Supervision in Medical Education: Logical Fallacies and Clear Choices

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Underlying the clamor for reform of health care insurance, financing, and delivery is a demand for accountability in medical education. Academic medicine must overcome complexity and inertia to accommodate unprecedented societal expectations for safety, quality, and reliability. To achieve this shift, the academic community must rethink and transform learner supervision, autonomy, observation, and feedback.

Deep-rooted logical fallacies impede this transformation. Several key items are discussed in the following sections.

"Residents Should Run the Teams"

This common refrain among clinical faculty at academic health centers is a dangerous concept. Frequently, it is used as justification or rationalization for detached supervision—the "splendid isolation" of attending physicians present somewhere on campus but not at the bedside. This leads to erosion of supervision as an activity and a skill.[1]

Safety, quality, formative feedback, and assessment suffer when patient care decisions and teaching are delayed to the postcall day. The hidden curriculum—"learning by your mistakes" with nominal supervision—must be called out and transformed.

The statement above entails concepts valuable to learning at the bedside and a working comprehension of systems-based practice, but it must be reframed in a model of robust faculty development for their role as supervisors. Residents must be granted leadership roles, while clinical faculty must directly observe resident behaviors, serving as bedside experts in criterion-based assessment and advancement, optimization of resident roles on interdisciplinary teams, improved sign-out systems, and better communication. Available and involved master clinician-educators are integral to the delicate balance of effective supervision, clinical service, and learner autonomy.[2,3]

"Supervision and Autonomy are Mutually Exclusive"

This theme is repeated in hushed tones every interview season by fourth-year medical students contemplating the constant presence of faculty intensivists in our intensive care units and faculty hospitalists on our wards. Students too frequently perceive their choice to be solely one between exhilarating independence and stifling supervision.

Academic medical culture has not supported direct supervision as fundamental to safe patient care. Residents desire less supervision than attending physicians want to provide, even though there is agreement about which clinical scenarios require direct supervision.[4] In addition, residents do not reliably discuss mistakes with attending physicians because of their perceptions of the training environment (eg, judgmental attending physicians) and associated negative emotional responses.[5,6]

Weekend decrements in faculty supervision have been associated with increased deaths for patients whose treatment depends on rapid availability of services and personnel.[7] This weekend reduction in supervision is exacerbated by extended periods of physician "cross-coverage."[8]

It is encouraging that residents may feel greater satisfaction with attending physicians who are more often present on the floors and may perceive better medical care and autonomy with them at the bedside.[9]

We must investigate the relationship between clinical supervision and patient care outcomes, and the potential impact of 24-hour attending physician presence on these issues, as well as the relationship between supervision and learning. The bedrock reality of this exploration–supervision and autonomy are a duality to be balanced, rather than polar opposites. We must provide more supervision.

"There is a First Time for Everyone"

On January 15, 2009, the first officer of US Airways flight 1549 was at the controls when both engines simultaneously failed. When this occurred, the more experienced pilot stated simply "My aircraft," to which the first officer replied "Your aircraft." Captain Sullenberger accepted a compromise by allowing the first officer to take command of the takeoff, probably as an investment in the competence of his colleague. This compromise was mitigated by

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DOI: 10.4300/JGME-D-09-00095.1

continuous and direct supervision and was retracted at the moment of the bird strike.

How would a sudden crisis play out in a US teaching hospital? A hurried telephone conversation in the emotional aftermath, or a discussion the next day at teaching rounds would be most likely. These are unsafe, illogical, and educationally suspect solutions.

Our traditions have allowed junior residents to perform procedures for the first time under the supervision of residents with minimal experience (see-one, do-one, teach-one). Understandably, patients are usually uncomfortable being the learner's first attempt at an invasive procedure. Only 49% were completely comfortable being the first patient for sutures, 29% for an intubation, and 15% for a lumbar puncture.[10] Experiential learning must not be gained by depriving patients of fully informed consent, properly supervised care, or safety.[11]

High-fidelity simulation is an important but partial solution; competency in a simulated procedure must lead to supervised experience at the bedside. How many learner attempts at an invasive procedure (such as lumbar puncture, thoracentesis, or central venous catheterization) are acceptable before an experienced attending physician should say "My procedure"? The prudent solution can only be provided by an experienced physician, skilled in both the performance and in the learning of the task at hand, directly observing, and managing the dynamic balance of learning and risk.

