Nevertheless find themselves in a culture in which an empirical approach to disease—one that focuses primarily on measurable, predetermined outcomes—is the standard. The tension produced by these circumstances can contribute to moral distress in healthcare providers, patients, and families. Using the environment of the critical care unit as an example, I want to discuss some of the shortcomings of a purely empirical approach to healthcare and argue for the importance of articulating other ways of knowing in support of a wider range of healing practices.

Efficiency, Standardization, and the Empirical Model

Physicians and nurses who practice in the critical care unit in some way participate in a Western scientific understanding of disease. Western science is based on a reductionist empirical account of knowledge in which we know with certainty only those things for which we have a particular kind of evidence. Scientific empiricism seeks inductive confirmation of a theory by reducing problems to the smallest elements that can be experimentally manipulated. Experimental research of this sort seeks what Taylor calls the completely objective “brute fact” that experimental evidence supports and that cannot be disputed.

In this view, disease resides in cells (and, perhaps ultimately, in genes); we know this because cellular dysfunction can be demonstrated experimentally. Within this model, disease can best be controlled by attending to cellular function and dysfunction and by intervening to manipulate the cell using techniques that have empirically demonstrated effectiveness. This understanding of disease rests on the foundation of natural science and is ultimately explained in terms of physical laws.

The impact of the environment on health has been a concern to healthcare providers at least since the time of Hippocrates. Healthcare providers and researchers interested in exploring the relationship of healing and the hospital environment are confronted with the predominant focus of acute care: the efficiency of treatment to stabilize and/or cure physiologic disorders. This focus is particularly evident in critical care units, where the technology, work flow, and unit design emphasize standard interventions aimed at the eradication of disease, often at the expense of more individualized and holistic healing practices. Rather than take this atmosphere for granted as the best approach to life-threatening illness, some healthcare providers would like to remake critical care units into humane places of healing that support the physical, emotional, social, and spiritual needs of each patient and family.

Given the history and present state of critical care and of the institutions in which it resides, however, I wonder if efforts to transform hospital critical care units into healing environments are realistic. Are such efforts even necessary? Would it be better to design a critical care unit that emphasizes efficiency and standardization in pursuit of measurable, disease-based outcomes that does not attend to the individual needs of whole persons within the context of their particular families and communities?

Such questions point to a tension in critical care practice: whereas staff and patients may be aware of the importance of creating healing environments, they nevertheless find themselves in a culture in which an empirical approach to disease—one that focuses primarily on measurable, predetermined outcomes—is the standard. The tension produced by these circumstances can contribute to moral distress in healthcare providers, patients, and families. Using the environment of the critical care unit as an example, I want to discuss some of the shortcomings of a purely empirical approach to healthcare and argue for the importance of articulating other ways of knowing in support of a wider range of healing practices.

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The overarching purpose of the critical care unit is to cure disease and/or restore stable physiologic function in patients who are severely ill. In a strict
interpretation of scientifically based medicine, medical
and other healthcare practice in the Western scientific
model should consist of the implementation of stan-
dardized practices that are based on the best empirical
evidence. The “gold standard” of evidence in this model
is the randomized controlled trial. An intervention is
most acceptable when it has been shown in a random-
ized controlled trial to be better able to accomplish a
predefined outcome than is some other intervention
or no intervention at all (placebo). The most familiar
element of this experimental design is the clinical drug
trial, in which one pharmaceutical compound is tested
against a placebo to determine whether it is effective in
achieving a specifically defined outcome.

It’s clear that the randomized controlled trial is a
powerful tool for determining the usefulness of a dis-
crete intervention such as a medication. It’s also clear
that pharmaceutical interventions are powerful tools
in achieving the discretely defined goals of critical
care medicine. But how does something less discrete
like the environment of the unit contribute to the goals
of critical care? As in the case of clinical drug trials,
it is possible to describe the impact of the environ-
ment in terms of discretely defined variables that are
connected to the larger goals of critical care.

One often-sited retrospective study has suggested
that surgical patients who had a view of nature from
the window of their hospital room spent less time in
the hospital and required less analgesic medication
than did similar patients whose room had a view of
another building.6 To build evidence to support the
theory that a hospital window affording a view of
nature is an effective intervention to provide comfort
and to decrease surgical patients’ length of stay in the
hospital, we would design a prospective randomized
controlled trial using the same variables. This is the
kind of evidence that empirically based practice
 awaits in support of a chosen intervention; the
intervention is specific and reproducible, and the out-
comes are discrete and measurable.

**Human Science, Humanity, and Healing**

The power of empirically based science is its abil-
ty to explain the events of nature in terms of physical
laws. To the extent that human physiology is bound by
physical laws, empirical methods can further our
understanding. But reproducibility and exact measure-
ment of variables are difficult standards to uphold
even in the notoriously controlled world of laboratory
science, much less in clinical settings that feature real,
whole, human animals. If we look at health as more
than simply the absence of disease, and we concern
ourselves with the background understandings and
processes of human relationships involved in healing
as much as with outcomes such as time spent in the
hospital, the story becomes richer and can no longer
be described or understood by means of empirical evi-
dence. The restoration of health and well-being is not
strictly a matter of natural science.

