Rapid developments in medicine and medical technology during recent years have created a variety of ethical dilemmas including the allocation of limited or scarce resources such as money, instruments, medications, health-care facilities, time and manpower. This is quite a new dilemma, which has been created due to the advancements in very expensive scientific and technological measures.

No country in the world can provide all the medical needs for all its citizens. Therefore, public policies relating to priorities in allocation have become necessary. The issue is both economic – how to allocate the limited resources most beneficently, and ethical – how to allocate these limited resources in a most equitable and just manner.

There are two different aspects to this issue:

- **Macro-allocation** -- involving society as a whole; and
- **Micro-allocation** -- involving individual health care providers.

In this article I shall discuss the *macro-allocation*, namely the ethics of the distributive justice of limited societal resources, general health-care policies, and the effects of budgetary and economic decisions on medical practice. The dilemmas and solutions concerning situations of *micro-allocation* and triage decisions are quite different and deserve a separate and specific discussion.

**HISTORICAL BACKGROUND**

In the past, in the developed world, if a medical treatment or intervention for a patient was considered useful, it was done. The questions at that time were whether or not the procedure was beneficial, safe, and widely accepted. Nowadays, because of rapid advances in medicine, additional questions of feasibility and cost exist because much of medicine is now based on technology, instrumentation and manpower, all of which are very expensive (1).

The equitable and just distribution of limited medical resources has become increasingly difficult, because while in situations of poor health standards a small investment can produce significant benefits, in situations of high health standards large investments may produce little benefit. The ethical and practical issues related to allocation of scarce resources have multiplied significantly because of the achievements of modern medicine:
Modern medicine has increased people's life expectancy. Increased life expectancy in this century has aggravated the problem of allocating scarce resources because people over 65 years of age account for 12% of the population but utilize one-third of all health resources in the United States (2). This is the result of increasing numbers of patients with chronic and debilitating physical and mental disabilities.

Modern medicine has enabled the survival of many defective and prematurely born infants, requiring long and expensive diagnostic and therapeutic interventions.

Modern medicine has made available complicated and expensive new technologies and treatments such as resuscitation and ventilation, organ transplantation, and in-vitro fertilization.

Modern medicine is based upon complicated, prolonged and expensive basic and clinical research.

Modern medicine includes large-scale preventive medicine. All these are very expensive and require a system of priorities. In addition, there are worldwide budgetary and economic restraints which have negative effects on all countries' ability to provide adequate and universal health care to their populations. In poor nations, serious problems of hunger, unemployment, lack of housing and population explosion exist in addition to medical needs. In developed countries, people seek a very high and expensive standard of living; hence, medical expenses are only a small portion of the total societal needs.

In recent years, the fraction of gross national product (GNP) devoted to medicine has risen significantly, more than any other economic index. In 1990, the United States spent $2,400 for each citizen for health care (2) despite the fact that only a small fraction of the population has government insurance, most having private insurance or no insurance at all.

**POSSIBLE SOLUTIONS**

Undoubtedly, no country in the world can provide for all the medical needs of all its citizens in an equal manner. Therefore, every country must:

- ration the ultimate allocation for health care
- develop a system of priorities of needs and of people to receive those services
- develop systems of public or national health insurance.

Some authors have suggested optimal criteria for a morally defensible health care system, which include the following characteristics:

- the health care system must be clear and understandable to the citizens
- the health care insurance has to be universal, covering all citizens without any discrimination based on income, employment, age, or social status
- the medical coverage should be comprehensive, including psychiatric, geriatric, dental and preventive services
- the health care system should include measures for cost containment, such as the provision of incentives for cheaper treatments, and counter-incentives for unnecessary expensive diagnostic and therapeutic interventions
- the system of payment for the health insurance should be fair and progressive
- the health care system ought to create satisfaction both for the patients and the health care providers.

