

From the Editor

What does Quality Mean for Perfusionists?

Never before in history has there been more measurement of healthcare process and outcome variables. Today, all healthcare organizations are re-doubling their efforts to improve the quality of care by driving down the rate of costly errors, waste, and the misuse and overuse of care. So, exactly what does quality mean for the cardiovascular perfusionist? The aim of this Brief Editorial is to define quality in health care and provide a road map for cardiovascular perfusionist professionals to engage in the movement to improve quality.

According to Carolyn Clancy, the Director of the Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, "... health care quality is getting the right care to the right patient at the right time—every time (1)." Quality in health care has also been defined as "based on evidence." David Sackett has said that evidence-based medicine is "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research (2)." From this definition, it is implicit that the external scientific evidence must become integrated closely with local practice and serve as the underpinning of how care is delivered to each patient. Jeremy Grimshaw, of the Ottawa Health Research Institute, described the study of the uptake of research findings as *Implementation Research* (3). Implementation Research focuses on learning how to change the technical aspects of care into a system that is evidence-based at the local level. These statements suggest that quality is related to both the science and the delivery of care. Peter Pronovost, an anesthesiologist from Johns Hopkins School of Medicine, put it this way, "The tasks of medical science fall into three buckets ... understanding disease biology, finding effective therapies and the third is insuring those therapies are delivered effectively. That third bucket has been almost totally ignored by research funders, government, and academia. It's viewed as the art of medicine. That's a mistake, a huge mistake. And from a taxpayer's perspective it's outrageous (4)."

One of the best treatises on quality in health care was written decades ago by Avedis Donabedian, a pioneer of quality in health care and outcomes research. His early writings suggested that quality has three pillars: structure—*is the environment of care safe*, process—*are the right things*



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done in the right way, and outcome—*does the treatment produce effective results* (5)? Perfusionists may examine their daily work in the context of these three pillars. *The AmSECT 2013 Standards and Guidelines* (6) provide relevant information that may serve as a blue print for assessment of the structure and process pillars.

Standards 1, 2, 3, 4, and 6 provide dimensions for the structure pillar. Standard 1 calls for a requisite policy for each of the Standards. Standard 2 provides a definition of what constitutes a competent and qualified cardiovascular perfusionist. Standards 3 and 4 describe the perfusion record and checklist, clearly integral parts of the cardiovascular perfusion department's structure. Standard 6 describes an important part of the structure, the requisite safety devices, which guard against potential harmful events.

The processes of care are addressed in Standards 5, 7, 8,9,10, 11, 12, 13, 14, and 15. Standard 5 states that a care plan for an individual patient should be prepared and communicated. Other attributes related to communication, including the use of cellular phones, are embodied in sub-categories under Standard 5. Standards 7–12 relate to processes of patient management including monitoring, anticoagulation, blood management, gas exchange, blood flow, and blood pressure. Standards 8–15 are related to processes of engagement in quality improvement, equipment maintenance, and staff duty hours.

The third pillar, the outcome pillar, may be addressed through intramural and regional registries. When a center can compare the results of their care to that of others often opportunities emerge. For example, participants in the Society of Thoracic Surgery's Cardiac Surgery registry receive reports that provide benchmarks. These registry reports reveal exactly where a program performs for a number of outcomes, including adjusted mortality, acute kidney injury, or transfusion rates relative to other participants. The reports also provide participant centers with a

Table 1. AmSECT's standards 2013.

Standard 1: Development of institutionally based protocols
Standard 2: Qualification, competency, and support Staff
Standard 3: Perfusion record
Standard 4: Checklist standard
Standard 5: Communication
Standard 6: Safety devices
Standard 7: Monitoring
Standard 8: Anticoagulation
Standard 9: Blood management
Standard 10: Gas exchange
Standard 11: Blood flow
Standard 12: Blood pressure
Standard 13: Quality improvement
Standard 14: Maintenance
Standard 15: Duty hours

measure of change in performance over time. Registry reports provide guidance about opportunities for improvement and may provide direction about where resources should be focused to improve quality. Warren and colleagues in the Northern New England Cardiovascular Disease Study Group used their registry to measure regional adherence to published guidelines and to help to drive local changes in practice (7).

Irrespective of which definition is used to define quality, research has shown that in medicine, as well as other industries, quality improvement is effective and durable when it is focused at the front line where care is provided or goods and services are produced. Batalden and colleagues have described a useful formula for improving care. In their construct, generalizable scientific evidence (knowledge of what is published in the scientific literature) and particular contexts (knowledge of the local system of care) are synthesized to promote experiential learning (8). Providing these two types of knowledge to members of a team will stimulate thoughtful reflection about the processes of care that they provide and will likely result in ideas or hypotheses about how care can be improved. Intelligent action in the form of “tests of change” may be designed and tested.

Leadership should strive to develop a culture where there is a relentless desire by everyone to fulfill dual roles as both providers of direct care to the patients and as the inventors/initiators of improved processes.

Examining the generalizable scientific evidence is a look outward for best practices, and the quest for context knowledge is an inward quest, examining the processes and patterns within the practice. These two types of knowledge form the foundation for improvement.

So what does quality mean for perfusion? Quality means getting the right care to the patient every time. It has three

dimensions—structure, process, and outcome. It involves implementing evidence-based practices and adhering to the published standards. The importance of team member relationships and interdependences cannot be over emphasized. Improving the quality of care is a moral imperative for the perfusionist.

One other ingredient to quality must not be overlooked. Near the end of his life, Donabedian made the following observation, “Systems awareness and systems design are important for health professionals, but are not enough. They are enabling mechanisms only. It is the ethical dimension of individuals that is essential to a system’s success. Ultimately, the secret of quality is love . . . love yourself, your profession, your patients, and your God (9).” So what does quality mean for perfusionists? It is all about having the love and passion to engage in two principle endeavors—delivery of care to individual patients and a continuous effort to redesign and improve.

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