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PHYSICIAN COMPETENCE: A PERSPECTIVE FROM THE PRACTICING CARDIOLOGIST

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Abstract

All cardiologists strive to be “competent” physicians. It is important for both the certifying bodies and our patients to know that we are highly competent in our practice of cardiovascular disease. This is especially true in the current era, with its knowledge explosion and exponential growth in diagnostic and therapeutic procedures. However, physician competence has never been clearly defined, much less measured. The American Board of Medical Subspecialties and the Accreditation Council for Graduate Medical Education (ACGME) have defined six domains for physician competence, including medical knowledge, patient care, communication, practice-based learning, system-based practice, and interpersonal relationships—terminology that has remained unclear to practicing cardiologists. This paper presents a simplistic view of what a cardiologist must achieve to be considered a competent physician and discuss the role of professional societies and academic medical centers in facilitating the attainment and documentation of competence for all of us.

Introduction

In order to care for patients with cardiovascular disease, cardiologists spent thousands of hours studying the science of medicine in our undergraduate and medical schools. This was subsequently followed by years of training under the preceptorships of experienced mentors in residency, fellowship, and subspecialty fellowship programs. As we transitioned to practicing cardiologists, we took an oath to provide the best medical care for our patients, “to heal the sick and care for the well.” Physicians who have dedicated their career to patient care usually pride themselves as being “competent.” The physician was always held in high regard by the public and other members of society, and society had in past years given us the privilege of self-regulation. Rarely was the competence of a physician questioned by patients who sought diagnosis and treatment for their illnesses.

At present, however, the medical profession is under intense scrutiny by the government, external stakeholders, patients, and families. In some instances, the integrity and rationale for physicians’ decision making are being questioned. It is necessary, therefore, that we as a profession demonstrate our “competence” to practice in our chosen fields of medicine. It is equally important that we as a profession define the attributes of such competence. There is much discussion among regulatory agencies and certifying boards regarding what physician competence is and, more importantly, how to measure it.^{1,2} The following is a cardiologist’s perspective regarding physician competence.

What is Physician Competence?

Until recently, the medical profession has never assumed the responsibility to assure that physicians remain competent. It was only 75 years ago that the American Board of Medical Subspecialties and its predecessors implemented a certifying test, which was a

written examination of medical knowledge.³ This test was given once in a lifetime, and the vast majority of applicants achieved a passing grade. Once certified after passing the examination, physicians would provide patient care for the rest of their career, with the unaudited expectation that they would keep up with new knowledge and science relevant to their practice. The only requirement for the license to practice was self-reporting a certain number of hours in continuing medical education.

A number of transformational changes in the field of medicine have occurred that bring to the forefront the problems that physicians face to remain competent. There has been a tremendous explosion of new scientific and technological knowledge. More than 1,500 new journal articles and 55 new clinical trials are entered in the National Library of Medicine database every day.⁴ Less than 1% of published clinical information is likely to be relevant to a particular patient’s care, but that 1% of new knowledge may be lifesaving. Identifying, accessing the required knowledge, and acquiring the necessary skills and care processes defined in that less than 1% of relevant development takes a focused, almost Herculean effort. There is a burgeoning technology, particularly in the field of cardiovascular medicine with its new diagnostic techniques and interventional procedures, that requires new knowledge and technical skills. It has grown increasingly difficult, if not impossible, for any individual to keep abreast of all advances pertinent to his/her specialty. It has also recently been documented that a physician’s clinical skills decline over one’s career.⁵ This decline may be the result of a number of factors, including age-related cognition, the ability or even desire to learn new science and knowledge, dated care processes and transitions of care, and even physician burnout.

There are other occupations in which it is essential to maintain and continuously update professional competence as measured

by knowledge, technical skills, and performance. In the airline industry, pilots are continually tested on their knowledge and technical skills using written examinations and flight simulators. Certainly, the public would not tolerate flying in a plane with a pilot who has not demonstrated continuous achievement of knowledge, technical skills, communication skills, and performance benchmarks to react competently to emergency situations. A similar or even higher standard should be set for physicians.

