homogeneous as the others. Additionally, inter-group considerations were already made when assessing the exempted categories comparatively with the group of those who are paying. Therefore, to persist in an inter-group analysis would be meaningless.

When addressing equity according to the definitions held, the author sought to answer the following questions for each category under analysis:
- are those with different abilities making different payments (vertical equity according to ability to pay)?
- are those with greater needs being regarded differently (vertical equity according to need)?
- are those with the same ability to pay making the same payments (horizontal equity according to ability to pay)?
- are those with the same needs being regarded similarly (horizontal equity according to need)?

6.1. Denmark

In "Primary care in Denmark" we can read that "there are two basic ways in which to influence the behaviour of potential users of primary care services. The most obvious is to regulate demand through user fees" (p. 9). And, further on, "the Danish health care system attempts to control health care costs in the primary care sector through (...) a set of regulations that allow fees and total revenues to be capped" (p. 16). From this it would appear that user charges were introduced to regulate demand and to control health care costs in the primary care sector.

As it was seen in the previous chapter people insured in Group I do not have to pay user charges for ambulatory medical services while people insured in Group II must accept a user charge. However, considering that it is an individual's own choice to be insured in one group or the other, questions of equity will not be addressed here.

Special attention will be given to user charges in dental care and co-payments in medicines and to the respective exempted groups.

DENMARK

	Vertical Equity		Horizontal Equity	
	Ability to pay	Need	Ability to pay	Need
Dental Treatment				
Children up to 18	YES	?	YES	NO
Young people between 18 and 25	NO	?	NO	NO
Income	YES	NO	YES	NO
Those who pay	NO	NO	YES	YES
Medicines				
List A (25%)	NO	YES	YES	YES
List B (50%)	NO	YES	YES	YES
Insulin	NO	YES	YES	YES
Income	YES	NO	YES	NO
Those who pay	NO	NO	YES	YES

It is assumed that children do not possess any source of income (an assumption also made for the other countries). Thus, they do not have the same ability to pay as other individuals in society and it is vertically equitable that they are exempted. If all the children have zero income and none of them has to pay for health care then horizontal equity exists, too.

It is not possible to tell whether children and young people have a greater need for dental treatment and, consequently, whether they should be exempted. It seems more or less obvious that children and young people should have free access to preventive dental care, but does this mean that after you are 18 you do not need preventive care anymore, or that you need less preventive care? Presumably, other people exist in the payers' group that need the same treatments that children, or vice-versa, thus horizontal equity according to need is disregarded.

Conceivably, children and young people ought to have more preventive dental treatment, which could mean lower expenditures in the future. Should this be considered as 'greater need'?

There is no reason to believe that all those between 18 and 25 years old have a lower income than people above 25, what justifies the 'NO' classification in what concerns equity according to ability to pay. If it was said that those between 18 and 25 would face a lower co-payment while they were students and earning below a certain level, then the exemption might have been regarded as vertically equitable concerning ability to pay.

Horizontal equity according to ability to pay is not achieved either. Possibly there exist other people in Denmark living with the same income of some of those between 18 and 25 and having to face a higher user charge. Thus people with the same ability to pay are ending up making different payments.

Do young people between 18 and 25 present a greater need for dental treatment? The author cannot give a definitive answer to this question. However, presumably there are individuals facing the full user charge who may need the same dental treatment as this category, which disregards horizontal equity according to need.

Those who face a different user charge due to their income's level obviously present a different ability to pay, thus vertical equity according to this difference is verified. Therefore, it can be said that all individuals in this category face the same payments (even if the payment is zero it is the same for everybody) according to their abilities to pay, which are similar. Hence, horizontal equity according to ability to pay exists.

Apparently, people in this category do not have a greater need for dental treatment than the other individuals. However, it could be argued that people living on lower incomes have, generally, a worst diet[26], which may lead to a greater need of dental treatment.

The reason why horizontal equity according to need does not exist is similar to the ones presented for the previous categories examined.

