

# Critical Care: The Ultimate Consumer Product

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Critical care medicine has rapidly evolved into the ultimate consumer product: critical care is high risk and high volume, extraordinarily expensive yet paid for by third parties, uses sophisticated technology, and is routinely “advertised” to the public through television programs and the news media. In addition, critical illness is often unexpected, unplanned for, and involves patients who have little or no control over the location of their treatment. The task of integrating these patient needs with an efficient and cost-effective clinical outcome continues to challenge critical care physicians and service providers. Health care providers in the realm of critical care must realize that the totality of what they provide to patients—medical care, communication, guidance, compassion, and comfort—can be viewed as a product that will be judged by consumers whose collective impressions and perceptions shape subsequent critical care experiences. This article discusses critical care medicine in terms of consumer interaction with critical care services, the influence of the Patient Self-Determination Act (PSDA) of 1990, consumer behavior, resuscitative efforts, and physician training. In addition, this article presents recommendations for house officers who are assigned to the intensive care unit (ICU).

## CONSUMER INTERACTION WITH CRITICAL CARE

Consumer interaction with critical care involves the patient’s direct experience with critical care services, the actual outcomes achieved with critical care medicine and the misrepresentation of critical care outcomes on television, and medical staff compliance with advance directives.

### Use of Critical Care Services

Every American is likely to be a consumer of critical care services. In 1990, nearly 6 million patients were treated in ICUs at a cost of 1% of the gross domestic product. Although ICUs accounted for only 8% of acute care hospital beds, ICUs generated 28% of acute care hospital costs, and 17% of all hospital patients spent some time in an ICU.<sup>1</sup> These figures are not surprising because the

principle causes of mortality in both adults and children are treated almost exclusively in a critical care setting.

### Outcomes of Critical Care Medicine

Access, quality, and cost are central concerns in contemporary discussions of health care delivery. The landmark cases of Karen Ann Quinlan and Nancy Cruzan, however, have elucidated that life and death are not the only possibilities in the critical care unit. The cases of Quinlan and Cruzan represent young women who were hopelessly ill and whose families sought court rulings for the humane limitation of life support. The Quinlan case was decided by the New Jersey State Supreme Court; the Cruzan case was decided by the Missouri Supreme Court and the decision was upheld by the United States Supreme Court. As illustrated in these cases, consumers rightfully wish to avoid undesirable outcomes.<sup>2</sup> Thus, consumers and clinicians are faced with the paradox that, although meaningful prolongation of life is not always possible, the postponement of death frequently is.

Critical care physicians should be aware that their product has been falsely advertised to many potential consumers. Although some people may learn about critical care issues such as cardiopulmonary resuscitation (CPR) from their physicians or CPR courses, Schonwetter et al<sup>3</sup> found that 92% of patients older than age 62 years reported obtaining information about CPR from television. The “information” presented on television is dramatized and often implies or directly depicts survival rates much higher than those confirmed by published data. A 1996 study in the *New England Journal of Medicine* reviewed the television programs *ER*, *Chicago Hope*, and *Rescue 911* and concluded that these programs “may lead the viewing public to have an unrealistic impression of CPR and its chances of success.”<sup>4</sup>

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**Table 1.** Perceptions of Critical Care and Advance Directives in the Headlines of the Popular Press

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A Slow Death Amid Doctor-Family Conflict; Watching Patient's Slow Death, Family Learned Limits of "Living Will"	- <i>The Washington Post</i> June 16, 1991; A1
A Heartless System That Ignores Wishes of Helpless Patients	- <i>Chicago Tribune</i> July 20, 1989; A21
Filling the Gap Where a Living Will Won't Do	- <i>The New York Times</i> January 17, 1991; A15
Is a Living Will Enough?	- <i>Los Angeles Times Magazine</i> March 4, 1990; 33
Our Living Wills Be Done. How Can We Make Doctors Respect Their Patients' Wishes?	- <i>The Washington Post</i> May 17, 1992; C5
The Faulty Promise of "Living Wills"	- <i>US News and World Report</i> July 24, 1989; 63
Right to Die: Living Wills Are Inadequate	- <i>Wall Street Journal</i> July 31, 1990; A12
"Living Will" No Assurance Patient's Wishes Will Be Followed, Study Finds	- <i>Washington Post</i> March 28, 1991; A8
Doctors and Nurses Are Said to Ignore Some Living Wills	- <i>The Wall Street Journal</i> March 28, 1991; B5
Living Wills: A Nice Idea, But Studies Find That Few Doctors Suggest Them, Some Overrule Them	- <i>Boston Globe</i> March 28, 1991; 23
Living Wills Used by Gravely Ill Patients Have Little Impact on Care, Study Finds	- <i>The Wall Street Journal</i> October 1, 1992; B10