In any case, an optimal health care system should secure an optimal standard of care for individual patients, decreasing the danger of sacrificing individual patients for the common needs.
In addition to creating an optimal health care system, there are various ways to reduce cost even within the existing systems:

- **educate health care providers** to consider the economic and fiscal impacts of their actions, i.e., to use the most cost-effective strategies in diagnosis and treatment.
- **avoidance of practicing defensive medicine**, coupled with public-legal awareness of the damaging effect of too many unnecessary malpractice litigation and overly high compensation awarded to litigants
- **reduction of administrative expenses** and manpower and elimination of duplicate medical services of departments and hospitals
- **careful and proper allocation** of limited resources as well as **efficacious use** of manpower, location, time, and medical supplies.

There are important differences between vital medical services and other major needs to sustain the general health of the population, and needs and aspirations for maximal medical benefits to merely improve convenience and quality of life. In the first category, **full equality** is an ethical imperative, whereas the latter category is not different from housing, clothing, education and their like, in which **no equality exists** in any western society. Hence, one has to distinguish between pain relief medications for transient minor illnesses and medications for life-threatening diseases; elective plastic surgery to improve one's external appearance differs from heart or cancer surgery. Indeed, health is an important goal and, in the eyes of the public, more important than other needs. However, even within the health care system some needs are greater than others. Much of health care needs are actually needs of general well-being. Hence, society should be obligated to supply basic and vital health care needs to all its citizens equally; however, **services for well-being should be widely and equally accessible for all citizens but the actual achieving of these services should be the personal responsibility of individual people according to their own priorities and means.**

A general public health approach must **pay attention and provide for** the following:

- medical interventions for situations of danger to life, serious illnesses, significant disabilities, or great suffering
- prevention of environmental hazards and infectious causes of disease
- preventive medical service in all its aspects
- preferential consideration for the poor and underprivileged
- applied practical research.

On the other hand, other health care needs (which are basically no different from needs for housing, clothing, education, etc.) should be provided for adequate payment or private insurance, knowing well that it will result in non-equitable distribution. This social non-equitability is a result not only of the economic differences between people, but also because of different preferences and attributed importance to various needs in life. Such inequality exists in all spheres of life, and there is no ethical reason to prevent it only in health care services, provided these are of no vital importance.

The ethical considerations are discussed at length in the literature. A detailed analysis of the ethical principles related to this issue is beyond the scope of this article.

**CURRENT NATIONAL SOLUTIONS**

Many western countries have revolutionized their obsolete care systems. **Universal national health care insurance** for all citizens is provided by only a small number of countries. This universal health coverage has lowered the death rate but has not
solved, and may at times even exacerbate the dissatisfaction among patients because of the tendency to lower the standard of care to a lower common denominator and the creation of lengthy waits for diagnostic and therapeutic procedures, including surgery. Hence, in spite of the varied health care plans and many attempts to design and to secure ideal health care insurance -- whether national, public or private -- none has succeeded so far to fulfill completely the desired hopes.

A novel approach to control health costs and to resolve the problem of limited medical resources is that of the State of Oregon in the United States (3). The goal of the Oregon plan is to provide the basic medical needs of all Oregon's poor people, by restricting the amount and the type of medical services rendered by the government to the general population. This was achieved by encoding a list of priorities of all medical services and interventions, based on their medical importance, their outcome for survival and quality-of-life measures, and their economic cost. The list was prepared after in-depth discussions and consultations with medical experts, as well as getting public input by opinion polls and public meetings. In 1991, a priority listing of 709 specific medical services was published by the State of Oregon. The State agreed to cover the medical expenses for the poor only for the top 587 items. The Oregon plan, however, has been strongly criticized from practical and ethical viewpoints. It was found that there are insufficient data for prioritizing medical services based on cost/benefit considerations, and indeed, distortions in the priority listing were enumerated by many investigators (4). There is an on-going effort by the state of Oregon to improve the system.

**JEWSH APPROACH**

Issues of scarce medical resources from a public point of view are not dealt with directly in Jewish sources.

