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DISTRIBUTIONAL PRINCIPLES IN HEALTH CARE

by

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Abstract:

What ethical considerations are made in decisions on distribution of scarce health care resources? Are the distributional decisions consciously based on explicit ethical principles, and if so, what principles? Both theoretical and political arguments on distribution of scarce medical resources frequently make simultaneous considerations of costs, probability of positive effects of medical treatment, and ethical values, possibly sacrificing explicit formulation of the ethical problem (or each element in general). To explicate the normative problem, it is convenient to distinguish between the three parts. A model of elements in the decision problem is presented. These elements are: Costs (C), probability of positive effect of treatment (P), and the (ethical) values related to the treatment of an individual (V). Stipulation of values on C, P, and V, respectively, is further discussed; ethical considerations (V) are the primary focus. Arguments for specific distributional principles are distinguished depending on whether the basis is P, V or C.

PART 1 INTRODUCTION

The study of social inequality has a long tradition and a major status in the social sciences. The focus of attention is the distribution of various burdens and scarce goods within markets and political systems. Although economical variables have dominated among specification of scarce goods (especially income and other labor-related indicators for social class structures), there are several other specifications of goods and burdens which have a long tradition of interest.

A common focus of attention in studies of social inequality is the distributional pattern that results from the combined functioning of markets and political systems. The pattern is often seen as an unintended consequence of how these systems co-operate, at least in the sense that the resulting distribution can scarcely be predicted by examining certain (individual/ singular) intended actions. This may be one reason for the fact that a large number of the studies have concentrated on two parts in particular: i) description of the combined functioning of markets and political systems and/or the observed distributional pattern, and ii) explanations of how markets and political systems produce patterns of social inequality.

The Norwegian health care system is a public system; the majority of the production is financed through public budgets. This implies that the study of distributional patterns must differ from analysis of a less predictable system. The system is planned; and its distributional patterns are also, in principle, intended. This is not to say that all the activities in the system are both predicted and intended (the system is still a human product), but to stress the fact that someone could essentially sit down and decide the form they would like the distributional pattern to take. Though the success of the determined pattern may vary during implementation, the very fact that (at least parts of) the pattern could be predetermined separates it from the market or a mixed system. Allocation and distribution of the resources are planned; different sectors and individuals are to a much larger degree intentionally given the amounts received, than in a less planned system.

The most commonly used strategy in analyzing planned (public) systems is to study how individuals and groups of actors seek to realize their interests by cooperating with others in the system and to use this information to describe and explain the way the system operates. The focus of attention is action within the decision-system; descriptions and explanations of actors, interests, and restrictions on actions, are the central elements. Both Public Choice and Social Choice theories, as well as contributions based on less "economical" theories, belong to this tradition.

Distributional values are another part of distributional systems that have gained increased attention in the last few years. The question of to what extent the distribution is just, or fair, is central. Perhaps John Rawls' A Theory of Justice (1971) was a starting motor for this development in the social sciences, although elements of the theories can easily be traced back to Plato and the ancient Greeks.

The zone between the questions "How do things work?" and "How should things work?" is a tense one. "Positive science" has rejected all "should-questions" as non-scientific; such questions, according to this view, should (in principle) be excluded from scientific activity. There are substantial arguments from both philosophers and social scientists that oppose this view. One of the more significant points is that the supposed distinction between positive and normative science is not clear, and should not be. Amartya Sen writes, "The methodology of so-called 'positive economics' has not only shunned normative analysis in economics, it has also had the effect of ignoring a variety of complex ethical considerations which affect actual human behaviour and which are primarily matters of fact rather than of normative judgments." (Sen, 1987:7)

Apart from the debate about whether or not social science should be normative, few sociologists would claim that people act without a more or less strict adherence to values and norms. One basis for chosen actions is the value the individual assigns to outcomes (the action itself may be viewed as an outcome); analysis of these values is central to an understanding of the actions based upon them. It would seem easy to overcome the tension

between normative and positive science by claiming the possibility of a positive analysis of values. It is important to consider, however, that any study is subject to the influence of the observers' normative judgments, and this may in particular be so when considering hard choices as priorities in health care.

The study of ethical (normative) values as a method of analysis within distributional systems is an important aspect of the sociological field, and analysis of the normative foundation for choice is of particular interest in a planned distributional system. This is due to the fact that the distributional effects may, in principle, be anticipated before the resources are distributed and that distributional policy must be based on such criteria. Even a lottery distribution is based on choice, when it comes to a planned system.

The ethical criteria utilized in distribution of health care is the primary focus of this paper. A model of distributional decisions in health care, in which ethics are discussed in detail, is presented; economical and medical elements are mentioned briefly. The presented model will serve as a basis for an empirical study of distributional considerations among decision makers in the sector. The methodology of the project will be presented in a separate paper.

The decision problem

We have a system with a given resource limit and an unknown number of people needing treatment for different illnesses. Metaphorically, we can imagine a line of people in front of the system; newcomers are arriving constantly. We notice differences in the degree of suffering, and take note of different needs.

The question is: How do we determine which patients should have priority? Our resources are limited, therefore everyone cannot be treated simultaneously.