Looking now at the group of those who pay, ability to pay is disregarded because surely it includes individuals with different abilities to pay that are making the same payments. Thus, vertical equity according to ability to pay does not exist. The same conclusion is valid to vertical equity according to need. There is no reason to assume that in this group everybody has the same needs for dental treatment.

Moving now to the analysis of horizontal equity, and considering that all the individuals are facing the same co-payments, those sharing similar abilities to pay are of course making the same payments. The same logic is used when assessing horizontal equity according to need: since everybody is regarded as being equal, when people do have the same needs they are being considered similarly, too.

Proceeding the interpretation of exemptions in medicines, it is reasonably evident that the criteria presented at their determination were different from the ones adopted in dental treatment. In the latter prominence was given to individuals' features (such as age or income), while in the former exemptions are based on characteristics attributed to pharmaceuticals, except for income.

The assumption that all individuals consuming medicines included in List A have the same ability to pay sounds rather implausible; therefore, vertical equity according to ability to pay is disregarded. Nevertheless, there are reasons to believe that these individuals are seen as being in greater need and ought to be regarded more favourably, which is translated in the lower co-payments they have to face. Hence, there exists vertical equity according to need.

All the individuals facing the same user charge, obviously when they have the same ability to pay they are making the same payments (horizontal equity according to ability to pay). All the individuals in need of the same medicines face the same user charge; hence, those with similar needs are regarded akin (horizontal equity according to need).

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26 It can be argued that not only may they lack information about what an healthy diet is but also they may lack the money to eat healthy or to intake the daily recommended amounts of some nutrients, which may cause greater dental problems. They may also not know what a proper oral hygiene is and, thus, they may be considered as a 'risk group' in what concerns dental care, i.e. a group that probably will have more dental problems than the others.

For List B and insulin, the logic followed was analogous to the one described above.

Surely, it is difficult to say, or even impossible, why those consuming medicines in List A are in a greater need than those consuming medicines in List B, or any other medicines. Nevertheless, considering that the inclusion of medicines in the lists is determined by a scientific committee, the option was to rely on its judgements as regards the importance of the medicines considered.

To assess exemptions on medicines due to income reasons, the procedure was similar to the one adopted in the examination of exemptions for the same reason in dental care. The criteria used to address equity in the context of those who pay resembled the one applied for dental treatment, too.

6.2. Portugal

The Health Comprehensive Law (Law n. 48/90, 24 August) justifies user charges with the twofold objective of rationalising the demand for health care and ensuring that the supply of health care services is not limited due to financial constraints.

It is stated in the Law-Decree n. 118/92, 25 June, that "the determination of State co-payment[27] ranks in the cost of medicines possesses underlying criteria of importance and social justice". In 1992 the regime of medicines co-payment by the State suffered an alteration and the percentage co-paid by the State decreased. The argument presented by the Government for such a change was that "reducing the percentage in co-payment ranks B and C will allow a resources redistribution, creating the conditions for an increase in State co-payment for people having a lower income and in risk of larger medicines' consumption." (Law- Decree 118/25, 25 June).

Once again the question marks correspond to the situations where it is not possible to come to a final judgement. The methodology followed for children under 12 and income resembles the one explained for the correspondent categories in Denmark.

Looking at the exempt category of disabled people, one may say that, due to their status, they are likely to have a different ability to pay than the individuals facing user charges. Nevertheless, if this was the case they should have been included in the category of those exempt according to their income level. Thus, it is assumed that they are being exempted due to their status and not because of their ability to pay. As it was already said they may have a different ability to pay but there is no reason to assume that some of them would not have an ability to pay identical to the one of those paying the user charge. Considering these arguments vertical and horizontal equity according to ability to pay are disregarded.

PORTUGAL

	Vertical Equity		Horizontal Equity	
	Ability to pay	Need	Ability to pay	Need
User Charges				

[27] In Portugal it is assumed that the full cost of medicines is borne by the patients and that the State may make a co-payment in medicines, when that is considered as necessary.

