Abstract. The concept of medical futility first appeared at the end of the 1980s, was developed throughout the 1990s, and now is widely cited in medical literature and clinical practice to justify refraining from or limiting the use of life-sustaining therapies. The definition of medical futility, however, is not very clear or universally accepted. In this article, we examine the strengths and limitations of a particular concept of medical futility, based exclusively on clinical considerations, that enables the physician to make unilateral decisions about whether to withhold, withdraw, or continue treatment without being required to consult the patient or his family. To respect the patient’s spiritual, philosophical, and ethical values, several significant ethical issues need to be narrowly defined, and the concept of medical futility must be rarely invoked to justify such unilateral decisions. National Catholic Bioethics Quarterly 17.2 (Summer 2017): 261–273.

The concept of medical futility is not new in the medical literature. The term was introduced toward the end of the 1980s and was widely discussed and developed throughout the 1990s. Since the 2000s, medical futility has been accepted in medical literature and used in clinical practice.
In this paper, futile treatments are defined as those treatments that are deemed by the physician to be ineffective given the patient’s condition and that therefore may be withdrawn or withheld, even against the desires of the patient and his family. The term “medical futility” thus connotes more than a mere lack of effectiveness. As applied to an intervention, it implies a decisive action that has real consequences: not using a treatment, particularly in the context of life-sustaining therapies where futility is most often invoked, could lead to the patient’s death.

Some authors claim that the concept of medical futility can be formulated from an exclusively clinical perspective, which is to say, excluding ethical considerations and value judgments that would require patients or their family members to be involved in the decision-making process. In this article, we offer a thorough analysis of this exclusively clinical concept of medical futility and its place within the ethos of good clinical practice, keeping in mind the centuries-old principles of medical ethics.

Three Proposed Ideas of Futility

The scientific community is still far from reaching a consensus on the definition of futility. At first glance, this might be surprising, because the effectiveness of a specific treatment should be objectively assessable and therefore undebatable. The source of the disagreement, then, is rooted not simply in the efficacy of a therapy but rather in its goal: a therapy is either an effective or ineffective means of achieving a desired goal. The goal determines the relative benefit of the therapy: it is the rule against which we measure effectiveness. The debate about futility, then, is ultimately a discussion about goals rather than treatments. This perspective provides us with an operational concept of futility that is useful in clinical practice.

The many proposed definitions can be grouped into three notions of futility:

- A treatment is *physiologically futile* when its desired physiological effect is not achieved—when, for instance, cardiopulmonary resuscitation does not restore circulation and gas exchange.

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1. We are aware that “clinical” and “ethical” cannot be opposed to each other, strictly speaking, since ethical questions always arise in daily medical practice. The distinction might be clearer if it is expressed in terms of technical versus ethical decisions: when weighing the efficacy of two possible antibiotic treatments, a physician is the only technically qualified decision maker; in an ethical decision, a patient has the right to participate according to his value judgments.

A treatment is quantitatively–qualitatively futile when it does not simultaneously satisfy two minimum thresholds: first, the probability of its effectiveness is greater than 1 percent; and second, the patient has a chance of regaining independence from intensive medical care.\(^3\)

The judgment of social futility belongs to the community rather than to physicians, leaving society with responsibility for defining the objectives of medicine as well as the limitations on medical practice. Limitations could stem from scarce resources,\(^4\) a lack of social consensus,\(^5\) hospital policies about futility (a variation of social consensus, in which the decision belongs to the medical institution with input from the community),\(^6\) and laws that establish legal procedures to be followed in case of conflicts.\(^7\) As is evident, these limitations are different but not mutually exclusive.

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The differing perspectives expressed by authors have given rise to the so-called futility debate, which began with an article published in 1990 by Lawrence Schneiderman in the *Annals of Internal Medicine*. Since then, the use of the terms “futility” and “futile” has increased continually (Figure 1), and in 1995 the expression “medical futility,” which explicitly accepts Schneiderman’s definition, was included as a medical subject heading in the PubMed database.

![Figure 1](image-url) Number of publications from 1965 to 2016 found on the keyword search “futility OR futile” on April 3, 2017.

The fruitless attempts to reach a consensus on a good definition of futility led one author to predict that the term would disappear. It is apparent, however, that the lack of consensus has not prevented the medical community from continuing to use it.

