

Six core competencies and seven deadly sins: A virtues-based approach to the new guidelines for graduate medical education

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As part of efforts afoot to improve the overall quality of physician training, the Accreditation Council for Graduate Medical Education (ACGME) has endorsed a set of competencies that will be the blueprint for outcomes-based graduate medical education for years to come. While the spirit of this new law is taking shape, the letter remains largely unwritten. To bridge this gap, administrators of programs from all specialties must determine how the core competencies will be taught, evaluated, modeled, and enforced within their respective programs. This paper summarizes these challenges, in particular for surgical programs, and focuses constructively on the modeling/enforcement approach, describing key characteristics that programs should pursue and cultivate (virtues) as well as the signal prohibitions (vices) that both trainees and trainers must avoid. Regardless of specialty or programmatic particulars, virtues and vices may be used to define a context in which general competencies may be understood, and yield operational guidance upon which ultimate discussions of evaluation, remediation, and graduation may be predicated. (Surgery 2005;138:490-7.)

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In 1999, the Accreditation Council for Graduate Medical Education (ACGME)'s Residency Review and Institutional Review Committees announced a paradigm shift in residency-based education. This shift is based on measuring actual success at achieving well-trained and educated, ethical and compassionate physicians, rather than measuring a program's potential for those results. To achieve this goal, the ACGME committees have endorsed 6 general competencies that are now an expected component of residency curricula, evaluation, and planning for all specialties (Figure).¹

By putting interpersonal, communication, and professional skills on a par with patient care and medical knowledge, the ACGME committees seek to further quality care and the humanistic mission of the profession. In addition to emphasizing evidence-based approaches toward clinical science, the core competencies require residents to effectively create therapeutic relationships with patients, to educate and provide useful information to patients and families, and to work collaboratively in health care teams. In short, the ACGME makes formal what patients and risk managers have been saying for years: Nontechnical competence counts.² This elevation of nontechnical competence to such an important level in residency education raises particular challenges for highly technical specialties such as surgery. The task of competency implementation has been largely left to the programs' administrators, for only they can define the specific knowledge, skills, and attitudes required and provide educational

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experiences needed for their residents to attain proficiency in a given specialty.

Although a few programs are beginning to develop a toolbox of curricula,³ endorsements of professionalism,⁴ formal educational materials, codes of conduct,⁵ and evaluation instruments for future use, there is an immediate need among educators from all disciplines to embrace an overarching template that will guide this transformative, outcomes-based educational process. If the desired outcomes are to be achieved, the underlying substrate upon which the ACGME's competencies are fashioned cannot be ignored. This substrate is the inherent character or virtue of the trainee, and, when forged in the firmament of a strong program, may form a foundation upon which the competencies may be built and tested over a lifetime.

COMPETENCE AND VIRTUE

The competency approach helps to expand notions of what is required of housestaff in qualitative terms. Given opportunities for learners to discover their own strengths and weaknesses, they are more likely to acquire the virtues that will ensure their success over the long term. As Aristotle⁶ argued long ago, virtues, when practiced, become lifelong habits; habits in turn describe our inherent character, and, by extension, our competence. While virtue-based approaches to character building have informed teachers for millennia, they can be put to new use to inform our understanding, interpretation, and implementation of the general competencies. A rediscovery of virtue-driven aspirations, ideals, and relative goals provides an antidote to professional ennui and a road map to excellent surgical practice.⁷⁻¹⁰

Most discussions of medical ethics and professionalism have focused on a hierarchy of ethical principles and an emphasis on rights and duties. However, in recent years, Alasdair MacIntyre's⁸ claim that virtues can be the basis for ethical behavior has gained wide support. As Pellegrino and Thomasma⁹ have suggested, such an approach does not ignore the importance of rights and duties as bases for ethical decision-making, but rather recognizes that the moral effectiveness of physicians depends on the disposition and character traits of the men and women who practice medicine and surgery. By reinterpreting the competencies in terms of the virtues necessary for the effective practice of medicine and surgery, one can enrich the concept of ethics beyond a theoretical exercise to include the important behaviors that can guide interactions with patients.