Children under 12	YES	?	YES	?
Income	YES	NO	YES	NO
Disabled people	NO	?	NO	?
Pregnantparturient women	NO	?	NO	?
Medical condition	NO	YES	NO	YES
Blood donors	NO	NO	NO	NO
The chronically alcohol/drug addicted	NO	?	NO	?
Children young/people living in institutions	YES	?	YES	?
Those who pay	NO	NO	YES	YES
Medicines				
Rank A	NO	YES	YES	YES
Rank B	NO	YES	YES	YES
Rank C	NO	YES	YES	YES
Pensioners/income	YES	NO	NO	NO
Those who pay	NO	NO	YES	YES

Disabled people are exempt from user charges in all health care services they may need. Surely, they are in greater need (vertical equity according to need) for health care associated to their disabilities, but it would be forced to assume that they are in greater need for all health care services than the rest of the individuals. For instance, is a person without a leg and having a cold in greater need than any other person having a similar cold but with both legs?

It is hard to say whether those having the same needs are being regarded equally. The problem of assessing this is very similar to the one posed by vertical equity according to need. Disabled people are being regarded identically in their needs for health care specifically related to their disabilities, and thus a 'YES' should have been written. Nevertheless, at the same time, if the need is for health care not related to their specific condition, then horizontal equity according to need is disregarded, and a 'NO' should have been written. Considering both interpretations and considering that none of them overrides the other, the option taken was to write a question mark.

Pregnant and parturient women certainly do not present a different ability to pay only because they got pregnant or have given birth to a child (vertical equity according to ability to pay). Furthermore, not all with the same ability to pay end up making the same payments (disregard of horizontal equity according to ability to pay).

Looking at vertical equity according to need, clearly the need of pregnant and parturient women for therapies related to their state is greater than, let's say, a need for the same therapy felt by a 65-year-old woman or by a man. However, should these women's needs for other therapies be considered as greater?

None the less, the exemption of this category may emerge from concerns not with the mothers to be, or with the parturient women, but with the children. Of course that the health status of a pregnant women or if a parturient women influences the health status of their babies. Thus, to prevent babies' possible illnesses transmitted by their mothers, the latter are exempt to make sure that they are not deterred from looking for health care.

And what about other people presenting the same needs and being treated differently (disregard of horizontal equity according to need)? Is this equitable just because we are talking about pregnant and parturient women?

(The logic followed for the assessment of equity in the category of those exempt because they are chronically alcohol or drug addicted was analogous to the one of this category).

As for those who are exempt due to their medical condition, it is obvious that they do not have a different ability to pay than the individuals who face the full charge (vertical equity according to ability to pay). Certainly, they may have a different ability which would justify their exemption on grounds of vertical equity, but no direct causal relation exists between suffering from a certain disease and automatically having a different , i.e. lower, ability to pay. Moreover, those who have the same ability to pay are not ending up making the same payments - horizontal equity according to ability to pay. Conceivably, there are people paying the full charge who have the same ability to pay.

Considering the illnesses included in the category of medical condition, one common characteristic to all of them seems to be that the probability of an individual to die, or to have his life severely distressed, is increased if he suffers from one of these illnesses. Therefore, this is seen as a justification for the fact that they should be regarded more favourably because they are in greater need (vertical equity according to need). Hence, those who have the misfortune of suffering from such illnesses are being regarded akin (horizontal equity according to need).

Blood donors, according to our criteria, present the most inequitable situation altogether. Their exemption cannot be justified by the different dimensions of equity being assessed here. Nevertheless, their exemption can, possibly, be justified as a reward for their altruism.

Medicines (rank A, B, and C) were evaluated as previously in the case of Denmark, as the exemption scheme is similar.

Pensioners, when their income is recognised as being below the national minimum wage, undoubtedly have a different ability to pay. Therefore, this recognition justifies the 'YES' classification in vertical equity according to ability to pay. However, there are individuals having the same or a lower income who have no further co-payments by the State in the medicines they need. Therefore, horizontal equity according to ability to pay is disregarded.

There is no reason to think that the need for medicines by the pensioners included in this category is greater than the need for the same medicines presented by other individuals (vertical equity according to need). Moreover, other individuals feeling the same needs are not being regarded identically (horizontal equity according to need), since they have to pay the prices established for the medicines they need.