From a philosophical viewpoint, one of the fundamental questions concerning the allocation of scarce medical resources is whether society is a separate entity with its own interests, or whether it is only the sum total of all the individuals that comprise it. If the latter is true, each individual has the right to demand that all his needs be met even if society must make large expenditures and ignore other goals. If society is a separate entity, it may ethically allocate resources to the public good including highways, parks, museums and their like even though many individuals may suffer from insufficient medical services.

In Jewish thought, society indeed is a separate entity and has its own set of ethical and legal standards.

**1. Original halakhic sources**

The main talmudic source concerning the public allocation of limited resources is the law that captives may not be redeemed for more than their worth ‘for the good of society’ (5). The Talmud justifies this ruling with two reasons:

- society should not become impoverished by paying expensive ransom demands, thereby not having adequate funds for other needs
- so as not to encourage kidnappers to take more captives to extract money from society.

The difference between these two justifications in practical terms concerns the question as to whether or not an individual is allowed to pay a large sum to redeem a relative or friend. If the concern is impoverishment of society, he is allowed to do so; if, however, the concern is to discourage kidnappers, he is not allowed to do so, because he would thereby encourage more kidnappings.

In applying this talmudic source to the question of public allocation of scarce medical resources it is important to answer two questions:
• Which of the two justifications is the decisive one?
• What are the conditions and the characteristics of the captives?

1. Some Rabbis write that the Talmud has not resolved the question as to which of the two reasonings is the decisive one and, therefore, both apply. Other Rabbis use other talmudic sources to prove that the main reason is to discourage kidnappers, whereas others state that the main concern is to avoid impoverishment of society.

2. Concerning the condition and the characteristics of the captives -- some Rabbis distinguish between an individual and society in that the former is obligated to expend all his funds to ransom a relative but society is not so obligated, because society's impoverishment is a form of danger to many lives. Some Rabbis state that where the lives of captives are in danger, society has an obligation to ransom them for more than their worth. Other Rabbis, however, disagree. Hence, the biblical injunction ‘do not stand idle by the blood of thy fellowman’ applies only to individuals but not to society as a whole (6).

Another talmudic source is the case of two towns with a single water supply. According to one talmudic opinion, the closer town is allowed to use the water not only for drinking but even for washing laundry, to prevent disease later in its inhabitants, even if it thereby deprives the other town of its necessary drinking water supply (7). Thus, society (i.e., the whole town) must take into account future needs and possible occurrences even if it harms or interferes with present needs of other individuals (8), since societal needs are defined as situations of danger to lives in a much broader definition of the term as compared with individuals. However, according to some interpreters, the situation discussed in this talmudic source relates to a condition where the inhabitants of the second town can get water from a distant well or can move to another location. Hence, the situation is not related to possible danger to life but rather to discomfort (9).

2. **Current halakhic opinions**

A current rabbinic opinion states that society should give priority to basic needs of all its citizens, particularly needs that impinge on danger to life. Such needs should take priority over medical research and future medical progress. Accordingly, society is allowed to set new policies for allocation of its resources even if it changes current policies, and even if future citizens may not receive certain benefits currently being provided. However, society cannot take away or terminate benefits and services already being supplied to patients, such as closing wards or hospital beds currently occupied by patients who need those services. It can establish policies that might affect future patients but it cannot ignore present and immediate danger to patients in need of acute medical care. Society should also allocate resources for preventive medicine including education about smoking cessation and good eating habits. Also, screening programs for the early detection of serious illnesses are worthy even if funds for future medical and surgical therapies may, as a result, not be available since preventive measures may save many more lives than the treatment of individual future patients (10).

It should be emphasized that the above discussion relates to the assumption that there is indeed an actual scarcity in medical resources. However, in practical terms one should be cautious in applying these regulations. It is well known that much more can, and should be done to distribute the available resources in a more efficient and just manner. In too many instances we are witnessing inefficiency and waste of money and other resources, both in the general expenditure of governments and institutions as well as in the medical spheres. From a Jewish as well as secular ethical
point of view one is justified to apply restrictions on the medical needs of individuals only if one is satisfied that indeed there is no other choice. In my view, in most instances this is not yet the case.

REFERENCES
5. Babylonian Talmud, Tractate Gittin 45a.