A Norwegian governmental report (NOU 1987:23) states that "the organizational model for the health care system we have chosen in Norway ... has resulted in the fact that there is extremely difficult for anyone to survey how the resources are made use of" (p.11, my

translation). Decisons frequently made ad hoc (with the help of different pressuregroups and mass media), a complicated financing system, and too little central governing are some of the problems faced.

Even if those problems were solved, and the health care system functioned effectively to implement central plans ("the organizational model" was effective), the basis for priorities would still be a crucial point. If the society chooses not to distribute the resources randomly (a lottery model), the specification of distributional criteria is necessary.

This paper will deal with the following: i) the presentation of a model demonstrating the key variables in decisions of health care distribution, and ii) a discussion about how values on the variables may be, or in fact are, stipulated.

PART 2: THE DECISION ELEMENTS

Suppose we have the following variables:¹

- The probability that a given treatment will have the desired effect (variable P)²
- The value related to treating a given patient (variable V)
- The costs of treatment (variable C)

There are n persons with need of treatment (i.e. we consider the demand, disease-pattern, and need of health care as given on a fixed point in time), each with a probability P for effect of the treatment, and a cost C.

Assume that we want to maximize the product $\sum PV$ and that the given treatment capacity is too small in relation to the demand. To maximize the product $\sum PV$ means that the highest possible ethical values is sought realized once probability of effect has been taken into account.

Further presumptions in this hypothetical situation are that decision makers are capable of assigning a value related to each individual receiving treatment, and that these values can be rank-ordered. Although most people would be likely to avoid such ranking, a ranking of individuals is the implicit result of any distributional choice in a public system.

¹The background for this particular model is the need for distinguishing between the three most important parts of the decision basis. Frequently, theories on justice in distribution of health care will consider costs, probabilities for effect, and the ethical values of treatment at the same time, without explication of each element's specific value. Practical decisions also frequently deal with these three parts simultaneously. This may make the amplifying of the value principles difficult.

²With "effect" I mean generally that the treatment has positive effect on the dependent variable (the goal), not necessarily total cure.

Let us assume that the beginning of the ranking list is as follows:

Table 1. Hypothetical priority listing independent of P and C

Person-disease	Value (V)	Probability (P)	Cost (C)	Priority
1	3	.2	5	3
2	5	.1	4	1
3	1	.8	2	5
4	4	.9	3	2
5	2	.7	1	4

where $1 \leq V \leq 5$, $0 \leq P \leq 1$, $1 \leq C \leq 5$.

V is the assigned ethical value and possibility of rank-ordering is crucial. For illustration purposes, values from 1 to 5 have been assigned to both V and C. P is the standard probability measure; C is the measure for cost (e.g. may be interpreted as values in \$ 1000). The column to the right is the priority list. In the example corresponding to the V column, high values on V are ranked prior to low ones.

The priority list expresses that cost and probability of effect are not taken into account when ranking. V is the isolated (ideal) value stipulated for treatment of a person, independent of the values for P and C, which may be equally suitable as bases for priority. A cost criterion could be used to give priority to treatments demanding the least amount of resources. A probability of effect criterion, on the other hand, could be used to give priority to cases with the highest P (those with the most effective relations between disease and treatment).

A treatment assigned high value-priority may be very expensive or less costly, and have a high or low probability of effect.

The following may be an example of ranking exclusively dependent of V.

Let us assume that the decision makers have two criteria for assigning values on V: age and degree of life-threatening conditions. Low age is prior to high age, and more life-threatened cases are prior to others. A life-threatened child is now assigned the highest priority. The probability of effect of treatment is, however, dependent on the amount of resources spent. The need of resources in this particular example is very high; the same amount of resources could save many equally life-threatened individuals further down in the ranking list.

The implication is that priorities based exclusively on V can only be accomplished in the situation where distributional aspects are considered irrelevant. If the number of people treated is relevant, then V must be considered relative to C (cost). A new priority list may follow: V/C (to divide V by C implies that the budget is given). The question now is: What treatments should be supplied, given the amount of resources? Without any further weighing of the values, the result from table 1 would be:

Table 2. Hypothetical priority listing V/C

V/C	Priority V	Priority V/C
3/5	3	4
1/4	1	5
5/2	5	1
2/3	2	3
4/1	4	2

Table 2 is rather unrealistic, but useful as an illustration. Because of the simple relation between V and C, treatments originally on highest priority have now become lowest, and vice versa. This relationship, though crudely demonstrated, allows the visualization of the balance

between cost-criteria and ethical value-criteria (which will be addressed later in greater detail).

That the probability of effect should be taken into consideration is equally relevant. Even if the distributional criteria were defined only in relation to input of resources (as opposed to the effects of treatment), the distributional effect of excluding P would cause an accumulation of resources for a minority use. (Some individuals will never leave the system.)

The product $\sum PV$ will express the weight of V in relation to P. It is a realistic assumption that the sum of the product PV must be maximized. The assumption is based on two conditions: First, health care must be distributed according to the basis that there will be some kind of positive effect on the patient's health (absolute recovery is not essential). Second, in order to maximize V, health care must be distributed in accordance with decision makers' intentions; reflected in the assignment of values on V.