The role of the physician is to manage a patient's illness through the application of science and technology, without pretext of personal gain and in a compassionate manner that accounts for the specific gender, social, ethnic, and emotional aspects of the patient. Clinical reasoning is required for proper application of science to individualized treatment decisions, based upon the compilation of historical clues, physical examination abnormalities, and laboratory results. Care of the patient also requires an understanding of the cognitive and psychological impact of illness, including individual needs, preferences, and values. Additionally, there is the expectation that the physician consider the impact of treatment decisions on society, taking into account the cost and appropriate utilization of resources.⁶ Communication with peers, other members of the health care team, patients, and families remains an essential part of being a competent physician.

The American Board of Medical Subspecialties and the ACGME have defined six domains for physician competence (Table 1).² These include medical knowledge, patient care, communication, practice-based learning, system-based practice, and interpersonal relationships. Medical schools now use these competencies for training students, and the Joint Commission on Accreditation of Hospitals is also using the framework of these competencies to accredit hospitals and other health care institutions. However, the definitions of these domains and the glossary of terms used to define them are unclear to cardiologists and other health team members who are not intimately involved in medical education. Thus, below is a simplistic perspective of what a cardiologist needs to know to achieve competence as currently defined. We also outline the role of professional societies and academic medical centers in facilitating the attainment and documentation of competence.

Specific Areas of Physician Competencies

Know What You Should Know

All cardiologists should have a basic fund of knowledge in the field of cardiovascular diseases, consisting of a core of information germane to the care of a wide spectrum of patients. This core knowledge should be updated regularly and augmented by validated advances in diagnostics and therapeutics as established by new discoveries.

It is the responsibility of professional societies to organize, prioritize and provide the physician with this core knowledge. The American College of Cardiology (ACC) has brought together educational and clinical practice experts to create core competencies related to each major cardiovascular disease, including acute coronary syndromes, heart failure, and many others. These core competencies are updated on a regular basis by experts in the respective fields. A competent cardiologist will need to understand the core competencies, determine where their "gaps" exist, and then fill these gaps with dedicated study. Educational programs and products will in the future be based on a curriculum derived from the core competencies, and certifying bodies should base testing on this predefined core knowledge across all six domains.

Characteristics
<p>1. Professionalism Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient populations.</p>
<p>2. Patient Care and Procedural Skills Provide care that is compassionate, appropriate, and effective treatment for health problems and to promote health.</p>
<p>3. Medical Knowledge Demonstrate knowledge about established and evolving biomedical, clinical, and cognate sciences and their application in patient care.</p>
<p>4. Practice-Based Learning and Improvement Able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their practice of medicine.</p>
<p>5. Interpersonal and Communication Skills Demonstrate skills that result in effective information exchange and teaming with patients, their families, and professional associates (e.g., fostering a therapeutic relationship that is ethically sound, uses effective listening skills with nonverbal and verbal communication; working as both a team member and at times as a leader).</p>
<p>6. Systems-Based Practice Demonstrate awareness of and responsibility to larger context and systems of healthcare. Be able to call on system resources to provide optimal care (e.g., coordinating care across sites or serving as the primary case manager when care involves multiple specialties, professions, or sites).</p>

Table 1. American Board of Medical Specialties six core competencies for improved quality of care.