It would overstep our objectives for this paper to carry out a review study of the meaning of the term according to more recent literature; nevertheless, we can highlight three observations found in our nonsystematic review. First, the word

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9. Schneiderman et al., “Medical Futility,” 949. Schneiderman is currently professor emeritus in the Department of Family and Preventive Medicine at the University of California, San Diego. He has written more than 170 articles about clinical and ethical medicine. His initial position has not substantially changed during the past twenty-seven years, so we will refer only to his most representative publications.


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“futility” is frequently found in both clinical and ethical journals. This indicates that 
the debate extends beyond the theoretical discussions of the scientific literature to 
practical applications in daily medical practice. Second, the word “futility” is used 
in a wide variety of medical and paramedical specialties. Although it was originally 
used mostly in the intensive care and cardiac settings, especially with regard to cardio-
pulmonary resuscitation, it is also used currently in neonatology, infectious diseases, 
nephrology, oncology, and specialties that are not related to end-of-life care, such 
as psychiatry. Moreover, it is frequently found in nursing publications. Last, most 
authors we consulted do not opt explicitly for one definition or another, but those 
who do select a definition tend to prefer the one for quantitative–qualitative futility.  
Very few articles continue to encourage an open debate about the most appropriate 
definition of futility or discuss suitable situations for applying the concept.

**Futility in Daily Clinical Practice**

For physicians, the futility debate is not a mere philosophical exercise: they 
want an ethical guideline for the real moments in daily clinical practice when they 
are faced with difficult ethical decisions. Physicians require a notion of futility that 
is clinically operational, by which we mean a notion that will enable them to make 
timely decisions based on their clinical expertise and the condition of the patient.

Social futility is incompatible with a clinically useful notion of medical futility, 
because it leaves no room for physicians to make unilateral decisions based on their 
professional expertise. The practicality of social futility goes beyond the scope of 
this study, but suffice it to say that it would be nearly impossible for the entire com-
munity, including medical providers, hospital ethics committees, and politicians, to 
reach a timely consensus in each case.

On the other hand, both the physiological and the quantitative–qualitative 
notions of futility provide physicians with clinically operational frameworks that 
affirm their responsibility for evaluating the efficacy of specific treatments in relation 
to established objectives. The differences between the two notions reside in how 
those objectives are clarified.

Proponents of the physiological definition of futility claim that the goal of 
therapy is a desired physiologic effect. Using this notion, clinicians rely on their 
expertise and experience to decide whether to start or withhold a treatment and 
whether, over time, to maintain or withdraw it. This reasoning is common in clinical 
practice. In a given case, therapeutic alternatives are assessed, ineffective ones are 
rulled out, and from the remaining alternatives a treatment is selected on the basis of 
a risk–benefit analysis of the patient’s condition, all in consultation with the patient.

11. Ralf J. Jox et al., “Medical Futility at the End of Life: The Perspectives of Inten-
sive Care and Palliative Care Clinicians,” *Journal of Medical Ethics* 38.9 (September 2012): 
540–545, doi: 10.1136/medethics-2011-100479; Arthur L. Caplan, “Little Hope for Medi-
.mayocp.2012.09.003; and Zhengyu Jiang et al., “Medical Futility in the Era of Evidence-
/JBR.28.20140067.
When the physician rules out physiologically futile measures, consulting with the patient or his family is unnecessary, although communicating the decision to them may be fair and sometimes even necessary, particularly when it will be difficult for them to accept the reality of the patient’s condition and understand why a particular treatment is physiologically futile.

Physiological futility describes the real circumstances of a medical situation and is thus fairly uncontroversial from an ethical point of view. A doctor is never ethically obliged to administer a treatment that will be physiologically ineffective; in fact, there are very few cases where doctors have intentionally done so. However, the criteria for physiological futility provide little guidance for making ethical decisions in daily medical practice. In a case of critical illness, for example, a patient’s death will occur shortly whether further treatment is administered or denied. Finally, some hold that the ambiguity of physiological futility is used to justify the excessive prolongation of ultimately ineffective treatments.

### Analysis of Quantitative–Qualitative Futility

The quantitative–qualitative notion of futility adds two conditions of utility to the physiological notion: (1) a threshold of effectiveness and (2) a minimal recovery the patient should be expected to make after the intervention. Being the most discussed concept of futility in medical literature, it deserves to be analyzed more carefully.