When considering the three elements simultaneously, a reasonable relation between the three elements in such distributional decisions may be expressed as follows: $\sum PV/K$. This is our model for elements that may be included in priority decisions. At this point, stipulation of values on V, P, and C will be discussed.

PART 3. THE VALUES ON VARIABLE V:
OR WHO SHALL BE GIVEN PRIORITY?

Ethical principles for distribution of health care.

3.1 The problem

The state of Oregon (in the US) recently published a plan for distributing medical care. The target group was poor people with little or no medical insurance. To distribute the scarce resources among these approximately 20% of the population, a rationing policy was proposed. Here, the most interesting part of this plan is that treatments were listed in order of their importance. The ranking list is supposed to serve as a guide for determining which needs will be met and which will be denied. An ombudsperson for patients at the Portland teaching hospital explains, "We'll see the cancer patient who wants to live nine more months to see her daughter's graduation, and we'll have to tell her no." She also adds, "When you do not have the resources to provide care to everyone, you should not invest in futile care." (San Francisco Chronicle, April 27, 1992)

The Norwegian professor in medical ethics, Knut Erik Tranoy, starts his book Medisinsk etikk i var tid (Medical Ethics in our Time) with the description of a multihandicapped boy in a small county in northern Norway. The boy's need for health care would require 10% of the county's total budget; the same amount could finance all home care needs for the county's elderly people. (Tranoy, 1991:11)

In Just Health Care, by Professor Norman Daniels, the issue concerning the financial feasibility of heart transplants is addressed. As Daniels explains, "Transplants can provide a last chance at a relatively high quality of life for a select number of patients. Unfortunately, a program of financing transplants would deliver a significant benefit to a relatively small number of individuals at a relatively high cost." (Daniels, 1985:222)

These examples all point to the problem of priority. In a situation where the resources are not abundant enough to serve all needs, someone has to decide where the resources should be spent, as well as where they should not be spent. This means that, though everyone needs it (more or less), only select individuals will receive health care. Such choices are named "tragic choices" (Calabresi and Bobbitt, 1987), a term emphasizing the suffering that will be caused by denying treatment to individuals who are low on the priority scale.

The choices cannot be avoided, however, when the resources are scarce. Health care needs change notoriously, partly as a result of medical advances, partly as the result of social change. Even if the view that such needs are insatiable fails to hold true, these changes will still imply a mis-match between resources and needs.

Making choices in this situation is hard. However; whether the choices are conscious or unconscious, based on explicit or implicit criteria, the choices must still be made. Buridan's ass starved to death from indifference (Boudon, 1981). Another ass chose between the piles, though she kept "glancing over her shoulder at the pile not chosen, not exactly regretting her decision, but acutely conscious of the value of what was given up". (Baier, 1992:357)

Considerations are now given to health care needs, to the probability of the known effects of different treatments, and to the treatment costs. The ethical objective is to distribute the resources in the most "just", or "effective", or "equal" way possible. There is no simple objective understanding of "the best possible distribution" or the "morally legitimate distribution". Some different viewpoints on this will now be examined.

3.2 Moral philosophy and practical choices

The distinction in other sciences between "discipline" and "policy" research (Coleman, 1972), or "pure" versus "applied" theory, is analogous to the distinction between moral philosophy (metaethics) and normative ethics in philosophy. The borderlines between such distinctions are obscure in all disciplines, including philosophy. Infers from a meta ethical theory to

practical decisions (normative ethics) is also notoriously debated, as e.g. applications of John Rawls's theory are discussed. Tom Beauchamp (1980), referring to applications of "A Theory of Justice" (Rawls, 1971), claims that, "policies governing practical matters of great complexity cannot be simply deduced from highly abstract principles"(p. 159).

The traditional view among philosophers has been that ethics can only be considered in meta-ethical terms, and that a normative view in ethics is beyond reason (Tranoy, 1991). This is possibly what Beauchamp means when he writes: "Philosophers have long had too grand an enterprise in mind in developing theories of justice. They seem often to have thought that a cosmic theory of justice, public policy, and rights can be applied with consistency and rigor to the solution of many immediate social problems." (Beauchamp, 1980:159)

An increasing number of philosophers are beginning to accept the notion that ethics also may represent a foundation for action, especially in areas such as medical ethics; however, it is still unclear how to go about reformulating the general theory so that the principles necessary for practical choices are available. The most common view arising from recent debate is that moral philosophy cannot serve as any direct guide for action, but that theoretical ethics could serve as a foundation for normative ethics (the more applied part of ethics).

Daniels declares that "applied philosophy is a risky undertaking" (Daniels,1985:221) to establish that "pure philosophers" would be critical of the theoretical foundations and that direction would not be available to decision-makers seeking concrete guidance for actions. The difficulty in providing guideline principles for decision-making probably would stem from the differences between theoretical and political viewpoints. Science can explicate relations between means and ends; decisions about ends, however, are left to the political system. Thus, there can be no absolute answer, either "yes" or "no", to the specific questions of what one should do, e.g. concerning heart transplants.