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### Use of Advance Directives

Control of the moments at the end of life, although infrequently considered in advance by consumers, is a pervasive issue in all areas of critical care. Numerous surveys concur that, despite the objective reality and imminent relevance of end-of-life issues, fewer than 20% of elderly persons have completed an advance directive (ie, a living will or durable power of attorney) to convey their health care decisions when they cannot speak for themselves. Although elderly persons represent only 12.5% of the general population, people older than age 65 years account for 58% of adult admissions to the ICU.<sup>5</sup>

Although an uninformed or misinformed consumer is of great concern to clinicians, a serious problem for consumers stems from evidence that even well-formulated advance directives may not be honored in detail or may even be ignored. Danis et al<sup>6</sup> prospectively studied 126 mentally competent nursing

home residents and the surrogates of an additional 49 incompetent patients for a 2-year period. These researchers observed 96 outcome events in which 24 cases were inconsistent with the written advance directive in the patient's record. Thus, this study concluded that advance directives may be ineffective in as much as 25% of cases and that providers may place more priority on factors other than patient autonomy. Careful reading of this study indicates that inconsistency between advance directives and patient care may result because patients or family members changed their minds or physician interventions inconsistent with advance directives were made in a spirit of beneficence.

In addition, Morrison et al<sup>7</sup> recently reported that properly executed advance directives are often inaccessible when patients are admitted to hospitals for acute illness. Regardless of accessibility, the concern that advance directives will not protect an individual's autonomy influences current consumer perceptions of critical care procedures and quality. **Table 1** illustrates examples of this perception appearing as headlines in the lay press.

### THE PATIENT SELF-DETERMINATION ACT

Although advance directives remain underutilized, the PSDA of 1990 inaugurated the age of patient self-determination.<sup>8</sup> The PSDA was designed to increase patient involvement in decisions regarding life-sustaining treatments, to ensure that advance directives are available when such decisions are made, and to inform consumers who have not prepared an advance directive of their legal right to do so.<sup>9</sup> The law requires that health care providers and hospitals determine whether a patient has prepared an advance directive, include this information in the patient's chart, provide the patient with written information about the institution's policies concerning advance directives, and develop written policies and educational programs about advance directives for the medical staff and community.

### Limitations of the Act

Many obstacles prevent the idealistic concepts in the PSDA from becoming practical reality. Some of these obstacles lie in the nature of American health care consumers, who vary in the degree to which they demand medical care, ranging from desiring complete care in hopeless cases to requesting do-not-resuscitate (DNR) orders for a finite crisis. Other major impediments to the PSDA stem from the law's provisions to make and enforce treatment decisions without a program to educate the consumer about the very issues and circumstances that consumers seek to control.

Although the PSDA encourages and empowers people to formulate advance directives, the decisions involved are nonetheless profound and likely to be difficult. Writing an advance directive should represent the culmination of the process of gathering objective information, formulating reasonable expectations for specific scenarios, and blending those expectations with personal values to formulate a directive. Although whether the majority of patients follow these steps has not been determined, and because the number of people creating advance directives remains low, studies undertaken to test strategies for increasing utilization of advance directives have identified numerous obstacles.

Two studies that evaluated interventions that provided only information about advance directives showed no significant increase in the number of advance directives written after the intervention.<sup>10,11</sup> Both studies concluded that barriers other than a lack of information affect a patient's likelihood to formulate an advance directive, especially in elderly patients. Although simple procrastination has been cited as a prevalent untoward patient behavior,<sup>10,11</sup> the main obstacle to formulating an advance directive has been patient and physician reticence to initiate discussions about end-of-life issues, life support, and advance directives.<sup>3,12,13</sup>

Even before the PSDA went into effect, its content and stipulations were extensively critiqued.<sup>9,14,15</sup> Critics objected to the lack of a mandate for physician involvement in the discussion of advance directives with patients, the reliance on inpatient facilities, and the lack of encouragement for advance directives to be prepared before hospitalization or long-term care decisions arise (ie, serious illness may prevent inpatients from discussing advance directive issues in the hospital). In addition, the PSDA was enacted as statutory legislation without any specific funding.<sup>9</sup> Such legislation must be funded through the Appropriations Committee, and, although the PSDA provided for certain kinds of education information and rights for patients, no money was allocated to enable these processes or to pay for resources.

