Rationing and critical care medicine

Nicholas S. Ward, MD; Mitchell M. Levy, MD

As healthcare expenditures have continued to grow in the United States and elsewhere, the demand for cost-cutting measures has increased. This has led many to wonder if we are, in fact, rationing health care. Critical care is characterized by very high expenditures on a relatively few number of patients, many of whom do not survive, and it is therefore a likely place where rationing could occur. Although much has been written about the concept of rationing, there are few data about the practice, with the exception of studies that examined triaging in the intensive care unit. Research in this area is greatly hampered by the fact that identifying rationing can be very subjective given the relatively inconsistent methods by which critical care is actually practiced and the lack of a clear definition of rationing. This article reviews the concept of healthcare rationing by exploring the many different definitions and methods by which it could occur and the ethical principles underlying these methods. In addition, we review the pertinent literature on resource allocation and rationing in intensive care units. (Crit Care Med 2007; 35[Suppl.]:S102–S105)

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Healthcare expenditures in the United States have experienced almost continuous annual growth. Statistics from 2004 (the latest available) showed an annual increase of 7.9% from the previous year, making total U.S. healthcare expenditures $1.9 trillion, or 16% of the gross domestic product. This has led many to wonder if such large amounts of spending on health care can be sustained (1). Concurrent with these spending increases have been efforts to reduce costs. A prominent example of this is managed health care, which became widespread in the 1980s. Managed care sought to limit healthcare expenditures by processes such as collective bargaining, increased efficiency, and promotion of cost-effective medical practices. Soon after the arrival of managed care, many in the medical community began to wonder if this emphasis on cost-effective medicine might progress to actual rationing of healthcare services. Evidence of this concern can be seen in a large number of articles published in medical journals discussing the topic and several position statements by professional societies (2–12).

Intensive care units (ICUs) have always been places of high resource utilization and high expenditures, and it has been estimated that critical care medicine costs alone are approximately 0.56% to 1% of the gross domestic product (13, 14). In addition, ICU utilization has steadily risen in recent decades, driven by an increase in beds and occupancy. Halpern et al. (14) estimate that between the years 1985 and 2000, ICU costs increased 190%. Several aspects of ICUs make them likely to be places in the healthcare system where rationing might take place. First of all, they are characterized by a very high ratio of resources used per patient treated. First of all, they are characterized by a very high ratio of resources used per patient treated. In addition, many of these patients are at the end of their lives, and many of the high-expense therapies (such as pulmonary artery catheters) do not have good supporting efficacy data and thus could be legitimately withheld on the pretext of cost-effective medicine. Lastly, ICUs represent a potential source of rationing because they are limited in size, and thus, access to them could be rationed if not enough beds were available to all who qualified for admission. This article will briefly review the complex concept of healthcare rationing in general and explore the existing literature on rationing critical care.

Defining and Identifying Rationing

Rationing of critical care could occur in a number of ways and at several levels. First, healthcare providers potentially could ration care through treatment decisions made at the bedside (bedside rationing). An example of this would be a physician deciding not to use an expensive medication on a patient because the potential benefits were outweighed by the costs to him or his institution. Second, administrators could ration the amount or use of expensive medications, devices, or procedures (rationing by allocation). An example of this would be having a small number of hemodialysis machines and setting a rigid criterion for who gets them. Third, a limited number of ICU beds could lead to the need to triage the use of ICU beds (rationing access to care). An example of this would be not admitting a potentially unstable patient who would normally be admitted because of lack of ICU beds.

Although much has been written in recent years about the concept of rationing and the multiple ways in which it can occur, there has been little objective evidence of actual rationing or its consequences within the healthcare system. Research on rationing is hampered by variability in how the term is defined (7, 15). Some authors have defined rationing as occurring only when something important or essential has been denied, whereas others define rationing as withholding any therapy that may confer benefit. Similarly, some authors argue there must be a direct observable link between the resource saved and the resource denied, whereas for others, the shifting of

From the Department of Pulmonary and Critical Care Medicine, Brown Medical School, Providence, RI. Dr. Levy has received honoraria and grants from Eli Lilly and Company, Edwards LifeSciences, and Philips Medical Systems, and grants from Novartis and Biosite, Inc. Dr. Ward has not disclosed any conflicts of interest. Copyright © 2007 by the Society of Critical Care Medicine and Lippincott Williams & Wilkins DOI: 10.1097/01.CCM.0000252922.55244.FB
resources can be indirect. The very concept of practicing cost-effective medicine implies a certain component of rationing. If the cost were lower, a given therapy would be used. That is a form of rationing.

