Clin Orthop Relat Res (2014) 472:2932–2937 / DOI 10.1007/s11999-014-3732-5

Clinical Orthopaedics and Related Research®
A Publication of The Association of Bone and Joint Surgeons®

Published online: 21 June 2014

Not the Last Word

Not the Last Word: The ACGME Core Competencies are Overrated

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In an effort to monitor residency programs' performance [3], the Accreditation Council for Graduate Medical Education (ACGME) defined a list of "core competencies" to be mastered by all residents: "patient care," "medical knowledge," "practice-based learning and improvement," "interpersonal and communication skills," "professionalism," and "systems-based practice" [1].

This list may be unfamiliar to you. If it is, you are not alone. In one recent study [9], researchers asked 193 residency applicants to name the six core physician competencies; 76 had no knowledge of any of them, and only three applicants correctly identified all six.

To me, the ACGME core competencies defy easy recollection because they neither match an intuitive concept of medical competence, nor do they address the day-to-day demands of residency. Rather, the ACGME core competencies seem to be a hybrid employed all too often in medical training: A standard whose primary value is predicting the attainment of yet another standard.

Given that the purpose of residency education is to lay the foundation for life-long practice, I would argue that the ACGME should care more about the habits residents acquire, rather than the specific competencies they attain. The habits I have in mind are seemingly mundane — for example, reading routinely for conferences, preparing for all surgical cases, always arriving on time for rounds, and answering nurses' and colleagues' questions with alacrity. These are the things that matter.

Medical schools are filled with college graduates who once knew (and have since forgotten) how to make alkanes from alkenes and esters from ethers; orthopaedic surgery residencies are similarly replete with medical school graduates who at one time (but no longer) could recite the sodium concentration in every region of the nephron. For most practicing physicians, these facts are clearly marginal. Still, their mastery is taken as a proxy for the talent needed to surmount the next hurdle, and are (over)valued accordingly. For example, orthopaedic surgery residency selection processes place great weight on the United States Medical Licensing Examination, not so much because the content of that test is relevant, but because performance on this (tangentially relevant) test is considered a good predictor of future performance on perhaps more germane topics. The ACGME competencies seem to fall into that category: A predictor of some still further competency or skill.

The limits of using current mastery as an indicator of future mastery were wryly pointed out by Laurence Peter, who gave us his eponymous "Peter Principle" [8]. The Peter Principle is based on the observation that competent employees get promoted and incompetent employees will not. Thus, competent people will continue to rise up the ranks until they achieve a

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position that they are not competent to hold. This is where they will stay, because their lack of competence blocks their further promotion. In the long-term, the principle states, every job in a firm will therefore be occupied by somebody who (as evidenced by his failure to earn a promotion) must be incompetent.

Peter's Principle notwithstanding, it is perfectly reasonable to test residents regarding the knowledge, skills, and attitudes needed to perform their current jobs. Senior residents pursuing careers in spine surgery, for example, must have reasonable proficiency with knee arthroscopy. This is not so much because that skill reflects good eye-hand coordination and in turn, potential for success as a spine surgeon in the future, but because senior residents must perform knee arthroscopy today. Yet, we do not need the ACGME to ensure that aptitude. Rather, we can rely on the self-interest of program directors (whose patients would be harmed by present-day incompetence) to discover those residents who cannot do their job.

The more apt focus of the ACGME should be on fostering competence for the physician's entire career. And if enduring competence is the goal, the ACGME must shift away from an assessment of "core competencies" to an emphasis on "core habits." Current habits, more than current masteries, will ensure enduring fitness for practice.

If we hope to have doctors in the year 2024 who are able to adopt new approaches, we should encourage today the habit of self-directed learning. If we hope to have doctors in the year 2024 who are able to place their patients' needs before their own, we should encourage today the habits of service and prompt communication.

More to the point, we should record residents' attainments of good habits and accord to these records at least as much weight as we give to examination scores. The surgeons I admire most are those whose habits are excellent (and vice versa) — whether they can discern collagen type-X from collagen type-IX is insignificant by comparison.