"The residency program must require its residents to develop the competencies in the 6 areas below to the level expected of a new practitioner."

1. Patient care
2. Medical knowledge
3. Practice-based learning and improvement
4. Interpersonal and communication skills
5. Professionalism
6. Systems-based practice

Figure. Six general competencies endorsed by the ACGME.

The development of virtue in our learners can be particularly helpful in preparing them to meet the Goliath of multifaceted and unpredictable challenges in modern surgical practice. Some of the candidate virtues that may empower physician learners to meet these challenges are described in [Table I](#). Together these virtues help define the exceptional resident physician and the faculty from whom these traits are learned. If these traits are to be relied on, they must be developed through practice, repetition, and encouragement. Used as a tool for building competency, clearly defined and transparent expectations of behaviors compatible with these virtues can drive standards-based evaluation systems. In addition, with the advent of work-hour restrictions and the necessity of cross-coverage models, the emphasis on virtues can help to reinforce to surgical residents the important bonds between a surgeon and the patient who has been operated on.

Careful delineation of expected virtues also leads to a characterization of antithetical, unacceptable, corollary opposite behaviors that describe *incompetence*; knowledge of these vices can assist in directing learners and aid faculty in identifying those in need of remediation. While these vices or signal prohibitions are different from the seven deadly sins of medieval Christendom (pride, gluttony, lust, avarice, sloth, envy, wrath), there can be little doubt that surgeons of today continue to be plagued by the same kinds of legendary Faustian bargains that Goethe wrote about.

Although [Table I](#) suggests that virtues and vices can be specifically categorized relative to certain general competencies, it should be readily apparent that there is significant overlap among competencies. For example, *apathy* is described as a vice relative to the competency of medical knowledge. This same vice could as easily be seen as an unacceptable behavior relative to the competency of patient care. However, we have chosen to group specific virtues and vices with specific general

Table I. The general competencies and related virtues and vices

<i>General competency</i>	<i>Patient care</i>	<i>Medical knowledge</i>	<i>Practice-based learning & improvement</i>	<i>Interpersonal & communication skills</i>	<i>Professionalism</i>	<i>Systems-based practice</i>
Virtues	Mental stamina	Intelligence	Pragmatism	Empathy	Integrity	Teamwork
	Physical agility	Logic	Teaching	Compassion	Trustworthiness	Leadership
	Fidelity	Perseverance	Discernment	Tact	Courage	Temperance
	Conscientiousness	Scholarship	Prudence	Discretion	Altruism	Resilience
	Vigilance	Inquisitiveness	Insight	Honesty	Magnanimity	Advocacy
	Wisdom	Healthy skepticism	Judgment	Tolerance	Fortitude	Stewardship
				Sincerity		Justice
Vices	Carelessness	Ignorance	Ignorance	Boorishness	Deceit	Arrogance
	Negligence	Apathy	Nonlinear	Disrespect	Cowardice	Avarice
	Recklessness	Unquestioning	Stagnant	Insincerity	Selfishness	Insularity
	Disrespect	Guessing	Disinterested	Callousness	Jealousy/pettiness	Profligacy
		Arrogance		Insensitivity	Disrespect	
		Credulity		Bigotry	Avarice	

competencies so that, when assessing the successful achievement of a specific competency, the faculty will have specific behaviors in mind in their evaluation procedures.

IMPROVING OUTCOMES: SELECTING QUALITY CANDIDATES

Some 7800 residency programs in the United States seeking continued accreditation will have to respond to the new ACGME competencies directly and efficiently, in ways that speak to the ultimate formation of virtuous clinicians. Given that in excess of \$8 billion is spent annually through Medicare to train residents, the federal government is unlikely to provide programs with additional resources to support this unfunded mandate. Therefore, a parsimonious and logical first step toward achieving programmatic goals of quality graduates, of course, is to recruit quality applicants. This is more difficult than perhaps anticipated, however, given supply-side shortfalls, programmatic competition, and an increasingly legalistic recruitment atmosphere. Every program has experienced the thrill of attracting a "winner," only to discover, in hindsight, a major flaw for which there was little recourse. There is no panacea for this phenomenon, but an inquiry into an applicant's specific virtues may enable the selection of candidates who possess the requisite raw material: the interpersonal, intellectual, social, and humanistic substrate upon which further technical skills may be developed.