#### **PATIENT-CONSUMER BEHAVIOR**

McGinnis and Foege<sup>16</sup> reviewed actual causes of death in the United States and found that approximately 50% of all deaths in 1990 could be attributed to external (non-genetic) factors largely caused by patient behavior. Diet, physical activity, motor vehicle safety, sexual behavior, and the use of tobacco, alcohol, drugs, and firearms are all factors that the critical care consumer may potentially control. In addition, the most common etiologic causes of death (ie, cardiovascular

disease, cancer, trauma, chronic obstructive pulmonary disease, pneumonia, and AIDS) are also major concerns in critical care medicine that may be potentially altered by changes in consumer behavior.

#### **Therapeutic Intervention Scoring System**

The fact that consumer behavior is at the root of many common conditions that result in the need for critical care does not alter patients' demand for or expectation of critical care services. Indeed, Carlon<sup>17</sup> has shown that the majority of critical care services are consumed by a minority of patients who do not survive their hospitalization. In this study of a population comprised predominantly of cancer patients, two thirds of all points on the Therapeutic Intervention Scoring System (TISS) were associated with the 46% of patients in the cancer unit who did not leave the hospital alive. The TISS is a method of measuring the intensity of medical care by providing points for each patient intervention. The theory is that the number of points accrued by a patient on a given day is a measure of how ill that patient is and how severe the care needs are for that patient. Points can be totaled for a given ICU stay or averaged for a daily score. Several studies support that high values for both average and total scores correlate with a poor outcome and high mortality. In addition to the study by Carlon,<sup>17</sup> Ruona and Combs<sup>18</sup> documented a similar pattern in their study of a community general hospital—50% of all TISS points were accrued by the 30% of patients who died in the hospital.

These studies emphasize several points. First, whereas the TISS points represent interventions per se, this scoring system can nonetheless be extrapolated to issues of access, cost, and quality and can imply time and effort, consumption of resources, bed occupancy, and the suffering of patient and family. All of these factors exacerbate the effects of a negative outcome.

Second, the degree to which these data are consumer driven is not yet known, but the cases of Helga Wanglie, Baby L, Baby K, and others indicate that it may be substantial. Wanglie was an elderly woman in an irreversible coma; Baby L was born with severe neurologic deficit, an uncontrollable seizure disorder, and no developmental potential; and Baby K was born anencephalic (ie, missing all but the most rudimentary portions of the brain). In all of these hopeless cases, the courts insisted on the use of resuscitation, life support, and intensive care. These cases illustrate unreasonable consumer demand for intensive care and life support.

Third, the treatment of patients in critical care requires frequent reevaluation and adjustment. As the prognosis changes, appropriate limitation of further

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intervention or even withdrawal of therapies including life support may be the most humane and cost-effective care plan. Last, consumption of the majority of resources by a minority of patients who ultimately die must represent a system error for which the consumer, the physician, or the communication between them is responsible. Proper management of a critical care department must include consideration of these data if the trend is to be reversed, resources are to be appropriately allocated to potential survivors, and the consumer is to be guided toward decisions that are not ultimately self-defeating.

#### RESUSCITATION EFFORTS

Whereas safeguarding patient autonomy is the basis for laws requiring consent for DNR orders, laws also mandate that CPR be offered as a possible "therapy" to each patient. These laws supplement the PSDA and are state specific. In New York State, for example, two physicians' signatures are required in order to withhold CPR from a given patient. Unfortunately, this type of requirement paradoxically has the potential to compromise patient autonomy. According to Hackler and Hiller,<sup>19</sup>

Respect for patient autonomy does not require that the physician initiate discussion of medically pointless procedures . . . Some [physicians] will assume that if care is offered it must have some benefit and will interpret refusal as giving up or abandoning the patient

In addition, Tomlinson and Brody<sup>20</sup> argue that ". . . it is inherently and unavoidably misleading to offer a futile treatment, and so it is corrosive of autonomous choice to do so." Thus, it is not uncommon for the provider to hold the opinion that CPR may be without benefit, or even harmful, while the patients or their surrogates insist that everything possible be done to resuscitate the patient. This conflict must be carefully resolved because it is unclear whether or not simply providing CPR and subsequent supportive intensive care to every patient who demands this degree of care can achieve the desired goal. Achieving family solace and consolation by knowing that "all possible medical actions" were performed could be replaced by the peace of mind in knowing that no futile or inhumane intervention was inflicted at the time of a loved one's death.