Know What You Don't Know (and Ask)

In a busy clinical practice, the average physician has 8 to 20 knowledge "gaps" during a day of patient care. However, in many instances these questions do not get answered, as the crush of practice prevents practitioners from seeking answers to their specific questions at the point of care. A competent cardiologist should seek out answers to their questions before making clinical decisions. One of the major barriers that physicians face is the inability to find expert-vetted information at the point of care. National guidelines such as the ACC/AHA (American Heart Association) Practice Guidelines have a rigorous systematic approach to synthesize evidence-based information vetted by experts in the field. However, to use this knowledge at the point of care, the information needs to be succinct, concise, relevant, and searchable. At the present time, our guidelines are created and stored in a format similar to textbooks, serving as a wealth of knowledge but not readily or conveniently accessible. Cardiologists in a busy practice need a means by which they can get their clinical questions answered rapidly from nonbiased trusted sources within their normal work flow to make informed decisions more efficiently and effectively. The ACC and AHA are in the process of creating a

system for clinicians to access the “bytes” of knowledge from the ACC/AHA Practice Guidelines. This requires modification of the guidelines into a modular format, allowing the systematic tagging, storage, retrieval and dissemination of clinical recommendations. Cardiologists will then be able to obtain pertinent answers to their clinical questions when needed most, at the point of care.

Practice Highest-Quality Medicine

Current medical practice relies heavily on the unaided mind to recall a great amount of detailed knowledge. This is a process that, to the detriment of all stakeholders, has been repeatedly shown to be unreliable. This unreliability is not just with respect to recall but also to analysis, processing, and application to individual patients. It is clear that the individual physician cannot remember all of the details and nuances of a patient’s care. The physician must depend on the system in which he or she practices. This dependence requires that physicians demonstrate the ability to work in a team-based environment, usually with the responsibility of team leading. Each physician must examine the processes and systems of care with an eye to continuous improvement to assure optimal patient care. An analysis of one’s practice data and knowledge of the principles of quality improvement are required. All competent physicians should understand the principles of PDSA (plan, do, study, act) or DMAIC (define, measure, analysis, improve, control) formats and continually apply them to improve their systems of care.

Some hospitals and academic medical centers have acquired the ability to analyze their own data through their own databases and electronic health record systems. However, national registries such as the ACC National Cardiovascular Data Registry will play a major role for practicing cardiologists who would not otherwise have access to their practice or institutional data. Practice analytics and national quality initiatives authored by professional societies will provide important foundations for continued practice improvement.

Practice the Art as Well as the Science of Medicine

Patients make choices on the basis of their own values and preferences and not necessarily on the basis of outcomes data, clinical efficiency, or resource implications. Thus, all physicians must be able to understand a patient’s own personal values to make sensible, meaningful, and shared decisions. As stated in the Hippocratic oath, it is important that one “remembers that one should not treat a fever, a cancerous growth, but a sick human being, whose illness may affect the person’s family and economic stability. The responsibility includes this related problem, if one is to adequately care for the sick.”

Compassion and understanding of our patients’ personal preferences remain essential parts of being a competent physician. We should consider our role of physician as a privilege to be taken into a patient’s and their family’s life, entrusted with the most personal and private information regarding their desires, goals, and fears.

The Quest for Life-Long Learning and Maintenance of Certification

Physicians should be engaged in life-long learning. The most admired physicians are those who continually seek new knowledge and strive for constant improvement. The process of self-reflection is one that should be incorporated into every day, in which the physician examines critically what went well, what didn’t go well, and what is needed to do better next time. Maintenance of Certification should not be looked upon as a punishment or requirement but as part of a physician’s responsibility to their patients and society. However, there must be a collaborative effort among certifying boards, professional societies, and academic medical centers to provide credit for engaging in life-long learning (synchronous and asynchronous with direct patient care) that is truly relevant to an individual physician’s practice.

The Role of Societies and Academic Medical Centers

All professional societies and academic medical centers recognize the importance of physician competence. Proper tools and resources must be provided so that all physicians remain competent in their chosen practice. Physicians must take it upon themselves to demonstrate that they remain competent throughout their career. The medical profession has never been held accountable to this level before, and it is up to us to assure that we train the most highly competent physicians for the future. Licensing bodies and professional societies must assure the public that they are receiving care from competent physicians. Attainment and continuous demonstration of competence are laudable and appropriate goals for our profession and patients.

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