In the case of medicines, the exemption scheme has very low administrative costs, as far as it could be assessed. It is written in medicines' packaging their public sale price, as well as the amount co-paid by the State and the amount to be paid by the user

himself. If the price changes, the packaging is returned to the producer, who has to put a new label on it containing the same information. From this, it can be inferred that the system is efficient since administrative costs are minimised. Furthermore, the costs of determining to which rank shall the medicine belong are fully borne by the producer (Law-Decree n. 72/91, 8 February, article 96). The assessment of pensioners receiving pensions below the national minimum wage is made by the social security services, thus not presenting any cost to the health care services.

6.3. United Kingdom

Charges have not always existed in the British NHS. When the system was introduced all services were provided free of charge. However, some time after it was put in practice it was recognised that it was impossible to afford services with such characteristics. Thus, to raise revenue appears to be the principal objective of the charges introduced under the British NHS, as well as to induce some deterrence in the demand for health care.

UNITED KINGDOM

	Vertical equity		**Horizontal equity**	
	Ability to pay	Need	Ability to pay	Need
Dental Treatment				
Children under 18 years old	YES	?	YES	NO
Full-time students under 19 years old	YES	?	YES	NO
Income	YES	NO	YES	NO
Women pregnant before accepted	NO	YES	NO	?
Women who had a baby in the last 12 months	NO	YES	NO	?
Accepted disability	NO	YES	NO	YES
Those who pay	NO	NO	YES	YES
Prescription Charges				
Men over 65 and women over 60	NO	?	NO	NO
Children under 16	YES	?	YES	NO
Full-time students 16/19 years old	YES	?	YES	NO
Income	YES	NO	YES	NO
Medical condition	NO	YES	NO	YES
Pregnant women/those who had a baby in the last 12 months	NO	?	NO	?
Accepted disability	NO	YES	NO	YES
Those who pay	NO	NO	YES	YES

Pregnant women and women who had a baby in the last twelve months are considered as having a greater need for dental care. It is recognised that a pregnancy requires a greater care with the teeth, which justifies the 'Yes' classification. Nevertheless, it has to be remarked that some inequities inbetween pregnant women exist. What if a woman becomes pregnant after she was accepted for treatment? Does her state not justify her exemption anymore? And horizontal equity is also violated, too. If it is recognised that a pregnancy induces a greater need for dental treatment not all the women presenting the same need are being regarded similarly. However, do pregnant women need specific therapies exclusive of their state? May not exist other individuals

with identical needs? (These considerations are extensive to women who gave birth in the last twelve months).

It is considered that those with an accepted disability present a greater need for dental treatment, since it is explicitly stated that they are only exempt if their need is caused by their accepted disability (vertical equity according to need). Therefore, all individuals with the same need for dental treatment caused by their disability are being regarded similarly (horizontal equity according to need).

Looking now at prescription charges, it is visible that vertical equity according to ability to pay is disregarded for the first category mentioned. It is obvious, that a person's ability to pay does not change drastically only because that person turns 65 if a man or 60 if a woman. Horizontal equity according to ability to pay is also disregarded because those who have the same ability to pay are not ending up making the same payments.

Whether the need of these individuals is greater than the need of the non-exempt individuals is difficult to say. Certainly, the probability of suffering from certain pathologies increases with age (e.g. Parkinson disease). If people were exempt from the payment of medicines required to treat pathologies they are more likely to have, then they would be considered as having a greater need for those medicines and ought to be regarded more favourably (vertical equity according to need). But the fact is that people above the mentioned ages are exempt from payment in all medicines they may need. And is the need of a woman over 60 for an analgesic for strong pain greater than the need for the same medicine felt by a younger woman?

Conceivably, the answer to this question is no. This explains the 'NO' classification in horizontal equity according to need.

Exemption for reasons such as low income does not present any cost to the health care services, as once again this is assessed by the social security services. Age exemption is automatic, the person only having to sign the back of the prescription form before presenting it to the pharmacists for dispensing; thus, no costs have to be borne by health care services. Only the assessment of those exempt due to their medical condition presents a cost to health care services since it has to be done by someone working within the system.

