When Is Medical Treatment Futile?  
A Guide for Students, Residents, and Physicians  
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A difficult ethical conundrum in clinical medicine is determining when to withdraw or withhold treatments deemed medically futile. These decisions are particularly complex when physicians have less experience with these discussions, when families and providers disagree about benefits from treatment, and when cultural disparities are involved in misunderstandings. This paper elucidates the concept of “medical futility,” demonstrates the application of futility to practical patient care decisions, and suggests means for physicians to negotiate transitions from aggressive treatment to comfort care with patients and their families. Ultimately, respect of persons and beneficent approaches can lead to ethically and morally viable solutions.

KEY WORDS: medical futility; medical education; end-of-life care; doctor-patient communication; medical ethics.

Mrs. F. is an 80-year-old woman, with nonresectable lung cancer, diabetes, hypertension, chronic renal insufficiency, and severe degenerative joint disease. She was stable, walking short distances with a walker, fully cognizant, and living in a retirement center until 2 days prior to admission when she became markedly short of breath. She was diagnosed with lobar pneumonia. Mrs. F. has three children and eight grandchildren. She had not written a living will and is very religious, wishing to leave her fate to higher beings.

Despite initial improvement with treatment, Mrs. F. developed high fevers and sepsis on her third day of hospitalization. Stronger antibiotics, vasopressors, and fluids did not prevent worsening hypoxemia. She developed acute renal failure and became mentally obtunded despite aggressive treatment. Her family has asked that “everything be done.” Physicians realized Mrs. F. needed dialysis and intubation to prevent imminent death. Given her incurable lung cancer, it was unlikely that Mrs. F. would ever be extubated. Under the best circumstances, she would not return to semi-independent living and would face continued pain and further decline from her cancer. The family still requested full treatment. The residents were frustrated, believing further aggressive treatments were futile.

Mrs. F is a composite patient derived from multiple real patients, yet this scenario represents a common occurrence in clinical medicine. Physicians frequently help families decide when to stop aggressive treatment in favor of supportive care. This juncture is particularly taxing for physicians-in-training. As a physician serving on our hospital ethics consult service, I find over 80% of our requests concern conflicting opinions between health care providers and patients’ family members about when to transition to comfort care. This paper offers practical insights for students, residents, and physicians in early practice regarding management of this difficult juncture in clinical medicine.

I use the term medical futility to stay in accordance with current literature, recognizing that the term clinical futility is more apropos for this piece. I will explore futility as a concept applied directly to patient care and how physicians negotiate transitional decisions when family members and providers have disparate opinions.

Medical Futility: Definitions and Controversies

Futility in medicine is an ancient concept. Hippocrates clearly stated that physicians should “refuse to treat those who are overmastered by their disease, realizing that in such cases medicine is powerless.” Webster’s dictionary defines futile as “serving no useful purpose, completely ineffective.” The word futile refers to a specific action, whereas futility is the relationship between an action and a desired goal. In the rest of the paper, medical futility is defined as a clinical action serving no useful purpose in attaining a specified goal for a given patient.

In medicine, the goals of treatment must be explicitly defined. In the case above, the actions—intubation and dialysis—effectively deliver oxygen to, and filter blood. Nonetheless, neither action can return Mrs. F. to her prior state of health. Mrs. F.’s family may believe that intubation and dialysis will only keep her alive but also give her a chance to recover. Physicians alternatively recognize that Mrs. F. is dying from her cancer and believe further aggressive treatments are inhumane, because death...
will still imminently occur. If the goal of aggressive treatment is to prevent bodily death, dialysis and intubation are not futile as they can achieve this goal. On the other hand, if the intention of aggressive treatment is to return Mrs. F. to independent living, or prevent her imminent death, dialysis and intubation serve no useful purpose and are futile. Intubation and dialysis might even be considered maleficient or harmful if the goal of treatment is to allow Mrs. F. a more peaceful and dignified death. The residents cannot determine medical futility concerning Mrs. F.’s care without succinctly stating goals for treatment.