"It's Part of the Access-Education Social Contract"

The teaching institutions of the 19th century that provided the foundations for the current model of medical education served as venues for care for the poor, who provided the patients for residents' and students' clinical learning. In 2009, residents continue to provide much of the workforce in "safety-net" hospitals. The implied social contract is that individuals with no other options for care receive access to care in return for participating in the teaching mission of the hospital. Teaching faculty may demonstrate responsibility for balancing care and education by distancing themselves. Patients often misunderstand the role they play in the system, and are not able to "opt out" of participation. This secret bargain does not model the culture of transparency and informed consent to which we say we aspire.[12]

Medical education organizations and governmental advisory groups do not support this tradition. In 2001, an American Association of Medical Colleges guideline recommended that "program faculty directly responsible for the supervision of patient care services provided by resident physicians must be as available to participate in that care as if residents were not involved; the presence of residents to "cover" patients on in-patient services or to provide care in ambulatory settings does not diminish the standard of availability required of the physician of record."[13] Nine years later, this is becoming a necessity. Clinical service demands must be managed to allow time for reflection, teaching, and structured learning experiences. Overflow capacity must be established for both residents and faculty.

The 2008 Institute of Medicine resident duty hours report recommended "programs provide adequate, direct, onsite supervision for residents," and "that closer supervision leads to fewer errors, lower patient mortality, and improved quality of care."[14]

Our ethical standards, our educational community, and our government are approaching agreement on the following:

- Residents must no longer be exploited as the unassisted safety net providers for underserved patients.
- Patients' access to safe, effective health care must not be compromised by the limitations of a sleep-deprived, inexperienced, unsupervised workforce of physicians-in-training.

"They Call Us When They Need Help"

The hidden curriculum includes a long tradition of praising trainees as "strong" for handling heavy workloads with little supervision, and "weak" for calling for help—even when they recognize the need to do so.[15] In addition, steep hierarchies make trainees reluctant to voice concerns in critical situations.[16]

Self-monitoring is an inadequate safeguard. Successful self-monitoring or "reflection-in-practice" requires high-quality data and the ability to distinguish high-quality data from imagination or projection. Unconscious biases in acquisition and interpretation of data about our own clinical performance predictably result in flawed summative self-assessments.[17] We all need real-time, onsite, "in the trenches" observation and feedback to augment our self-monitoring skills.

Ensuring Observation, Supervision, and Public Accountability

Attaining adequate supervision and observation will be difficult at many clinical teaching institutions. Difficulty is no excuse. Competence can be observed only in the performance, and observation is essential to assessment. Our patients and the public have greater interest in "what we actually do" than in "what we know" or "know how to do." The Accreditation Council for Graduate Medical Education (ACGME) directive to the medical education community of "articulating milestones of competency development in each discipline" implies an imperative to directly observe competence in "clinical viewpoints" along the educational journey.[18] At each such observation, we must provide formative feedback and perform assessments to inform summative evaluation. High-quality supervision, work assessment, and daily observations are integral to learning, safety, and quality.

Phase 3 of the ACGME Outcome Project (July 2006–June 2011) requires training programs to "use resident performance data as the basis for improvement and provide evidence for accreditation review."[19] As educators, our accreditation depends on robust observation and assessment.

A Path to Better Care, Better Learning, Better Outcomes

Our status as a self-regulating profession is at risk; the public's trust must be restored. The political climate demands action.[14,20] We can show accountability by combining supervision and direct observation with explicit criteria for evaluation, promotion, qualification, and credentialing.