Carefully defining the desirable virtues and undesirable vices specific to a given specialty can aid in the process of identifying "good-fit" candidates and encouraging their interest. In this model, different specialties may define themselves by em-

phasizing a different balance of virtues or by more avidly avoiding certain vices. In addition to the ancient virtues of prudence, temperance, courage, and justice, seven virtues that express the uniqueness of modern trauma-based surgical practice may be considered: resilience, nonjudgment, trustworthiness, agility, vigilance, compassion, and charity.¹⁰

Once desirable and antithetical traits are defined, the issue becomes how to choose those candidates who already embody desirable virtues. Successful programs work with medical students to encourage the brightest and best fit to apply. Of course, interested students cannot rotate at every program in their chosen specialty. The reference process may need to incorporate an evaluation of the applicant's virtues and vices, and the interview process may include a standardized patient encounter or other on-site method of measuring interpersonal character and communication skills.

While choosing superior interns may increase the odds of success at residency's end, in no way does such initial choice guarantee longitudinal program success. Improvements in resident assessment should be paralleled by improvements in the evaluation of medical students. Moreover, careful candidate selection does not absolve programs of their prima facie responsibility to bridge gaps in character and skill. Just as skills and attitudes atrophy when they are not developed and nurtured, programs must not be complacent after matching quality candidates.

EDUCATE EFFECTIVELY: MODEL VIRTUE AND COUNTERACT VICE

To nurture virtue as a vital part of physician education, teachers should do more than simply ensure trainees can successfully place a central line

or formulate an appropriate differential diagnosis. It is incumbent upon faculty to mentor and model behaviors that will lead to academically successful, technically competent, resiliently humanistic, and emotionally mature colleagues. Virtues do not live in isolation, and persons with strong moral character should be actively recruited as faculty to cultivate virtue in other team members.

In addition to exemplifying virtue, faculty members should improve their own communication skills to include both the willingness and the ability to address shortcomings in a beneficent fashion. As faculty members bring unique sets of skills and interests to the group, they also bring their own virtues and vices. Programs cannot and should not expect residents to behave in a more professional manner than their teachers. In addition to modeling virtues, the faculty role includes knowing the pitfalls and avoiding them, lest they lead learners astray.

Specific behaviors that are the outward manifestations of underlying principles must be defined to translate a virtue-based ethic of care into action. [Table II](#) outlines a continuum of behaviors that ranges from those expressing professional ideals to egregious actions demonstrating vice. Administrators of individual residency programs should review such lists to determine their own standards. Identifying specific desirable and undesirable behaviors provides a pragmatic roadmap to virtue for faculty and trainees alike. Such an explicit roadmap diminishes the anxiety associated with only vaguely understanding expectations and provides the basis for evaluation and remediation processes.

MEASURING SUCCESS: THE RESIDENT EVALUATION PROCESS

The first goal of the evaluation process is to allow for the prompt identification of individuals who have substandard performance. Summative evaluations, if used effectively, can lead to rapid remediation before the behavior becomes ingrained or refractory to intervention. However, identification of egregious behavior to allow for disciplinary remediation represents the barest minimum level of resident evaluation. A second and more positive goal for the evaluation process is formative: to foster the growth and development of excellence in patient care and instill a joy in lifelong learning through consistent feedback and faculty interaction.

The ACGME outcome project has begun to specify the characteristics of good assessment.¹¹ In brief, it includes the use of feasible, valid instruments that yield reliable, relevant data. Appropri-

ate, fair evaluation includes prespecified criteria consistent with program objectives, multiple assessments/observations, and multiple observers.¹²

To allow balanced, specific, behavior-driven evaluation, faculty should develop standard criteria as described above and shared them with trainees. While professional behavior can be expected at every stage of training, knowledge, technical skills, and management-based expertise should be expected to develop in predictable patterns over the course of specialty education. Thoughtful delineation of standards of performance over time, when formalized by individual programs, naturally leads to a more objective approach to evaluation.