The article by Schneiderman and colleagues commences with an initial thought that should be considered before the two components of his proposal are evaluated: when assessing the appropriateness of a therapy, a doctor must distinguish between effect and benefit. Effect, say the authors, refers to the limited goals of physiological futility: “The goal of medical treatment is not merely to cause an effect on some portion of the patient’s anatomy, physiology, or chemistry, but to benefit the patient as a whole.”\(^{12}\) Instead, they propose assessing treatments on the basis of medical benefit: “The ultimate goal of any treatment should be improvement of the patient’s prognosis, comfort, well-being, or general state of health.”\(^{13}\) When the notion is applied to concrete situations, Schneiderman sees that the ultimate goal of medicine is not to maintain a patient who is in a permanent vegetative state, needs constant monitoring or intensive nursing care, or is so dependent on intensive medical care that he or she cannot achieve any other life goals. Under such circumstances, Schneiderman and his coauthors state, “The treatment is effective but not beneficial.”\(^{14}\) Their notion of futility does not, however, apply to patients who require frequent hospitalizations, are confined to nursing homes, or have severe mental or physical disabilities.

The qualitative component of the Schneiderman proposal states that “any treatment that merely preserves permanent unconsciousness or that fails to end total dependence on intensive medical care should be regarded as nonbeneficial and, therefore, futile.” This criterion also specifies that “the patient has no right to be sustained

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13. Ibid.
in a state in which he or she has no purpose other than mere vegetative survival; the physician has no obligation to offer this option or services to achieve it.”

The quantitative component states that “when physicians conclude (either through personal experience, experiences shared with colleagues, or consideration of reported empirical data) that in the last 100 cases, a medical treatment has been useless, they should regard that treatment as futile.”

Both the qualitative and the quantitative criteria are established by the medical community. Whether they are accepted or modified, the definition and the related decision remain within the medical context. Neither the patient nor his family should have the right to demand the denied futile treatment.

In almost all the articles in which Schneiderman responds to his critics, he insists that decisions about futility should not be based on the limited supplies of health care resources. The decision is not a matter of rationing. Rather, it simply considers the goals that define good medical practice, which focuses on the interest of the patient as a whole and should be carried out even in the hypothetical case of unlimited resources.

The Schneiderman proposal of quantitative–qualitative futility offers an operational definition that helps doctors in daily practice. It consists of a purely medical decision that does not need to be discussed with patients or their families. However, the proposal does not seem convincing on some important points, as we will see by studying each of the components separately.

Who Assumes the Burden of Sustaining Life?

The Schneiderman criterion for quantitative futility provides the threshold of a 1 percent expectancy that a therapy will be effective for a given patient. Statistically (i.e., applying confidence intervals to this percentage), the 1 percent threshold would give the physician a 95 percent certainty that the treatment will not work in more than three of every hundred cases. The threshold implies that the benefit of appropriately withholding or withdrawing the treatment from ninety-seven patients offsets the risk of improperly limiting it in the other three.

Apart from the arbitrary percentage and the difficulty of applying it in specific cases, the Schneiderman criterion for quantitative futility ignores the fact that some patients might wish to take the risk of undergoing a treatment that has only a 1 percent probability of achieving its goal, whereas other patients would rather not undergo even treatments with higher success rates. This is the so-called argument of lottery: “A moneymaking strategy that offers only a 1-in-1,000 chance of earning a dollar (and no chance of earning more) is considered futile; one that offers the same

15. Ibid., 951, 952.
chance of producing a million dollars is not.” However, a discussion about medical futility is not about earning money but about keeping a person alive.

Finally, who gets to decide what suffering, economical expense, or physical harm a patient can risk when attempting a cure or at least an improvement? Is that not a personal decision with clear ethical implications?

**Which Life Deserves to Be Lived?**

The qualitative aspect of the Schneiderman proposal is still more controversial, because it decides for a patient what quality-of-life considerations rule out initiating or maintaining therapy, in other words, what type of life deserves to be prolonged. We will separately analyze two situations that Schneiderman discusses: the likelihood of hospital discharge and maintaining patients in a persistent vegetative state.

Long-term life support and medical and nursing care, including admission into a long-term care facility, have become increasingly common clinical realities since the place of natural death has moved from the home to the hospital. Terminal cancer, refractory infections, acute kidney failure, and cardiac or cerebrovascular accidents usually end in hospitalization, often in the ICU. However, the damage is often irreversible, the patient’s condition continues to worsen, and all that can be done is to slow his decline, at most prolonging his life for a short time. As a result, the patient is heavily monitored and undergoes therapeutic measures that prolong suffering instead of letting the illness run its inevitable course until death. This is the first scenario proposed by Schneiderman and colleagues. Patients who are overwhelmed by pain and psychologically distraught at the thought of their impending deaths may prefer that the end arrive as soon as possible, that no more burdensome medical measures be taken, and that the disease be allowed to run its natural course. We do not object to such a decision.