Exemptions for dental care apparently do not entail high administrative costs since the only groups that have to be assessed by health care services are those of pregnant women or women who had a baby in the last twelve months and those who< need dental treatment because of their disability. The other exemptions do not entail any costs since one is automatic (age), the assessment of full-time students is made by education services, and the assessment of exemptions for low income reasons is made by the social security services.

VII. Conclusions

In Chapter IV, the equity of the different sources of finance of health care services in the countries analysed was evaluated. The conclusions reached at the time can be summarised in the following table:

	General taxation	Social Insurance	Private Insurance	Direct payments
Denmark	slightly progressive/ proportional		progressive	regressive
Portugal	progressive	progressive	progressive	regressive
UK	progressive	progressive	progressive	regressive

In Denmark it is visible that the financing of health care services through general taxation is only slightly progressive or even proportional. Consequently, it cannot be said that the system performs well in terms of vertical equity in its financing. If the system is slightly progressive or proportional there are individuals presenting different abilities to pay and ending up making the same payments as a percentage of their incomes. The other feature imposed to vertical equity in the present work was that the relationship between ability to pay and payments ought to be progressive. Thus, the Danish system does not fulfil such condition either. According to the theory of social justice held, this is an unfair situation because the burden imposed on those with lower incomes is heavier.

General taxation was said to be progressive in Portugal; therefore, it contributes to the achievement of equity in the finance of health care services. In the UK, the financing through general taxation was also recognised as being progressive, although less progressive than it was the case for Portugal.

From the above discussion we can conclude that general taxation is an equitable source of finance, though one with a dubious performance in Denmark.

Where social insurance as a source of finance for health care services exists, it is considered as being progressive. Thus, also this source of finance will contribute to the overall equity of the financing system.

Private insurance was assessed as being progressive too, in the three countries observed. Nevertheless, it should be noticed that at the moment Christiansen carried out his study, a mere 400 000 individuals purchased private health care insurance, what explains that the share assumed by insurance premiums in the finance of health care services was only 1.1%. However, from more recent data it is clearly visible the enormous increase in the number of individuals purchasing private insurance from "Danmark". Around 25% of the Danish population is purchasing further coverage for health care expenditures through private health care insurance. This fact may raise some doubts about whether this source of finance is still a progressive one and thus contributes to the equity of the finance system.

Direct payments were considered as regressive in all the three countries. From the analysis performed in Chapter VI it is not possible to say in which country direct payments are more regressive. Nevertheless, some arguments can be advanced to explain some possible causes of such regressivity.

User charges are not means-tested, and thus the burden imposed on those with low incomes, but not sufficiently low to exempt them from the charge, is considerably higher than the one imposed on individuals with higher incomes. User charges can be seen as a regressive method of taxation since the value charged diminishes proportionally as a percentage of the user's income when the latter increases.

Therefore, user charges would have to be related to users' income if equity according to ability to pay is sought in this source of finance. However, even if the user charges were means-tested it is difficult to judge whether they would be equitable according to ability to pay, as defined in Chapter III. Presumably, they would be proportional but not progressive.

Children until a certain age and income are the only two criteria for exempting individuals from charges common to all the countries under analysis. Thus, the heterogeneity of criteria found shows the difficulty to define need as well as its different perceptions in different countries.

To ensure that equity according to need is achieved, or at least is effectively pursued, exempted categories should be defined considering mainly morbidity criteria, i.e. medical condition or therapies provided. As we can see from the evaluation of exemptions in medicines in Portugal and Denmark, vertical and horizontal equity according to need always scored 'YES' when the exemption was due to the characteristics of the medicines purchased ratter than to considering the characteristics of the consumers. There is no reason to believe that the same would not happen if a similar criteria was applied to define exemptions for user charges

If the only objective sought by governments was cost-containment of health expenditure, then the schemes introduced could be considered as successful ones. However, governments appear to be seeking more than the containment of public expenditure on health care services, they are seeking the containment of the total public expenditure. Therefore, the exemptions schemes still represent a considerable cost since the categories automatically exempt are very few. This implies that the administrative costs of assessing the exempt individuals still have to be borne through public expenditure

The present work highlights some of the arguments that should be considered when we talk about equity and efficiency in the finance of health care services. However, there is still a need to develop the work started here.