Methods of assessment differ with the required behavior or skill being assessed. Written examinations can assess knowledge base, but they cannot be used to evaluate real-time clinical decision making or humanistic behavior. Direct observation by a shadowing faculty member provides only a glimpse of these behaviors and is limited by the Hawthorne effect as well as faculty availability. Standardized patient encounters, whether videotaped or not, constitute one effective method of teaching and evaluating clinical and communication behaviors.¹³

Real-life professionalism is perhaps best measured with a conceptually recent construct created for performance appraisals in the business arena, the “360-degree evaluation”.¹⁴ This construct requires evaluation by other residents, both above and below the individual being evaluated, as well as nurses, ancillary staff, faculty, and patients. This method seeks to provide a more-comprehensive view of the virtues and vices a resident portrays. In addition, it provides the resident with input that does not allow him or her to dismiss the negative with the assumption “the faculty doesn’t like me.” Since the evaluation comes from the whole group, the assessment is more reliable and harder to reject. However, 360-degree evaluations may be somewhat impractical because they are burdensome to complete.

Ratings on such a comprehensive evaluation should compare the individual to a gold standard of virtuous behavior. This comparison might be created by adding a Likert scale of “never,” “seldom,” “sometimes,” and “almost always,” and “always” to the behaviors outlined in [Table II](#), with the goal of “always” performing the ideal and expected behaviors, and labeling “never” performing the behaviors as egregious.

In addition to standardized and descriptive assessment, faculty mentors should give individual feedback relating to specific situations or encounters

Table II. Behavioral expression of virtues, vices, and competencies

Inspirational/ideal behaviors	
	Is generous and forgiving toward co-workers, consultants, patients, and families
	Is altruistic toward others
	Has resiliently positive attitude and good humor
	Is humble about own achievements
	Nurtures learners and solicits questions
	Shows charity toward patients, staff, consultants
	Consistently goes beyond the call of duty
	Defuses volatile and anxious patients and staff
	Communicates benevolently at the level of the listener with patients/family/staff
	Integrates the latest evidence into clinical practice without bias or undue enthusiasm
Expected behaviors	
	Arrives on time and prepared for work
	Acts in the patient's interests
	Completes medical records and operative reports
	Completes care and disposition of patients before signing them out
	Treats patients/family/staff/paraprofessional personnel with respect
	Protects staff/family/patients interests/confidentiality
	Teaches other team members: students, staff, residents with impartiality
	Compassionately discusses difficult issues (treatment options, end-of-life decisions, diagnoses, organ donation, etc) with patients/family/staff
	Openly accepts and uses constructive criticism from patients, peers, faculty, and staff
	Is self-reflective about own academic, professional, and personal needs
Unacceptable behaviors	
	Arrives late or unprepared for work
	Exposes patient information
	Uses offensive language
	Performs nonemergent procedures without appropriate consent
	Interacts disrespectfully with colleagues/patients/family/staff
	Unfairly discriminates among students or patients on the basis of race, gender, creed, or other characteristics
	Fails to listen to patients, families of patients, staff, and faculty
	Fails to appropriately attribute other's work when using it
	Fails to learn from mistakes and keep abreast of cumulative evidence
	Fails to consistently use authoritative sources of clinical information
	Utterly neglects own personal, intellectual, physical, emotional, and spiritual needs
Egregious behaviors	
	Abandons patients
	Lies, cheats, or steals refractorily
	Takes risks that seriously threaten safety of patients and staff
	Harasses students/patients/staff
	Verbally or physically assaults patients/family/staff/colleagues
	Falsifies medical records, operative reports, or research data
	Violates work-hour restrictions and moonlighting policies
	Is sexually inappropriate with colleagues/subordinates/patients/staff
	Abuses drugs, alcohol, or other substances

to minimize recall bias. Consultants, ancillary staff, patients, and peers can play an important role in providing time-sensitive narrative and oral feedback. Objective measures also may be utilized, such as integration of professional or ethical issues into oral board examinations, objective structured clinical examinations, video review using standardized patients, or on in-training examinations.¹⁵ For each of the general competencies, residents

should be expected to improve their teaching and learning skills using the evaluative feedback loop.