The records of residents' habits can be comprehensive. Residents currently register their surgical cases, but more is available. We can easily record daily reading lists; we can effortlessly measure attendance and punctuality at conferences, floor rounds and surgical operations; and it is not hard to collect frequent assessments of preparation, execution, and collegiality.

The process of recording habits will not only describe the residents, it can shape them. Casual joggers hoping to complete a marathon know the importance of a runner's log. Overeaters hoping to attend their 25th college reunion without a middle-aged paunch often learn the value of a food journal. Likewise, residents who know that their daily habits are monitored are more apt to maintain good habits.

"We are what we repeatedly do," Aristotle wrote. He concluded, "Excellence, then, is not an act, but a habit." Encouraging good habits in our residents today is the best means of assuring not only later competence, but later excellence.

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Dr. Bernstein raises important issues when he argues that the ACGME core competencies are "overrated" and represent "a standard whose primary value is predicting the attainment of yet another standard."

While few would argue against the need for standards in medical education, the issue here relates to role of the ACGME core competencies in resident education. As both a clinician-educator and educationalist, I offer a further perspective.

Documenting resident training outcomes should provide clarity around

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expectations — not just to the standards body, but also the training institutions and teachers involved in education delivery, the residents aspiring to become physicians, and the community the physicians will eventually serve. The growing vogue is to define these outcomes as "competencies."

The global expansion of competency-based medical education can be largely attributed to the 2005 CanMEDS framework [5], an initiative of The Royal College of Physicians and Surgeons of Canada, which started in the early 1990 s to match medical education with a rapidly changing society and its requirements. They defined seven competencies "roles" with the "medical expert" central to six additional roles: "professional," "communicator," "collaborator," "manager," "heath advocate," and "scholar" [5]. Failure to agree on definitions and the utility of these headings led to modifications by other educational bodies such as the six core competency roles used by ACGME.

Even the term "competency" has created heated debate around definitions and/or suitability for use in health education [6]. Generally speaking, a competency is defined as a level of ability or mastery composed of knowledge, skills, and attitudes. However, the devil is in the details. How do you accurately determine which knowledge, skills, and attitudes define a competency? How can you teach it? How can you assess and certify it? If a competency can be demonstrated to an examining board, will performance in real life follow?

All of the important "habits" referred to by Dr. Bernstein in his column are consistent with, and covered by, the competencies defined by ACGME. Unfortunately, they are not framed in a way that is clear or useful to residents or even experienced clinical educators such as Dr. Bernstein.

Frameworks are required that not only define competencies, but organize their content formats that are consistent with sound educational principles (pedagogy) and conducive to expanding clinical reasoning. They need to incorporate the knowledge of biomedical sciences, social sciences, and critical thinking processes with clinical assessment and management skills, along with all the other professional and scholarly roles as part of a continuum. [4]. The framework should act as a roadmap for learning, not just a sign-post of learning.

As demonstrated by the resident awareness study [9], without a wide reaching education strategy targeting residents and all those involved in clinical training, failure of implementation can be guaranteed.

These are some of the challenging, but achievable, steps required to progress competency-based education. These steps are required to ensure that the important "habits" defined by Dr. Bernstein are eventually recognized and understood by clinicians in terms of Core Competencies and not dismissed as "overrated."

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Dr. Bernstein's commentary shines a much-needed light on the six ACGME's core competencies. However, his conclusion that they are overrated and do not promote appropriate habits are misguided. Yes, these competencies presently have limited effectiveness. Any set of competencies whose only purpose seems to be collecting dust on a bookshelf will not be effective. Evaluation drives learning and without integration into the methods by which residents are evaluated, competencies will predictably not be effective. However, a lack of effectiveness should not be confused with a lack of importance. These core competencies outline a critical skill set that every graduating resident should have. This may be a primary reason why the ACGME is incorporating these objectives into their proposed Next Accreditation System. The ACGME is

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committed to ensuring that the ideas outlined in their core competencies are actualized by physicians in training.