3.3 Ethics and health care

Tom Beauchamp and James Childress suggest that the following principles be used to establish an ethical foundation for health care: autonomy, beneficence, non-maleficence and justice. The principle of autonomy refers to the right to self-determination and "justice" to fairness, while "beneficence" and "non-maleficence" refer to obligations to do good and not harm (the classical principle: "primum non nocere").³ These principles operate differently on different levels; the principles used on an individual basis may, therefore, acquire a different function when applied on a societal level. Consequently, the physician's considerations in the individual case may (and probably also should) differ from collective considerations. Robert Veatch (Veatch, 1986) groups the principles in the following manner:

Patient-centered principles: i) Patient-centered beneficence (that one's actions should benefit the patient (including both beneficence and non-maleficence)) and ii) autonomy (that the patient's right to self-determination should be respected.) Although Veatch does not address this issue, it is reasonable to assume that the health-worker has an equal right to be autonomous.

Collective principles: iii) "full beneficence", or "total utility" (that resources should be used to do the most good), and iv) justice. According to Veatch, justice implies, "that resources should be distributed to provide all with an equal opportunity for health". (Veatch in: McKenzie, 1990:189).

Another significant distinction between different ethical principles is often referred to as

³ Beauchamp, T and Childress, J.(1983). Tranoy (1991b) considers these four principles as an insufficient ethical fundament, especially for the health care system in Scandinavia. His first objection is that the principles are not specific for medical systems; they are general ethical principles, and as such too general. His second objection is that equality and solidarity with the worst-offs, should have been a part of the explicated ethical foundation, in particular in Scandinavia.

consequentialism versus non-consequentialism (or alternatively deontology, which means duty-based). In the following the major focus is on collective principles and the distinction between consequentialism and deontology.

3.3.1 Patient-centered beneficence

According to the classical Hippocratic Oath, the physician's main concern should be the current patient's health. In the Geneva Declaration, which is a modern formulation of the classical oath, this is formulated thus: "The health of my patient shall be my main consideration." (Tranoy, 1991)

Distribution is now dependent upon the principle of the current patient's priority. Tranoy writes, "The traditional ethics, obligates the physician to do what is best for the current patient. ... to violate this principle based on individual initiative and considerations would bring the doctor into a medical-ethical conflict" (op.cit.:137, my transl.)

This is also expressed in Veatch's distinction between patient-centered and collective-centered principles, which points out that distribution of the resources must be effected on a different level than in the dyadic relation between the physician and his patient. There is no sharp and obvious borderline, however, between the two levels. Tranoy writes: "the priority of current patient does not abolish the physician's duty to distribute his resources among all his patients in a reasonable way to the best of his knowledge". (op.cit.:137, my transl.)

3.3.2 Autonomy

Autonomy is generally understood as a form of personal liberty, where the individual determines his or her own course of action in accordance with a self-designed plan. The ethical principle of autonomy in health care charges that a person's right to self-determination (or co-determination) should be respected. This holds true for both the health-worker and the patient. While a physician may reserve himself against certain actions (e.g. abortion), a

patient should also have the right to determine whether or not to follow the physician's prescriptions.

This is a relatively new principle in Norway. The patient's right to say no to prescriptions is only 15 years old (Tranoy, 1991), and the debate over free abortion is notoriously topical. Making an absolute decision about whether or not a patient who consistently ignores medical advice should have equal rights to treatment has been a principal consideration. Quite analogous is the debate about the so called "self-inflicted" disease. When a heavy smoker invariably returns to the health care system in need of surgery, should there be any limits to the system's obligation to meet his needs? A Norwegian governmental committee responsible for formulating guidelines for distributive decisions, writes: "It is not justifiable to repeat such treatment for notoriously self-inflicted diseases in cases where it is obvious that the patient over looks the information and supervision, or directly opposes advice, that are given as a condition for treatment" (NOU 1987:23,p.86, my transl.). The consequences of enforcing the principle of autonomy are numerous considering resource distribution within the health care system. Both the physician's and the patient's opinions about needed treatment will affect the demand of resources.

Equality, need, and total beneficence

The following distinction between three groups of distributional principles, is frequently drawn (e.g. Elster, Winslow 1987, Tranoy 1991, Daniels 1985): i) maximization of equality in distribution of the good, ii) favor the group possessing least of the good, and iii) maximization of aggregate utility (total beneficence). In the following I will present the general theoretical traditions behind these principles, as well as some commonly assumed implications.

3.3.3 Full beneficence and consequentialism

The principle of full beneficence maintains that the benefits for all patients should be taken

into consideration, not only those concerning the current individual. According to Aristotle, "though it is worthwhile to attain the end merely for one man, it is finer and more godlike to attain it for a nation or for city-states." (Nicomachean Ethics, quoted in Sen, 1987:4)

The full beneficence approach is however most closely linked to utilitarianism, as first formulated by Hume, Bentham and Mill. In "Utilitarianism" (1863), John Stuart Mill formulated the utility principle, also called the "Greatest Happiness Principle", which holds that "actions are right in proportion as they tend to promote happiness, wrong as they tend to produce the reverse as happiness" (ch. 2). Mill also claims that "the happiness which forms the utilitarian standard of what is right is not the agent's own happiness, but that of all concerned." This principle works to acquire "the most good for the greatest number".