Optimal assessment of residents is undergoing a sea change; the monthly checklist from faculty will no longer suffice. Faculty must take seriously their responsibility to be role models of virtuous behavior. Furthermore, they must take the time to carefully evaluate residents' behaviors relative to

the standards that have been set by the program. More complete assessments will require specific training of faculty for successful implementation and may require additional resources, such as time for faculty shadowing and standardized patients. Added investment is necessary if program accreditation and professional character are to be taken seriously. The physician with ideal clinical and interpersonal skills, and moral and emotional stamina does not mature overnight. At least semiannually, there must be a formal evaluation of knowledge, skills, and professional growth of resident learners that is responsive to the new mission of outcomes-based education and training.

REMIEDIATION PROCESSES

Sometimes student and resident learners fail to develop the requisite clinical virtues, and competence itself is impaired. While it may be impossible to change the underlying personalities and attitudes of individuals who appear disinterested, abrupt, or insensitive, residents can and should be expected to perform their duties in specific ways. Thus, modifying behavior, and not personality, is the ultimate goal of remediation, which shifts the emphasis toward more measurable goals. This deontological approach does not abandon virtue, but it requires that vice, at a minimum, be eliminated.

Clear expectations help learners to chart their own progress and understand and accept remediation in the rare cases when it becomes necessary. Programs need to have a uniform and consistent approach to residents who require remediation. Strong mentoring relationships can facilitate the remediation process, but faculty-resident boundaries must be respected to ensure objectivity. While the details of a specific resident's progress should generally be confidential, the process itself should be transparent to both trainees and faculty alike. Criteria for entry into and successful completion of the remedial system pathway should be defined a priori when possible. When present, deficiencies and their dissolution should be documented and addressed at regular, time-phased stages and program-defined intervals.

One criterion for requiring remedial intervention might be averaging a score of "sometimes" on an evaluation line item of "exposes patient information" or other of the unacceptable behaviors suggested in Table II. Engaging in any specific episodes of defined egregious behaviors such as lying, cheating, or stealing might be another cause for rapid remediation. Remediation processes should be aimed at the specific deficits documented for that individual, but the processes

must remain comprehensive in scope so that systemic problems are not missed or ignored. Remediative processes might involve sensitivity training, team building, psychological counseling, or interactive exercises. With trainees who are striving for excellence, simply making them aware of the specific effect of their behavior may be sufficient to stimulate an improvement. For others, however, certain behaviors are so egregious that they should place the resident in immediate danger of being fired. For example, presenting a history and physical as "personally performed," when in fact the resident has never seen the patient constitutes lying and falsifying the medical or operative record. While due process, documentation, and warning would be expected prior to dismissal, it may be helpful for program directors to have explicit guidance from parent organizations to allow unbiased enforcement of standards and policies to avert threats of retaliation or legal reprisal downstream.

CELEBRATE GRADUATION

For successful implementation, the new competency paradigm must be reinforced at every opportunity. Residents who model different competencies and virtues well should be regularly rewarded and acknowledged publicly. Ultimately, successful completion of an accredited surgical residency program should signify not only the acquisition of surgical knowledge and technical expertise but an appropriate mastery of professional and interpersonal skills addressed in the general competencies as well. Successful candidates who have espoused clinical and interpersonal virtue should be celebrated and their sacrifices recognized. In addition, such a celebration should pay homage to friends and family members who have participated in the surgeon's training, provided support and understanding, and suffered the absence of their loved one. Properly marked, residency graduation can define the significance of this personal and professional milestone.

The medical school model may best inform current residency matriculation and graduation practice. For example, many medical schools now inaugurate students with a white coat ceremony^{16,17} designed to inculcate beginning students with a healthy respect for the requisite virtues of the profession. Medical school graduation ceremonies often include academic regalia, and the Hippocratic Oath with each graduate swearing aloud to care for "good of the sick" while holding themselves "far aloof from wrong, from

corruption, and from the tempting of others to vice.”