Dr. Bernstein argues that the focus of residency training should be on the habits that residents form, rather than mastering of various competencies. There is no doubt that developing effective lifelong learning habits that residents will carry throughout their careers is critical. This is why "practice-based learning and improvement" is one of the six core competencies. What becomes problematic is how these habits as well as other knowledge, skills, and attitudes are acquired by each resident. Role modeling is the most powerful teacher — residents learn what they observe. This is wonderful when role models demonstrate dedication, clinical excellence, exemplary interpersonal skills, and a commitment to function effectively within the system. However, there are huge unexplained variations in how orthopaedics is practiced across the country. Not every teacher is a great role model and no teacher is a perfect role model. Residents in different residency training programs develop markedly different habits based on where they trained. This is why relying on the self-interest of individual program director is not acceptable. Decreasing variation is one of the primary principles of the quality improvement movement. Reorienting our education system to ensure that residents graduate with a more standardized skill set as the ACGME is proposing is a worthy goal.

There is an even more fundamental reason why continuing the status quo would be unacceptable. Dr. Bernstein implies that we should merely codify the existing residency training experience in the form of outcome measures. However, the requirements of modern medicine demands a fundamental change in the way that physicians practice. This is what the ACGME core competencies are designed to reflect.

In their recent study, Nasca and colleagues wrote: "The ACGME's public stakeholders have heightened expectations of physicians. No longer accepting them as independent actors, they expect physicians to function as leaders and participants in team-oriented care." [7]

This is the core message behind "systems-based practice," one of the least understood, but perhaps most important of the six core competencies. Modern medicine is a complex team activity. Physicians in this new paradigm of medicine not only need knowledge and technical skills, but just as importantly, the ability to function well within this team environment. In many instances physicians will be expected to take on leadership roles. This is not business as usual. It implies that physicians need to understand all of the elements of their patients' episodes of care and work to ensure that their patients are receiving care in a coordinated, high quality, and cost effective manner. To date, many physicians of all types, including orthopaedic surgeons, have been reticent to embrace these changes. Change is hard, but in this case, it is necessary as the traditional paradigm of surgeons working in isolation focusing largely on the technical aspects of their craft is inconsistent with how our medical system needs to function in the future. The ACGME guidelines are a delineation of this new world.

It is true that very few resident educators today can outline the ACGME core competencies. However, in the years to come this will change. Demonstrating competency in these domains now represents an essential step in a resident's training, as well as a blueprint for what it means to be a good modern physician. This is something we should embrace, not fight.

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I commend Dr. Bernstein for thinking critically about our current resident education system. I should first state that although I have been involved in resident education for 27 years and am passionate about advancement of our education mission, I am not a member of the orthopaedic Residency Review Committee or American Board of Orthopaedic Surgery (ABOS). I believe that allows me to reflect upon Dr. Bernstein's opinions, which are critical of the Core Competency System, without any significant conflict of interest.

I find myself in disagreement with much of what he has postulated. In fact, many of the arguments that he makes are, I believe, supportive of the core competency concept. Although I agree that the terms "systems-based practice" and "practice-based learning and improvement" are not as self-explanatory at first glance as I would like, the underlying concepts are far from rocket science. I believe that if orthopaedic educators reflected upon these concepts with the same degree of passion and curiosity as we appropriately exercise in the care of challenging orthopaedic conditions, the confusion associated with them would be largely dissipated.

Where do we agree? Reading in preparation for conference, preparing for the operating room, teaching conference, punctuality, and being responsive and professional are attributes that residents need to demonstrate. These should be habits residents acquire and demonstrate prior to being allowed to sit for Part 1 of the boards. Additionally, they must demonstrate an appropriate fund of knowledge and the ability to apply that knowledge to patient care, appropriate surgical skills, and the ability to apply their individually excellent skills to the efforts of a complex health care team. Put all of that together and one has the core competencies.