Input, according to this approach, cannot be judged good or bad in itself; output (the result), on the other hand, is the relevant criterion for evaluation. A principle of right and wrong should defend its ethical validity in accordance with the effects produced by its enforcement.

The notion that rightness or goodness of an action should be evaluated in terms of the consequences for all people affected is the essence of utilitarian ethics. Accordingly, it is both a full beneficence principle and a consequentialistic principle.

3.3.4 Justice and egalitarianism

The principle of justice, which has deontological characteristics, is the second collective-centered principle categorized by Veatch. Some definitions of justice will be discussed following a brief examination of the principle's deontological qualities.

Deontological thought emphasizes the rights of the individual, rather than focusing on the maximization of benefits for a majority (aggregate utility). Fundamental equity is central; the rights of individuals are uniform in importance and demand equal attention. Deontology proposes, a priori, that its maxims be considered ethically correct. Because deontological

precepts are not subject to considerations about the consequences of their enforcement, they must be upheld without exception, as with Kant's categorical imperative. It is, therefore, never justifiable to sacrifice any individual to increase overall utility; equality must prevail.

The concept of justice is closely related to equality, in the sense that justice is most frequently interpreted as fairness, and it is commonly considered as fair that people meet equal conditions (this is also frequently named egalitarianism). It is obviously crucial to define equality, not only because it is a concept with a variety of meanings (or interpretations), also because some definitions may collide with the notion of fairness.

When we say that all people should be treated equally, it is clearly not implied that all people are considered equal in all respects. There is a need for specification of the relevant respects. It may be fairly absurd to maintain that all people should have "equal health", or even "equal amounts of health care". A more practical interpretation holds that people who are equal relative to one another in some specifies sense (e.g. share the same disease) should be treated equally.

Beauchamp writes: "Many moral philosophers have argued that our basic notion of justice is more akin to the notion of fairness than to almost any other moral notion. While they are right to insist on the close conceptual connections between these terms, perhaps the single word most broadly linked to the general meaning of "justice" is "desert" (Beauchamp, 1983). Desert is the noun corresponding to the verb "deserve", and it is referring to a distributional principle holding that the amount of good (or burden) received should be proportionate to any given characteristic of the recipient. G. Hernes discusses the ambivalence in our conception of what is fair; according to him, we find it fair that people are treated as equals, while we at the same time find it unfair that all efforts are equally rewarded. (Hernes, 1976) The latter part of this emphasizes what usually is understood as a desert-principle; that it is fair that people are rewarded proportionately to their efforts (i.e. unequal). The notion of desert emphasizes equality in the rules of the game; equal rules, unequal rewards.

The concept of desert may, in relation to health care, be determined by need. The idea is that people deserve unequal amount of health care, and the deserved amount should be determined by need.

3.4 Implications

Principles for distributing health care may be categorized according to the role of respectively P, C, and V.

To give priority in accordance with P implies that the probability of effect of treatment is the ranking criterion. A reasonable interpretation is that cases with a high P have priority over cases with a lower P.

To give priority in accordance with C implies that the cost of a treatment is the ranking criterion. In this case, a reasonable interpretation of the criterion is that less costly treatments will be considered before more expensive ones.

To give priority in accordance with V implies that the ethical value assigned to treatment of a given individual is the ranking criterion. Compared with interpretations of P and C as ranking criteria, stipulation of values on variable V will to a greater extent vary. Some of the more frequent interpretations will be discussed in the following.

Dependence and independence of P and C

There are several P- and C-dependent interpretations of V as ranking criterion, as well as those that are P- and C-independent. Standard categorizations on priority-principles (e.g. Winslow 1987, Elster, and Beauchamp, 1983 and 1987), operate in accordance with the following egalitarian (E1 to E5) and utilitarian (U1 to U5) principles. Egalitarian principles are all independent of P and C, while some utilitarian are dependent on C and P.

Winslow (1987) lists the following categories of principles:

EGALITARIAN PRINCIPLES

E1 All or none.

"None Should be Saved if Not All Can Be Saved" (op.cit. p.88); J. Elster calls this "absolute equality" (Elster) This principle, interpreted ad absurdum, implies that if resources are scarce and all people cannot be given equal care, treatment should not be given to anyone.

However, there is a core in the principle "that bids us wait and ponder" (Winslow, 1987:89), because it emphasizes the morality in not "saving ever so many lives at the expence of even one innocent life" (op.cit.p.89).

On the other hand, it can scarcely be named a priority-principle, because the fundamental idea is that rank-ordering is wrong.

E2 Priority in health care given to the medically neediest

This principle is perhaps the egalitarian principle.⁴ According to Robert Veatch justice in health care implies that "we [should] target our efforts on the sickest" (Veatch, in Winslow, 1987). Several interpretations of Rawls' theory does also emphasize need as the most important criterion; an interpretation in accordance with the "difference principle" (See e.g. Daniels, 1989). The difference principle holds that people should be treated differently, proportionate to their holdings of "basic goods". Although Rawls himself did not consider health as one of the basic goods, this is a reasonable, and frequently made, interpretation.