However, it is possible for some patients to find much value in the final stage of their lives. Despite their physical discomfort, they may celebrate being surrounded by family and waking up each morning. Can someone really object that they do not have the right to prolong their lives? Can someone really tell them that maintaining their condition is not a goal of medicine? Proponents of qualitative futility seem to answer yes: they uphold the withdrawal of every medical treatment except palliative care in such cases, because the patients cannot be restored to an independent life outside the hospital.

Is this a decision for the physician or the patient to make? In our opinion, which is shared by many other authors, only the patient, with his values, life goals, and personal analysis of the situation, is able to give an answer.


The second scenario posed by Schneiderman and colleagues involves patients in a state of probably irreversible unconsciousness, such as a persistent vegetative state. Here we must consider interventions, often including medically assisted nutrition and hydration, that sustain the life of a person who will presumably never regain consciousness.

The factors at play are different in this case, because there is hardly any hope that sustaining the patient’s life will even minimally restore his capacity for relating to others. However, the patient is alive, and it is likely that before he was in a persistent vegetative state, he valued his life enough to maintain it with at least minimal care. Most people do not view nutrition and hydration as a medical treatment but as a basic, minimal component of such care. Suspending it may be seen as a form of euthanasia by omission. In fact, withdrawing the basic and inexpensive measure of assisted nutrition and hydration is not allowing the disease to run its course but rather letting the patient die of inevitable dehydration.


20. Leaving aside the issue of reactivity in these patients and cases such as those of patients in a minimally conscious state or newborns with major malformations, we will focus on the patient in a PVS who neither seems to respond to the environment nor is expected to regain consciousness. This seems to be the most extreme case proposed in the debates over futility. To examine in depth this pathological condition, we refer to Bryan Jennett, *The Vegetative State: Medical Facts, Ethical and Legal Dilemmas* (Cambridge, UK: Cambridge University Press, 2002).

The role that the family may take in such a decision is limited and should be defined. They should understand and interpret the wishes that the patient expressed while conscious. Their role is not to satisfy their own desires and needs, such as showing affection and gratitude to their loved one, because this would imply that the patient may be used for purposes other than his own good; it also risks increasing his pain and maintaining him a state of distress that he would have rejected if conscious. The family ought to respect the autonomy of the patient as well as the wishes and values that he expressed when conscious.\(^{22}\)

Returning now to the previous question, who is qualified to say that the life of someone who is irreversibly unconscious is not worth living? If physicians assume the responsibility, ultimately their values, not those of patients, resolve the conflict.\(^{23}\) Physicians do not enjoy such authority: they have the competence to diagnose and treat illnesses but not to make judgments on acceptable standards of living. That would be what Robert Veatch describes as “the generalization of expertise,”\(^ {24}\) when an expert thinks he has a right to impose his opinions on subjects outside his field of knowledge.

Finally, such generalizations could allow abuses, such as hastening the death of patients whose quality of life is judged unacceptable. Schneiderman and colleagues exclude physically and mentally disabled persons from their concept of qualitative futility, but future changes in medical consensus could mean that their lives too would be categorized as not worth living. The sad experience of history shows that this is not an exaggerated hypothesis.

**The Profession of Medicine as Community Service**

Because of changes in technology, medicine is practiced very differently now than it was sixty years ago. The development of life-support techniques, such as drug administration, cardiopulmonary resuscitation, dialysis, and mechanical ventilation, have made it possible to prolong life under very unstable conditions, even, in certain cases, for a long time. The new situation represents a break with tradition and understandably requires a new approach and innovative solutions.

The concept of futility proposed by Schneiderman and colleagues aims to establish objectives and limitations for clinical practice. It also poses an important question: should patients have a say in this new definition of futility? Surely, when traditional practices have changed so dramatically, patients should have a reasonable expectation that they will receive at least basic life-support measures.

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\(^{23}\) Truog et al., “Problem with Futility,” 1560–1564.

Schneiderman and colleagues do not seem to take the patient’s opinion into consideration; they discuss the concept of futility only with colleagues in the medical profession and seem willing to adjust it only to achieve consensus in the medical community. Negotiating the goals of treatment and care with the patient is left out of the discussion; consequently, the authors break off a fundamental part of the patient–doctor relationship.