I also share Dr. Bernstein's concern regarding our dependency on United States Medical Licensing Examination Step 1 scores in the medical student/residency match process. There are several studies in the orthopaedic literature demonstrating that performance on this exam is not predictive of resident performance. This, however, has nothing to do with the core competencies.

Where do we disagree? Dr. Bernstein states that we do not need the ACGME to ensure that graduating residents have common, basic skills. More specifically, he refers to the example of a graduating resident doing a spine fellowship needing to learn basic arthroscopy skills. Prior to the competencies, the resident surgical experience was highly variable, and review of resident case logs within departments would demonstrate widely differing surgical experiences. Even as currently constructed, it can be challenging to maintain resident interest in basic orthopaedic skills once they have matched into their chosen fellowship.

Moreover, it is not the purview of the ACGME to foster competence for the physician's entire career. This organization accredits residency programs, not orthopaedic surgeons. Although I believe increased collaboration between the ABOS and orthopaedic Residency Review Committee would be desirable (and I believe we are seeing signs of this with the Milestones Project [2]), it is the responsibility of the ABOS to certify the competence and maintenance of competency of that individual.

The core competencies are not perfect. Orthopaedic educators are, rightfully so, being held to a higher standard relative to training the next generation of physicians. The competencies were implemented in resident (not undergraduate medical) education in 2001. The study [9] referenced by Dr. Bernstein [9] indicates that graduating medical students were unfamiliar

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with the competencies. As such, it overstates the lack of understanding of educators and residents and one cannot state orthopaedic educators and residents have the same limited insights.

I do not believe the core competencies are overrated. They form an organizational basis and foundation for resident education, based upon careful analysis of the knowledge and skills that we want a graduating resident to demonstrate. This includes commitment to lifelong learning, professionalism, interpersonal and communication skills, and the ability to apply excellence at the individual level to that of a healthcare team and system. Is there room for improvement? Yes. Are we challenged by methods of assessment? Yes. Are the workload and documentation requirements increasingly challenging? Yes. The competencies have raised the bar of resident education and we need to continue to strive to meet the challenge.

References

1. Accreditation Council for Graduate Medical Education. Implementing milestones and clinical competency committees. Available at: http://www.acgme.org/acgmeweb/Portals/0/PDFs/ACGMEMilestones-CCC-Assesment-Webinar.pdf. Accessed June 2, 2014.
2. Accreditation Council for Graduate Medical Education. The orthopaedic surgery milestone project. Available at: http://acgme.org/acgmeweb/Portals/0/PDFs/Milestones/OrthopaedicSurgeryMilestones.pdf. Accessed June 2, 2014.
3. Bancroft GN, Basu CB, Leong M, Mateo C, Hollier LH, Jr., Stal S. Outcome-based residency education: Teaching and evaluating the core competencies in plastic surgery. *Plast Reconstr Surg*. 2008;121:441e–448e.
4. Chehade MJ, Burgess TA, Bentley DJ. Ensuring quality of care through implementation of a competency-based musculoskeletal education framework. *Arthritis Care Res (Hoboken)*. 2011;63:58–64.
5. Frank JR, ed. *The CanMEDS 2005 Physician Competency Framework. Better Standards. Better Physicians. Better Care*. Ottawa, Canada: The Royal College of Physicians and Surgeons of Canada;2005.
6. Frank JR, Mungroo R, Ahmad Y, Wang M, De Rossi S, Horsley T. Toward a definition of competency-based education in medicine: a systematic review of published definitions. *Med Teach*. 2010;32:631–637.
7. Nasca TJ, Philibert I, Brigham T, Flynn TC. The Next GME Accreditation System — Rationale and Benefits. *NEJM*. 2012;366:1051–1056.
8. Peter LJ, Hull R. *The Peter Principle: Why Things Always Go Wrong*. New York, NY: HarperCollins; 2009:1–192.
9. Wasnick JD, Chang L, Russell C, Gadsden J. Do residency applicants know what the ACGME core competencies are? One program's experience. *Acad Med*. 2010;85:791–793