Complicating matters even more is the fact that there are many instances in medicine in which not everyone would agree on the potential for benefit. This makes objectively identifying a true rationing decision very difficult. For example, when a doctor does not order a second computed tomographic scan for his patient with a stroke, is it because the doctor thinks it confers no potential benefit (a medical decision) or because the potential for benefit is outweighed by its cost (a rationing decision)? Some would argue that anytime a therapy or test is not given but would be if it were free, a rationing decision has taken place.

Ethics of Rationing

The ethics or morality of rationing is often debated. Although most would agree that rationing any resource in times of scarcity is simply an act of necessity, the manner in which it is carried out can be the subject of much ethical debate. There are many different potential ways in which resources can be rationed, and in any system of rationing, different needs can be emphasized or de-emphasized. Influenza vaccine is often rationed by need; those with poor health or lung disease get it first. This is a welfare system of rationing; those who need it most get it first or get more. There are many other systems of rationing, however. In Tennessee, a state-sponsored healthcare plan offers free health care for many who cannot afford it but limits each person to five medications. This egalitarian approach emphasizes the rights of all individuals to equal benefits but does not give extra resources to those who need more. The Veteran’s Administration offers health care only to those who served in the military, and this can be construed as a merit-based system of rationing. For the millions of Americans who cannot afford health insurance, there is rationing by financial status.

There is some evidence to suggest that getting people to agree on any one form of rationing would be a difficult task, as illustrated in a study by Ubel et al. (8) in 1996. This study examined society’s view of using cost-effectiveness analysis to distribute resources. Using cost-effectiveness is a form of rationing that seeks to do the most good for the most people (often called a utilitarian system of rationing), and many Americans favor this philosophy or at least aspects of it. In their study, however, when three different groups of people were asked about hypothetically distributing healthcare resources by either utilitarian principles (only half the population gets a special test but more overall lives are saved) or by more egalitarian principles (all people get the same care but fewer lives are saved), the respondents were almost equally divided on how to ration.

Is Demand Exceeding Resources?

Several studies published in the last several years suggest that current trends in ICU resource utilization may necessitate future rationing because of escalating financial and manpower demands. These articles use national or regional statistics from the United States and Canada to demonstrate an increasing use of ICUs and the expensive technologies associated with them. Two articles from Needham et al. (16, 17) in Canada explored the use of mechanical ventilation. In their first study, they showed a steady rise in the use of mechanical ventilation in Canada between 1992 and 2000 (16). They found that in those years, the crude and adjusted incidence of mechanical ventilation had gone up 9% and 2%, respectively. Furthermore, the percentage of inpatient days that are ventilator patient days increased by 69%. The authors point out that these levels of ventilatory utilization are similar to published data from several other countries, including Germany and the United States.

In a follow-up study, the authors combined these data with population projections to estimate what the needs for mechanical ventilation would be in 2026 (17). Their analysis suggests that, if present trends continue, there will be 80% more patients on ventilators in 2026 than the year 2000. In discussing the significance of this finding, the authors point out the need for those who allocate resources (the government in their case) to begin planning for this eventuality. Interestingly, the authors then go on to suggest that in the future, the government may have to consider “appropriateness of care [as] a key decision for policy makers in allocating fixed resources to maximize the overall benefit to all patients.” They conclude that “further research on appropriateness of care is necessary.” This is a notable phrase because it essentially suggests ventilators may have to be overtly rationed in the years to come.

Two studies by Angus et al. (18, 19) also suggest a coming crisis in critical care resources. In 2000, they published an analysis of the critical care workforce and concluded that unless many more intensivists are trained in the next decade, there will be a significant shortage of these physicians as the population ages and the use of ICUs increases (18). In a related article in 2004, they analyzed the growing use of ICUs for dying patients, a practice that consumes a very large amount of financial resources, and concluded that if this trend of increasing ICU utilization for dying patients continues, significant problems would occur, “unless the healthcare system pursues rationing, more effective advanced care planning, and augmented capacity to care for dying patients in other settings” (19).