#### PHYSICIAN TRAINING

More than 90% of ICUs are "open" and allow physicians other than those with critical care training to admit and guide management for ICU patients.<sup>21</sup> Many

studies have documented the reluctance of practitioners outside of the critical care environment to discuss advance directives, CPR, and code status.<sup>12</sup> Additionally, the personal feelings of physicians have been found to influence their attitudes toward end-of-life issues in general, and CPR in particular, to a greater degree than have the results of published studies.<sup>12</sup> These personal responses and attitudes persist regardless of medical training or experience.<sup>20,22</sup> Research has also shown that the value placed on critical care services by physicians does not correlate with the value perceived by the involved patients and families.<sup>22</sup> Legislating the quality of life for individuals is difficult. What some people would consider to be an intolerable situation and unbearable burden, others would willingly abide. This difficulty is evidenced by the recent discussions and Supreme Court considerations of physician-assisted suicide. Additionally, the term *futility* has been the subject of much debate in the medical literature. One author has defined futility as a clinical intervention for which the patient cannot perceive benefit.<sup>23</sup> The individual nature of patients' tolerance and values makes it difficult to objectify the values of intensive care. This difficulty is true as well for specific patient populations such as cancer patients, for whom the prolongation of meaningful survival even by a few weeks or months may be perceived to have a high value.

Physicians are no more uniformly informed about the PSDA and related issues than are consumers, and, likewise, physicians do not view their responsibilities for improving the delivery of critical care in a cohesive way. The position of some emergency physicians, for example, is that the emergency department (ED) is not an appropriate place for implementing the institutional obligations of the PSDA.<sup>24</sup> Such a position must be viewed in the context that approximately 50% of all ICU admissions enter the hospital through the ED and that virtually all patients who are resuscitated, intubated, or treated with vasopressors are admitted to an ICU whether or not the intervention or intensive care is desired by the patient. Regardless of appropriateness, not only do these ICU patients have an immediate impact on access and cost for the unit, but these admissions also culminate in the more problematic withdrawal of life support instead of humane withholding of such interventions in accordance with the patient's wishes.

The PSDA has the potential to fulfill its intention of protecting patient autonomy in health care decisions, but this act is far from being optimally implemented and will thus continue to have limited impact. The courts cannot determine the disposition of every patient in a persistent vegetative state, nor could consistency be

**Table 2.** Recommendations for House Staff Assigned to the Intensive Care Unit

- Become familiar with outcomes for cardiopulmonary resuscitation and other life-sustaining treatments and use the data to educate patients, families, and junior house staff
- Communicate with hospitalized patients and their families early in the course of the patient's stay in the intensive care unit and encourage patients and families to consider life-sustaining treatment options and, when appropriate, address decisions regarding end-of-life care
- Establish whether the patient has previously completed an advance directive and ensure that advance directives accompany the patient to an acute care hospital
- Focus treatment discussions around what the patient would want under the circumstances
- Invite nurses, social workers, the hospital chaplain, and other communication facilitators to participate in family discussions about end-of-life care for the patient
- Ensure that primary care providers participate in care decisions when possible
- Discuss critical care issues and advance directives with outpatients in community clinics and help outpatients plan for an experience in the intensive care unit
- Help patients make informed decisions and document these decisions in an advance directive
- Ensure that the house staff is represented on the hospital ethics committee
- Do not permit personal values or views to influence the decisions of patients and their families
- Remember that, unless the patient lacks competence, the patient remains the primary decision-maker, even in cases in which an advance directive exists
- Involve communication facilitators early and make optimal use of the hospital ethics committee to prevent conflicts regarding the plan of care

expected if the courts were able to do so. No federal or state law can have the salutary effect that an informed consumer, well-trained critical care physicians, and a properly managed ICU care team can have when operating in concert.

#### RECOMMENDATIONS

The key for a physician to become a positive and valued part of the intensive care product lies in open, honest, compassionate, and informative communication with the patient and family. It is essential that the patient's values, desires, and goals be understood clearly

and that a plan of care be constructed to meet these goals. When such goals are not achievable, different endpoints (eg, relief of suffering, not prolonging the dying process when prolonging meaningful life is not possible) should be selected and agreed upon. Honesty, humane caring, and respect for the patient's right of self-determination are uniformly favorable aspects of the product that critical care physicians can always provide, as is the time these physicians are willing to spend in constructive, sympathetic conversation. **Table 2** outlines specific recommendations for house staff assigned to the ICU. If these aspects of the ICU product were given as much attention, time, and effort as catheters, ventilators, and dialysis, consumer perception would become a powerful force in favor of appropriate physician management and consumer trust in providers would be restored. Relman<sup>25</sup> has defined cost-effective medical care as "the care provided by a competent, compassionate physician who has no incentive to do more or less than is indicated in a given case." This definition is a paradigm to which all critical care physicians can aspire daily as they deliver the ultimate consumer product. **HP**

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