ANNEX I

1. Portugal

Law-Decree nº 54/92 (11 of April) defines the exempt categories as follows:
a) the pregnant and parturient women;
b) children under 12, inclusive;
c) beneficiaries of the supplementary benefit to children and young disabled;
d) the beneficiaries of the for life monthly benefit;
e) pensioners getting a pension no higher than the national minimum wage, their spouses/husbands, and their under age children, since they depend on them;
f) the unemployed, registered at the employment centres, their spouses/husbands, and their under age children, since they depend on them;
g) the beneficiaries of a fortuitous benefit, paid by official services, because of a deprivation situation, their spouses/husbands and under age children;
h) those who are living in children's institutions and young people deprived of a normal family environment;
i) employees earning a monthly income below the national minimum wage, their spouses/husbands, and their under age children, since they depend on them.
j) those who are pensioners because of a work related disease with a lasting disability level not below 50%;
l) patients with chronic renal ailments, diabetes, haemophilia, Parkinson's disease, tuberculosis, cancerous diseases, AIDS and the infected with HIV, paramiloidose, Hansen disease, ankylosance spondylitis or multiple sclerosis;
m) blood donors;
n) the chronically mentally ill;
o) the chronically alcohol or drug addicted when they are on a recovering programme, as long as they are using the official services.

It was considered that the criterion to exempt individuals falling in situation d), e), f), g), and i) was the one of income. Situations c), j), and n) were aggregate considering as the common criterion the different disabilities presented by these individuals (category of disabled people). Corresponding to the headline of medical condition were considered all the individuals falling in category l).

Medicines ranks are defined in Law-Decree 118/92 (25 of June) according to the following criteria:

- Rank A comprehends pharmaceutical substances that are vital and affect users' groups that are in a disadvantageous situation, namely chronical ill that besides, in special cases benefit from an exception regimen established by the Minister of Health.

- Rank B comprehends essential medicines needed in the treatment of serious illnesses which, sometimes, require a prolonged therapeutic.

- Rank C comprehends non-priority medicines with confirmed therapeutic interest.

2. The United Kingdom

The situations where people are automatically entitled to get free prescriptions are defined as follows:

i) Men aged 65 or over and women aged 60 or over;
ii) Children under 16;
iii) Young people aged 16 or over but under 19 and still in full-time education;
iv) Persons or their partners in receipt of Income Support or Family Credit;
v) Pregnant women;
vi) Women who have had a baby during the last 12 months;
vii) War Pensioners or people receiving a MOD Disablement Pension supplied with medicines for the treatment of their accepted disabilities.
viii) People suffering from any of the following medical conditions:
    - a permanent fistula requiring continuous surgical dressing or an appliance;
    - forms of hypoadrenalism for which specific substitution therapy is essential;
    - diabetes insipidus and other forms of hypopituitarism;
    - diabetes mellitus except where treatment is by diet alone;
    - hypoparathyrodism;
    - myasthenia gravis;
    - myxoedema or other conditions where supplemental thyroid hormone is necessary;
    - epilepsy requiring continuous anti-convulsive therapy;
    - a continuing physical disability which prevents you from leaving home without the help of another person.

People who have low-income entitlement may be able to get free prescriptions.

People can get help with the cost of dental treatment if they are in one of the three groups shown below:

Group 1 - People who have automatic entitlement:

- Young people under 18;
- Young people under 19 and still in full-time education;
- Persons or their partners in receipt of Income Support or Family Credit;
- Women expecting a baby and that were pregnant when the dentist accepted them for treatment;
- Women who have had a baby during the 12 months before their treatment began.

Group 2 - People who have low-income entitlement may be able to get help.

Group 3 - Certain War Pensioners may get help with the cost of NHS treatment if it is needed because of the disability for which they get a War Pension.

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