Studies on Rationing in American ICUs

To date, little has been written about actual rationing practices within ICUs. We conducted a survey of the membership of the Society of Critical Care Medicine in 2001 to gather preliminary data on perceptions of rationing practices. Of approximately 500 subjects who responded, 84% said they believe their hospital rations the use of some medications, procedures, or other resources. This survey did not explicitly define rationing and did not limit its occurrence to the ICU. In addition, 54% of respondents said they would withhold a medical therapy that would be of some benefit to a patient if they thought the financial costs outweighed the medical benefits (20). We have recently completed a larger national survey of ICU physician and nurse directors that clearly defines rationing and is limited to ICU practice only.

In the last two decades, a number of articles have been written about the practice of ICU bed allocation, and these articles were the subject of a meta-analysis in 2004 by Sinuff et al (21). The authors identified ten studies from seven different countries that address this topic. Unfortunately, the studies used different groups of patients for analysis. Five studies looked at everyday triaging decisions comparing those admitted to the ICU vs. those who were not. Analysis of these
decisions showed that patients not admitted tend to be patients with a higher mortality rate, who are older, and who have more severe illness. The other five studies looked at triaging and outcomes in times of reduced bed availability and found that when ICU bed availability is low, patients tend to have shorter ICU stays and are less commonly admitted for observation purposes. Patients not admitted in these situations also tended to be older and sicker.

These results stand somewhat in contrast to a survey done in 1994 by the Society of Critical Care Medicine in which critical care practitioners were asked about the criteria they would use to triage patients to the ICU in times of bed scarcity. In that survey of hypothetical practices, old age ranked very low as an important factor (2). This discrepancy may be the result of physicians being unwilling to admit others (or to themselves) that they use age as a factor in rationing. However, this discrepancy may be somewhat artifactual as critical care physicians in the 1994 survey did say that chronic illness, poor quality of life, or nonreversible illness were important triaging or rationing characteristics, factors that tend to be associated with old age.

Rationing Critical Care Across the World

Although much has been written about the use of critical care and ICUs in Europe and North America, less has been written about their use in Africa, Asia, and South America. For the most part, critical care is a new arrival to the healthcare systems of many countries that do not have the massive healthcare budgets of the richest nations. In many of these countries, rationing of all health care is an everyday occurrence. Nevertheless, tremendous insight into the manner in which critical care is practiced and rationed in these countries can be gained by reading several informative articles. Two recent articles by Sirish Prayag (22) and Kapadia et al. (23) discuss critical care in India, a country that struggles to care for >1 billion people. Unlike western nations, India’s government contributes relatively little (about 20%) to overall healthcare expenditures. Most care is paid for out of pocket by individuals at for-profit centers or at smaller community hospitals. ICUs exist in most hospitals, but their costs are prohibitive to many. Smaller government healthcare centers are available for poorer people but tend to have fewer ICU beds, so rationing by access to critical care is common as well. Most of the rest of Southeast Asia is also characterized by similar systems of regional tertiary care centers that have state-of-the-art ICUs but limited access to poorer people or rural people based on costs of care and access to the beds (24).

Conclusions

In the coming years, rationing will undoubtedly become a major consideration in health care as costs become extremely burdensome to even the richest nations’ economies. It is important to realize, however, that rationing of health care already exists on a massive scale in the United States and many other countries—48 million Americans currently have no health insurance and so are denied key elements of their own health care that are available to others. Rationing occurs in other ways as well. Before the recent Medicare medication plan, millions of Americans had to pay for expensive medications on their own, and many were rationing themselves by either not taking some medicines or by taking less of them. Even with the new medication benefits, there can be large co-pays that are prohibitive to many.

Physicians and other healthcare personnel who work in ICUs need to be cognizant of their place in the overall healthcare system. Although we care for only a small fraction of patients, their care amounts to $180 billion annually (25). In all likelihood, ICUs will soon represent a very important battleground in the inevitable healthcare spending limitations of the future. From an ethical standpoint, this will represent a direct confrontation of the two main ethical principles guiding health care in America, the rule of rescue, which dictates we help all who are in urgent need of care, and utilitarian need to use limited resources to derive the most benefit for the most people. ICUs have been somewhat protected from this confrontation until now because of their traditional role as “lifesavers”. However, as more Americans are limited in access to some or all components of health care, we cannot ignore the massive expenditures on ICU patients, many of whom are clearly at the end of their lives. How we handle these tough decisions in an ethical manner will be one of the greatest challenges for our country in the years to come.

REFERENCES


