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## Commentary

The development of medical technology in recent years has been explosive. Unfortunately, better technology does not necessarily equal better care; as a result, medicine has entered a new era of quality assessment and assurance.

Health care consumers and providers, third party payers, and society are asking: Is the care appropriate and, if so, is it delivered correctly? This question has particular relevance and importance in the intensive care unit (ICU). Standards of care are difficult to determine here, given the complexity of medical problems in this patient population, and the varied expectations of families struggling to cope with a loved one's critical illness.

In the ICU, perhaps more than in any other area of medicine, families are involved in the medical decision-making process. Should higher levels of technology be employed? Should the patient be resuscitated in the event of a cardiopulmonary arrest? Should support be withdrawn from the critically ill patient? Outcome data such as that presented by Sivak and Perez-Trepichio will permit health care consumers and providers to make better informed decisions when struggling with these questions.

On a societal level, health care spending cannot continue to increase indefinitely. The high cost of ICU care will ultimately restrict its use. ICU care will not be available to every patient with a life-threatening illness, nor will we be able to afford the indiscriminate use of high technology. A side benefit of ongoing quality assessment

data collection should be the development of guidelines for the use of the ICU and its associated technology.

Sivak and Perez-Trepichio report their experience with a three-component data collection model consisting of structure, process, and outcome elements. Personnel and financial restraints limited their collection to structural elements (eg, admitting diagnosis) and outcome data (eg, mortality). The absence of a severity of illness assessment is a significant drawback and precludes comparison of their data with that from other institutions.

The model as outlined is a useful construct from which to develop an ongoing quality assessment program. Data from the process element (ie, what happens to the patient between his presentation to the ICU with an admitting diagnosis and his ultimate outcome) is awaited with interest. Does the use of varying levels of technology significantly alter the outcome in comparably ill patients?

In a setting where a randomized control trial may be difficult to perform, quality assessment data collection should provide critical insights into our use of the ICU and its technology. Only through careful analysis of data generated by such a model will we resolve the definition of "appropriate care" from the standpoint of the provider, the consumer, and society.

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