The medical profession is responsible for restoring health by means of diagnostic tests and therapeutic interventions that are appropriate to a patient’s pathology and clinical condition. It is not physicians’ role to decide whose life is bearable or not, that is, to determine what minimum quality of life justifies starting or continuing life-sustaining treatments. The responsibility for establishing the goals of medicine does not rest solely with physicians but with all of society. The values of every member of society, including those in minority groups, should be taken into consideration to avoid any kind of majority tyranny. Not surprisingly, some authors have proposed applying John Rawls’s model of overlapping consensus as a way of involving a majority of citizens in establishing objectives without ignoring their religious, philosophical, and ethical values. Quality-of-life decisions have deep ethical implications: “As for the physicians’ claim that they are depriving hopelessly ill patients on life support of their dignity, this is a question for families to decide; different people have different notions of human dignity based on individual, cultural, and religious values that may not be shared by the treating physicians.”

Qualitative futility is clearly different from physiological futility: Physicians can consider physiological futility within the scope of their professional competence. By consulting the available literature and their own expertise, they can determine whether a treatment will achieve a specific goal for a particular patient. It is also within their competence to declare when death has occurred, a determination that, unlike the definition of futility, has obtained a broad consensus.

Are we trying to prevent physicians from making ethical decisions and reduce them to mere suppliers of medical treatment? Certainly not. Ethical decisions are part of daily life in the medical profession. But we do maintain that a physician cannot make an ethical decision for a patient without seeking the opinion of the patient or, if he is incapacitated, his family. In the words of Michael Nair-Collins, “The question is not whether physicians can make value judgments. They can, do, and should. Nor is the question whether the health care professions embody an ethical component integral to their practice—they do. Rather, the question is whether, in the rare case of intractable disagreement, the physician’s assessment of the values at stake can override the informed patient’s or legitimate surrogate’s assessment of the values at stake. When this rare intractable disagreement occurs, the weight of the moral authority to determine value judgments on patient care lies with the patient or

surrogate, and this is particularly so when the value judgments involved reflect deep, fundamental questions about life’s value or the meaning of life.”

This does not imply that a physician must administer any treatment that patients or their families request. That decision is also an ethical one, and a physician can legitimately express a contrary opinion. Schneiderman and colleagues rightly say that trying to extend life at any cost entails a value judgment that might treat the patient as just a body and fail to consider the suffering or loss of dignity that could accompany a poor quality of life.

We find ourselves dealing with a decision that is both ethical and clinical. Depending on the circumstances, it may be possible to emphasize one aspect or the other, but neither should be entirely overlooked. So instead of trying to justify unilateral decision making by an individual physician, the futility debate should foster dialogue between doctors and patients or their families, and may involve other qualified consultants, such as hospital ethics committees. Such dialogue would solve most of the conflicts. There will be situations in which agreement is not possible. In those cases, we agree with Jeffrey Burns and Robert Truog that “our efforts should be directed more at finding better ways to support the patient’s family and each other in providing that care than in seeking to overrule the requests for care that we regard as unreasonable.”

Finally, we also point out that the issue of rationing resources, which will always be limited, is different; it is a matter of distributive justice. It is ethical and necessary to deny certain treatments to some patients when those treatments can be more effectively applied to others. For example, ICU admissions should give preference to patients who can expect a full recovery over those who are terminally ill. Following the same reasoning, to allocate resources in a way that would benefit a greater number of patients, it is also ethical, under certain circumstances, to deny expensive therapies to patients who would only experience limited benefits. Those cases do not raise a question of futility; rather, they call for another decision that also has significant ethical implications: whether to apply certain limited resources

27. Nair-Collins, “Laying Futility to Rest,” 564, original emphasis.
to saving one life instead of another. This issue should be raised in a broader politi-
cal and social context to minimize the risk that any one point of view imposes on
the rights of the patient.

Futility Is Not a Univocal Concept

The concept of futility has been debated for more than twenty-five years, but
the medical community still has not reached an agreement on its meaning that helps
in the decision-making process. The question remains whether futility should be
determined exclusively by a medical evaluation, which does not require patient or
family consent, or whether the many ethical implications of medical futility necessitate
consulting with patients and their families. In the meantime, the term has entered the
lexicons of both medical literature and medical practice.

When applying the concept in the decision-making process and, above all,
when considering the obligation to consult the patient or his family, we ought to
remember that the term is not univocal. The quantitative–qualitative definition, in
particular, involves value judgements about the goals of medicine, a patient’s quality
of life, and an acceptable risk–benefit balance. In such moments, we ought to seek
the approval of patients and their families if we do not want to offend their spiritual,
philosophical, and ethical values.