⁴J. Elster does not include need in his list of egalitarian principles, although it may be seen as included in one of them, namely the "equal deviation from a baseline". However, he explicitly places need in another category, a group where different individual levels of welfare is the basis for distribution. (Elster)

The Norwegian Committee, which establishes priorities in the health sector (NOU 1987:23), also operates with need as the basic priority-criterion. Whether or not the individual is terminally ill and the degree of their suffering are the most important criteria in distributional decisions.

As the major egalitarian principle, the need-principle is intuitively attractive, especially when health care is the good to be distributed. There are, however, at least two frequently addressed problems connected to interpretation and/or implementation of this principle. First, there is the fact that "a group of the incurably sick, who are the most ill, must end up with all the medical resources" (Winslow, 1987:94). Secondly, a specific definition of "need" must be determined.

The collective agreement concerning who is the most needy is not obvious, as the legitimacy of a need is subjective; considerations of the legitimacy of plastic surgery may serve as an illustration of this. As Walzer puts it: "Despite the inherent forcefulness of the word, needs are elusive. People don't just have needs, they have ideas about their needs; they have priorities, they have degrees of need; and these priorities and degrees are related not only to their human nature but also to their history and culture." (Walzer, 1983:66) Definitions of need are also likely to vary according to budget, a feature demonstrated in the most explicit way by Oregon's ranking list of supplied treatments. If such treatments are considered a low priority on the ranking list, then supply would be endangered in the case of a weakened economy. The fact that priorities are explicated does not mean that Oregon is alone in making these priorities, it only means that the issue is made a public one.

Daniels (1981) tries to overcome the subjectivity problem in defining need; he remarks, "the suggestion here is that the needs which interest us are those things we need in order to achieve or maintain species-typical normal functioning" (p. 153. See also Daniels, 1985). It is interesting that, in The Social System (1951), T. Parsons offers a similar definition; according to him, "illness is a state of disturbance in the "normal" functioning of the total human individual" (p.431). There are two relevant objections to these definitions. First is the

reasonable possibility, mentioned earlier, that resources will be accumulated on the incurably ill; the group of people with less "species-typical normal functioning". The second is that the definitions of "normal functioning" is at best only slightly less subjective than definitions of "need".

Another objection is made by A. Sen. He (1990) argues that specifying means (such as "primary goods", "resources", or "income") for acquiring general welfare is not a sufficient way to bring that end into being. While Daniels (op.cit.) claims that "those things we need" include adequate nutrition, shelter, and sanitary conditions, Sen argues that, "neither primary goods nor resources, more broadly defined, can represent the capability a person actually enjoys" (p.116). Sen thus asserts that capability should serve as the basic criterion for assessing distributive justice.

E3 To the most helpless or generally neediest

The principle of "women and children first" is a variant of this criterion. It expresses the idea that those least able to help themselves should be helped first. Selecting people according to specific status marks may belong to this line of thought. Giving priority to someone on the basis of given characteristics may, in fact, be based on the idea that the characteristicum is an indicator of general need. "General need" must be defined; as Winslow points out, however, "the very nature of the principle...tends to make arrival at definite conclusions difficult at best" (op. cit. p.98). If it is difficult to establish intersubjectively accepted definitions of medical need, it becomes nearly impossible when it comes to general need.

E4 To those who arrive first

Also known as the queuing principle, this is one of the major principles used in Norway for health care distribution (or any public health care system). When considering one sector at a fixed time, it is reasonable to maintain that, because people will have to wait approximately

the same amount of time, this is an equality-based principle. If, however, one considers different sectors and different times, it becomes apparent that people will be treated highly unequally. There may be two year waiting lists for some treatments and two week waits for others.

However, hardly any distribution of scarce resources will avoid an element of a queuing criterion. The very fact that there are more than one person in the demanding group implies that some form of queuing is always necessary. It is the organizing of the queue that will vary in accordance with other specified criteria. The principle of e.g. need-based priority implies that people are ranked in a queue according to their needs.

Principle E4 may thus be interpreted in different ways, the most literally that there are no other specifications than time of arrival.

E5 To those selected by chance

In one respect, this principle is highly similar to the queuing principle; in another respect, it is very different. In the sense both principles are based on equality in rules; that everybody is confronted with the same rules of the game, the rules of selection in both situations are equal. The fact that none of the principles are explicitly concerned with varying needs also holds true in both situations. These similarities have led many to consider queuing roughly equivalent to lottery-selection. There is, however, one important difference. If the degree of seriousness of an illness is a function of time (as it is in many cases), then the queuing principle will yield priority according to need; the lottery principle does not achieve this. A lottery will select blindly among ill people without considering their individual circumstances, while the queue (in principle) selects the most ill.

UTILITARIAN PRINCIPLES

All of the utilitarian principles are based on an incrementalistic line of thought (Elster, pp.98-); that is, they all serve as distributional guidance for maximizing the total good. The idea is that health care should be distributed such that it produces the greatest increment in welfare. As opposed to the egalitarian point of view, these principles opens up for sacrificing few for the benefit of many.