Scholar Griffin Trotter delineates a clear definition of medical futility that corresponds with concepts stated by the American Medical Association’s Council on Ethical and Judicial Affairs and the Society of Critical Care Medicine’s ethics committee. Trotter clarifies that medical futility occurs when:

1) There is a goal,
2) There is an action and activity aimed at achieving this goal, and
3) There is virtual certainty that the action will fail in achieving this goal.

Unfortunately, this definition does not provide clear answers for all clinical questions. How can one obtain “virtual certainty” that an action will fail in achieving its goal? There are always exceptions. There is a minuscule, albeit unlikely chance, that Mrs. F. could survive septicemia, be extubated, placed in a nursing home, and communicate with her family before succumbing to cancer.

Some scholars tried to quantify medical futility, defining it as less than a 1% chance of success. Others set different thresholds, such as less than 2% or 5% success rates. Although attractive for its concreteness, quantitative methods are unsatisfactory for the small percentage of patients who benefit from treatment. Other ethicists propose medical futility should be determined qualitatively according to specific values. If the important quality is physiologic futility, then no physiologic benefit results from proposed treatment. If benefit-centered futility is preferred, then treatments will not benefit the patient. If operationalizing futility is valued, then costs of treatment exceed measurable benefits. This is also called utility, and demands enunciating one’s goals relative to cost-benefit ratios.

To complicate matters further, some ethicists claim medical futility is an ancient concept and inadequate for modern ethical deliberations. In Hippocrates’s time, medical knowledge was limited and disease processes frequently overpowered patients. Modern medical knowledge and progressive technologies have dramatically altered our ability to sustain life. Discerning when medical interventions merely prolong dying is a distinctly modern challenge. Opponents of using medical futility for ethical arguments worry that physicians have a trump card to overpower families with less knowledge, thereby delivering paternalistic care. Some also argue medical futility is a smoke-screen to hide rationing of resources and costs for end-of-life care.

These scholars state futility should never be evoked in medical decision making and prefer using standards of care combined with the best interest of the patient to solve end-of-life dilemmas.

Can Futility Be Applied to End-of-life Decisions?

The prior conversation illuminates many difficulties in declaring treatments futile. In order for futility to be useful in clinical decisions, various involved parties need to negotiate and agree upon specific goals for treatment. This is not always possible, but with compassion and expertise it is frequently achieved. In a recent didactic, case-based discussion, I was asked to answer five questions residents struggle with concerning withdrawing aggressive treatment in patients similar to Mrs. F. I share these questions and answers to help physicians navigate their way through difficult discussions with patients and families about futility at the end of life.

Question 1: What are the implications for using medical “futility” in decisions to withdraw aggressive treatments?

Three concepts are central for physicians in discussing futility with patients and families. First, physicians are not obligated to provide treatments they believe are ineffective or harmful to patients. Physicians have a fiduciary obligation, and have taken a professional oath, to “first do no harm.” If harms of treatment are excessive, physicians risk maleficence. Physicians must exercise clinical judgment when declaring treatments futile. They need to clarify between specific treatments that are medically ineffective, yet might still provide perceived benefits to patients. For example, intubation and dialysis are medically ineffective in returning Mrs. F. to her former state of health. Yet, these treatments can provide a benefit if her family wishes to keep Mrs. F. alive until family members traveling great distances arrive to say goodbye to her. Before physicians declare a given action futile they must deliberatively weigh medical effectiveness with benefits and harms perceived by both medical professionals and patients or their families.

Second, physicians should not initially just say “no” to patients concerning futile treatments, but must engage in dialog and discuss alternatives. When physicians believe specific treatments are futile, they are still obligated to mention this treatment. Patients and their families have the right to be fully informed and deserve frank explanations why a specific treatment is not beneficial. As a matter of fact, this provides physicians with an opportunity to clarify goals of treatment and frames future discussions. Patients requesting nontraditional treatments should also be respectfully guided through discussions leading to reasonable and nonharmful medical practice.

Third, physicians must always convey that medical CARE is NEVER futile. Physicians should distinguish between aggressive treatments and those which provide comfort care. The patient must be guaranteed palliation.