Years later, residency graduation provides yet another opportunity for reinforcing professionalism and acknowledging the mission of healing. Taking the time to mark this momentous entry as both triumph and covenant, a celebration of the sacred trust between colleagues and patients, is a chance to honor the ideals of the medical and surgical professions that ought not be missed. This acknowledgment does not require an hours-long event full of pomp and ceremony. It can be creatively accomplished by thoughtful planning and may reflect many of the ideals of a given specialty. At the very least, such an event should pay homage to mentors, friends, and family, with acknowledgment of their vital roles in the virtuous development of the graduating physician. In addition to a diploma, graduates might be gowned with crisp, new white coats labeled “Dr. X, Attending Physician,” receive a ring symbolizing their achievement, or receive some other emblem commemorating their formal induction into their new specialty. Needless to say, such rituals as this will only be meaningful if the residents are joining a cadre of attending surgeons who display the requisite virtues and are well-respected by the residents.

STAYING THE COURSE: THE VIRTUE OF WELLNESS

However useful, white-coat ceremonies and commencement platitudes are rarely sufficient to vaccinate graduates against the hidden curriculum of professional ennui over a lifetime.¹⁸ As with most vaccinations, a virtue-based education requires boosters at regular intervals to keep the vices of incompetence and burnout at bay. The practice of surgery can be an impairing experience, and disillusionment can harm both the characters of the practitioners and the care of patients.¹⁹ Character-based, multivalent competence requires not only a commitment to lifelong learning, as the ACGME suggests, but a commitment to the virtue of wellness. Humanitarian ideals are often under siege from the first day of training as unforgiving schedules and curricular demands eclipse the rhetoric of “patient-centered care.” If they are to last, virtues must be protected, both within and without, from inner disenchantment and the “slings and arrows” of a distributively unjust, bureaucratic, overburdened, and often impersonal health care system.

As a fellowship of healers, we need to embrace our members with generosity and magnanimity, and impart competence in the virtues of resilience,

balance, and temperance, lest the stethoscope around a young neck becomes more of a noose, rather than a tool for getting closer to patients. The ACGME has recently announced new rules limiting resident work hours to 80 per week and requiring 10-hour rest periods between shifts. These limits are echoed in the Patient and Physician Safety and Protection Act of 2001 (HR 3236), which provides for civil penalties for hospitals refusing to follow reasonable work-hour limits. However, there is no such vanguard to protect young doctors upon graduation. Self-care and moral nurturing throughout the professional life cycle are particularly important in times of ballooning public expectation, malpractice crises, increased time pressures, workforce shortages, decreased reimbursement, and increasingly managed care. Overworked doctors do “bad” things not because they are inherently bad or do not know scientific principles or lack common sense, they err because they are tired, exhausted, and so busy performing an endless cycle of documentation that they miss out on talking fully with their patients.

As Steven Covey²⁰ argues in *The Seven Habits of Highly Effective People*, one must take time to “sharpen the saw,” refresh, recreate, replenish, and retreat to be truly successful. Such wellness strategies help protect one’s personal and professional investment and calling to a vocation in the healing arts. Without recreation and inner renewal, professional purpose is easily clouded by job-related jaundice and terms such as *job*, *work*, and *doctoring* all become synonymous. Providers at all levels may be able to detect the signs of burnout in themselves and others: depersonalization, cynicism, jadedness, depression, substance misuse, and disillusionment. Assistance must be extended to those whose overidentification with surgery and the profession promotes both an unhealthy allegiance to duty and work, and an unhealthy aversion to wellness and self care. As the culture of medicine changes, there is a continued need for physicians to place the interests of patients before their own but to accomplish this goal in a way that is practicable without personal devastation is vital. The challenge for surgical faculty is to model such behaviors so that residents are constantly reminded that the goal is to have balance in their life and their practice.

CONCLUSION

This paper summarizes some of the challenges presented by the new ACGME competencies and focuses constructively on the modeling/enforcement approach, describing key characteris-

tics that surgical programs should pursue and cultivate (virtues) as well as the signal prohibitions (vices) that both trainees and trainers must avoid. These checks and balances, virtues and vices, aspirations and pitfalls, define a context in which the competencies may be understood and fostered. This approach yields a framework for approaching the tasks of choosing applicants, educating and, when necessary, remediating residents, and upon which ultimate celebrations of graduation and professional wellness may be realized.

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