Before the presentation of the principles U1 - U5, a comment on the principle of Pareto-optimality is relevant. The link between this welfare principle and utilitarian theory is close; Pareto-optimality is perhaps the principle in welfare-economics. The principle states that a distributional situation is optimal when no redistributions can be made without making any actor (group of actors) worse-off. It is, however, regarded as a weak principle; there is no specification of how initial resource-distribution should affect interpretation (or implementation). A.Sen writes: "A state can be Pareto-optimal with some people in extreme misery and others rolling in luxury, so long as the miserable cannot be made better off without cutting into the luxury of the rich. Pareto optimality can, like 'Caesar's spirit', 'come hot from hell'." (Sen, 1987:32)

The principle expresses the equality of individuals in the sense that it is never ethically legitimate to sacrifice some for the benefit of others. Interpreted this way the principle has deontological characteristics, - and conservative effects. And most welfare economists feel uneasy about it: "We cannot indeed make a change that does not hurt someone; but we can still desire to change to another allocation if the change makes enough participants better off and by so much that we feel that the injury to others is not enough to offset the benefits." Says K.Arrow. (1963:942) This opening for an aggregate utility consideration follows from the utilitarian point of view, and the Kaldor-Hicks criterion is probably the most well-known modification of the pure Pareto-principle. The latter states that redistribution may be considered good without being Pareto-optimal.

In the following part, some frequent implications of a utilitarian line of thought is presented. The principles are distinguished according to the role of P and C.

P- and C-independent utilitarian principles

The following principles, U1 - U3, are independent of P and C and require that treatment be given:

U1 To those most useful under the immediate circumstances

This principle has particular relevance in medical disasters and during war-time (Winslow, pp.70,71). It is also used in planning for possible disasters, e.g. the anticipated San Francisco earthquake. The idea is that some people are more useful to society than others and that favoring those people will increase the common good. Doctors, for example, would be favored in a disaster situation because, in that situation, their skills are more valuable to the collective. According to Winslow, this principle is of greater relevance in disaster situations than in the allocation of scarce new medical technology (Winslow's subject of interest). The same may also hold for distribution of health care in general.

U2 To those who have the largest responsibilities to dependents
and

U3 To those who have the greatest social worth

All these three principles (U1-U3) are based on a concept of social value; on the idea that priority for treatment should be given to individuals who have exceptional social worth. Interpretations of these principles are relative to the definitions of "responsibility", "immediate usefulness" and "social worth"; and the more generally formulated the less easy to interpret intersubjectively.

However, elements from this view may play a role in actual decisions. E.g. the situation that maternal mortality is approximately zero, while the mortality rate for newborns is .8% in

Norway, may be due to the fact that mothers are given priority if the situation calls for choice. This is not unreasonable to interpret as an example of a social worth criterion; that mothers are considered to have greater social worth than babies, e.g. larger responsibilities to dependents.

P- and C- dependent utilitarian principles

Principles U4 and U5 are dependent on P and C and require that treatment be given:

U4 To those most likely to recover

and

U5 To those who require proportionately smaller amounts of the resources

U4 and U5 are similar in the sense that they are exclusively based on either the probability of positive effect (U4) or cost (U5). In the decision model presented above, these two principles would imply that the value on V equaled 1. In addition, the basis for U4 implies C=1 and the basis for U5 implies P=1. The priority strategy following from U4 would be: (max)PV/C, where V=1 and C=1. The priority strategy following from U5 would be: (max)PV/C, where P=1 and V=1.

PART 4. VALUES ON VARIABLE P, OR:WHAT IS THE EFFECT OF A TREATMENT?

P is defined as "the probability of positive effect of a treatment". "Positive effect" is the end, while "the treatment" is the mean.

There are contrasting formulations concerning the goals for medical activity (the health care system's activity); whether the formulations are general or specific, ideal (maximalistic) or pragmatic varies greatly. A general, but relatively uncontroversial formulation declares that the chief purposes must be to fight illness and to promote health⁵ (NOU 1987:23). A more specific definition is needed to estimate the effect of treatment.

Specifications of the objectives are generally connected to specific sectors. The following example can be used to illustrate some of the difficulties one might experience when stipulating the effects of treatment.

In Norwegian perinatal care (care during pregnancy and birth), the principal specified end is to reduce mortality. During the last decade there has been only one reported maternal death in Norway (St.m.om helsetjenesten mot år 2000); the rate of infant mortality, however, remains relatively high in relation to statistics in other Scandinavian countries (NOU 1984:17, NIS report 7/82). The reduction of mortality among newborns has therefore become a main goal for Norwegian perinatal care. (Although the Norwegian figures are low compared to most countries in the world)

The difficulty in dealing with Norway's infant mortality problem is that no systematic trend between the composition of care and mortality rates can be observed; to understand and cope

⁵This formulation may, however, easily be given a maximalistic interpretation when e.g. based on WHO's controversial concept of health :"health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity".

with the problem, one must first understand the relation between the means (the care given) and the end (reduction of deaths among newborns). An example of this is the difference between perinatal care in Sweden and Japan; which are the two countries with the lowest perinatal mortality in the world, and very different organization of perinatal care.

Many people claim that ends in medicine are not realized because budgets are limited. According to NOU 1987:23, "one of the modern myths physicians have succeeded in making laypeople and politicians believe [is] that all health problems could be solved if enough were invested" (p. 72). That budgets are "sufficient" is definitely important; it is important to note, however, that financing is not useful unless one has an understanding of the problem one must solve and an idea about steps that must be taken to alleviate that problem. In other words, budget is irrelevant if the effects of the means on the end are not known.