In addition to empirically derived explanations of
physiology and disease, healthcare providers must
have an appreciation for human meaning derived
from philosophy, history, and other branches of the
humanities to begin to grasp what lies behind human understandings and experiences of health, disease,
and illness. An appreciation for the importance of
human experiences and of how a person’s understand-
ing affects the process of disease and recovery requires
that the healthcare provider expand his or her inquiry
and include more than measurable physiologic
parameters and other indicators of specific and prede-
termined outcomes. The meanings that disease and
illness hold for patients and their families and the
experience of hospitalization and critical illness are
important elements that do not lend themselves to
empirical evidence-gathering procedures.

In the current healthcare culture, attempts to create
a more humane environment are subjected to the same
evaluative criteria as interventions directed toward
efficiently and safely curing disease. In light of this fact,
the needs of hospital staff and administrators for a
particular environmental design often take priority
over the perhaps less specific and more difficult to
justify needs of patients and families. For example,
noise has been identified as a problem in the critical
care unit, but to best effect a cure, staff members must
be able to communicate freely with one another and
must have unimpeded access to technological support
and monitoring devices. In the interest of safety, the
alarms on these devices must be set at a high enough
volume level to be heard over other noises.

Lack of family access can contribute to patients’
sense of isolation from their community, and it poses
yet another challenge in the critical care unit. How-
ever, to meet the demands for critical care services,
patients’ rooms cannot be large enough to accommo-
date needed equipment, staff, and family members all
at the same time. In the interest of providing the most
efficient care, patients and their families are asked to
endure a noisy and isolating environment for the time
they spend in the critical care unit.

These are small examples of how the desire to
create a healing environment is easily subjugated to
the priority of curing disease and stabilizing physio-
logic systems. In the fast-paced critical care unit, the
demand for efficiency makes prioritizing medical
treatment in the interest of cure seem like the only reasonable approach; individualized healing practices often are seen as less important. Concerns such as the meaning illness has for a family or efforts to acknowledge the patient’s personhood—for example, bringing a patient’s world back by creating a particular environment with music, light, and scent—can seem irrelevant when the problem ultimately resides in the cells and outcomes that are sought are presented in terms of measurable physiologic criteria such as the number of days until the patient is discharged from the hospital.

**Room for Process As Well As Outcome**

Environmental concerns like the sights, smells, and sounds in the critical care unit may or may not contribute directly to measurable outcomes. The retrospective study of surgical patients previously mentioned concludes that designing patients’ rooms such that windows look out onto a garden can positively impact medication use and hospital length of stay. These are undeniably good outcomes, but restricting the inquiry to these discrete variables may result in insufficient empirical evidence to support hospital redesign. If they are to gain any credibility in a world where evidence-based practice is understood primarily in empirical terms, healing practices such as music therapy, aromatherapy, and imagery must fit into the model of a controlled clinical trial and demonstrate positive effects as defined by a narrow idea of outcomes.

It is questionable whether such practices can be reduced to any kind of measurement. In fact, it may be a waste of time to try to measure them. I seriously doubt that attention to the environment and the contributions it makes to the recognition of a patient’s personhood and spiritual needs can be reflected in measures such as pain scores, mixed-venous oxygen saturation, or hospital length of stay. In the study of surgical patients, the researchers were asking the wrong question. Maintaining a connection to the natural world even in the midst of illness or injury is an intrinsic good—an unquestionable good in the process of healing that need not be connected to specific outcomes. The more important question is this: Why is the patient’s and family’s view from the hospital room ever not a concern?

An overriding commitment to empirical science is evident in the culture of critical care; the controlled trial is gaining ground, fast becoming the standard for research that provides the most important evidence for critical care practice. The power given to empirical methods at the expense of other ways of knowing contributes to the moral distress healthcare providers experience when space is not given to important healing practices that cannot be demonstrated to contribute to quantifiable outcomes specified by empirically designed research. Benner makes a strong case for the healing potential of relational ethics involving practices such as touch and presence. Like actions to enhance the healing aspects of the critical care environment, these practices are contextual and responsive to the particular; as such, they cannot be supported by evidence gathered using empirical scientific methods. Whereas empirical methods are obviously powerful in the pursuit of natural science explanations, the complexity of situations and relationships involving human understanding demand an approach that reductionist methods such as controlled clinical trials cannot support on their own.

The best healthcare practice therefore demands attention to natural and human science as well as the humanities and values. Critical care professionals must begin to see the possibilities of another world in which healing practices consist of more than bad food (or no food at all), noisy monitors, and drugs derived from randomized controlled trials. We must let ourselves commit to the importance of seeing through the hospital window to the garden or the forest beyond, being touched by a caring nurse or doctor, smelling something other than urine disguised by antiseptic spray, and listening to the sounds of a hushed unit.

I would never presume to challenge standardized, evidence-based practice at its own game, but I can say with some certainty that it is absurd to use randomized controlled trials to define everything important in critical care. The more thoughtful proponents of evidence-based practice point to the importance of balancing clinical expertise and patient/family values with the evidence provided by empirical research. I encourage us all to commit to exploring alternative ways of looking at practice, healing, disease, and prevention. It is important that healthcare providers work toward making our practice and the environment that supports it reflect our values and our intent to heal regardless of the specific measurable outcomes these acts can generate.

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**FINANCIAL DISCLOSURES**

None reported.

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