A thorough understanding of a problem is vital when stipulating the effects of the means on the end. It is quite difficult to establish relationships between input and output when the goal is to lower death-rates, and even more burdensome when attempting to "maintain/raise the quality and joy of life, based on optimal function given the individual resources" (NOU 1987:23 p.67, my transl.). The problem of documenting effects is also apparent in development of preventive medicine. It is, however, reasonable to require the consideration of both objectives. To give priority to treatments in situations where P is highly uncertain, V can be assigned relatively higher values. An (implicit) stronger weighing of V is probably what characterize actual decisions in uncertainty situations.

In conclusion; the stipulation of values on P involves the specification of a production function where the functional relationship is stochastic.

Apart from the stochastic nature of the relation between means and ends, time will also make the estimation of values on P difficult. Two aspects are in particular relevant: First the fact that P is itself a function of time; which means that the probability of effect will vary

according to when the treatment is given.

The second time-related problem for stipulation of P is that disease-patterns vary over time. Medical knowledge, as well as the production technology are adjusted to the demands of yesterday, due to the change-resistance that characterizes both knowledge and physical capital. This may in particular have substantial impact on stipulation of P if there are strong interests linked to certain ways of doing things; which implies that there are interests in stipulation of P. This can either be represented by professional groups, e.g. physicians or the pharmacological industry, and/or by politicians and managers. (The reasoning is of course only valid in the likely situation that the value on P is relevant in the priority-consideration.)

Finally, the categorization of diseases is an interesting part of how P is stipulated. Given a certain disease-pattern on a fixed point in time, there are several ways of defining categories, and diseases belonging to these categories. Possibilities of "speculative adjusting" exist; transfer of resources in the health care sector is largely based on disease categorization. Both the DRG-system, and the priority listing made in Oregon, are examples on this. A slightly different categorization is classes of treatments, in Norway poli-clinical and general health care will partly receive financing on basis of what kind of treatments are supplied. Not only producers in the sector will have strong interests connected to the categorization; the patients probability of receiving treatment, what kind of treatment, and when, - is affected by what category the given person is grouped in.

PART 5. THE VALUE ON VARIABLE C,
OR: WHAT IS THE COST OF A TREATMENT?

Professor Tranoy writes: "From the current debate, one gets the impression that there is a necessary and inevitable conflict between a good health policy and reasonable economic policy - as though health care only can be optimized when it's independent of economic constraints. ('It is absurd that economical and not medical concerns shall govern the activity'.) Not least doctors tend to believe that combined considerations on health and economy in itself is immoral. Such attitudes may easily serve as justification of the view that the cost of an important treatment is irrelevant in decisions on whether to use it or not. Today it should be clear that this view is fallacious. Although needless to say, I'd like to remind the reader that the fallacy of the view since long effectively has been shown, ... the main conclusion is that utility considerations without cost considerations implies accepting the principle that 'as long as one person will benefit from the treatment there may be no limits on renunciations others will have as a result of this'. This is not an ethical view, but fanaticism." (Sosialøkonomien, no. 11, 1986)

Inclusion of the cost variable in judging the fairness of a specific distribution is thus central. In the model presented in this paper, costs are treated as given measures, in the same way as medical effectiveness (P) is. P is based on medical evidence, C is an area for economists. But from the previous discussion it may be concluded that not all parts of P stipulations are purely descriptive and scientifically or politically uncontroversial, and (of course) neither so for stipulation of C. It is however likely that normative and uncertainty elements play a less dominant role when calculating prizes than calculating probabilities of effect.

The cost of different treatments will serve as basis for considering the alternative usage of the resources. It is therefore crucial that the cost of a given treatment is correct; in the sense that estimated cost expresses the actual amount of resources spent. Without this it will be absurd to compare the costs of different treatments. Another necessary condition is that costs are calculated as the cost for the society.

PART 6: SUMMARY

A presumption in this paper has been that the study of ethical values as basis for distributional decisions in a public system is central, as these values serve as one basis for distributional policy. I have ignored the implementation part of the problem, not (only) because a rational description of a system becomes indeed less rational once realities starts to play their part. I have argued that even though major obstacles for realizing ends in the public health care may lie in the organizing of the system, there is still a need for considering the ends. An organization promoting effective implementation is of little use without specified ends.

I have distinguished between three parts of the decision problem; three parts that any consideration of distribution of health care will consist of. These three are: The price of a given treatment, the probability of effect from the treatment, and the ethical value assigned to that a given individual receives treatment. (The disease- or need-pattern is considered as given.) In most distributional decisions the ethical value element is the less explicit part; and understandably so. Most people will avoid direct confrontation with the sometimes tragic implications of distribution of scarce resources. I have argued that even if this part of the problem is ignored by actors in the system, it is still a part of the problem; priorities imply that some are not chosen.

So, the discussion in this paper has concentrated on two parts: First, the formulation of a reasonable relation between the elements in the decision problem. An assumption was that although it is not obvious how values on P and C should be stipulated, these stipulations are remarkably less controversial than stipulation of values on V. The second part of concentration was therefore presentation of some frequently stated ethical principles for distribution.

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