Supervision and autonomy in medical education coexist as a complex, inextricable, and balanced duality. This balance requires an environmental web of respectful and interdependent relationships: supervisor-resident, interdisciplinary, and clinician-patient.

Reaching and maintaining this balance is among the greatest challenges in medical education. The "hidden curriculum" that overvalues physician autonomy must be put aside for an explicit curriculum of safety, quality, and humility. Master clinician-educators at the bedside must provide "supervised autonomy."

Human, electronic, and systems-based supervision must reinforce physicians' sense of responsibility for their patients. Current and future generations, both patients and physicians, rely on our success. If we fail, government will stand in as a feeble surrogate.

References

1 Shojania KG, Fletcher KE, Saint S. Graduate medical education and patient safety: a busy—and occasionally hazardous—intersection. *Ann Intern Med*. 2006;145(8):592–598.

2 Hall P, Weaver L. Interdisciplinary education and teamwork: a long and winding road. *Med Educ*. 2001;35(9):867–875.

3 Carraccio C, Wolfsthal SD, Englander R, Ferentz K, Martin C. Shifting paradigms: from Flexner to competencies. *Acad Med*. 2002;77(5):361–367.

4 Farnan JM, Johnson JK, Meltzer DO, Humphrey HJ, Arora, VM. On-call supervision and resident autonomy: from micromanager to absentee attending. *Am J Med*. 2009;122(8);784–788.

5 Wu AW, Folkman S, McPhee SJ, Lo B. Do house officers learn from their mistakes? *JAMA*. 1991;265(16):2089–2094.

6 Hobgood C, Hevia A, Tamayo-Sarver JH, Weiner B, Riviello R. The influence of the causes and contexts of medical errors on emergency medicine residents' responses to their errors: an exploration. *Acad Med*. 2005;80(8):758–764.

7 Bell CM, Redelmeier DA. Mortality among patients admitted to hospitals on weekends as compared with weekdays. *N Engl J Med*. 2001;345(9):663–668.

8 Cram P, Hillis SL, Barnett M, Rosenthal GE. Effects of weekend admission and hospital teaching status on in-hospital mortality. *Am J Med*. 2004;117(3):151–157.

9 Phy MP, Offord KP, Manning DM, Bundrick JB, Huddleston JM. Increased faculty presence on inpatient teaching services. *Mayo Clin Proc*. 2004;79(3):332–336.

10 Santen SA, Hemphill RR, McDonald MF, et al. Patients' willingness to allow residents to learn to practice medical procedures. *Acad Med*. 2004;79(2):144–147.

11 Chiong W. Justifying patient risks associated with medical education. *JAMA*. 2007;298(9):1046–1048.

12 Flynn T. Resident supervision. *ACGME Bull*. 2005:15–17. Available at: http://www.va.gov/oaa/Archive/ACGME_Bulletin09_05.pdf. Accessed January 11, 2010.

13 Association of American Medical Colleges. AAMC policy guidance on graduate medical education: assuring quality patient care and quality education. Available at: http://www.aamc.org/patientcare/gmepolicy/gmepolicy.pdf. Published October 2001. Accessed November 21, 2009.

14 Institute of Medicine. Resident duty hours: enhancing sleep, supervision, and safety: report of the Institute of Medicine Committee on Optimizing Graduate Medical Trainee (Resident) Hours and Work Schedules. Available at: http://www.iom.edu/Reports/2008/Resident-Duty-Hours-Enhancing-Sleep-Supervision-and-Safety.aspx. Accessed November 21, 2009.

15 Smith L. One dose, fifty pills. AHRQ Web M&M [serial online]. November 2005. Available at: http://webmm.ahrq.gov/case.aspx?caseID=109. Accessed December 28, 2009.

16 Sexton JB, Thomas EJ, Helmreich RL. Error, stress, and teamwork in medicine and aviation: cross sectional surveys. *BMJ*. 2000;320(7237):745–749.

17 Epstein RM, Siegel DJ, Silberman J. Self-monitoring in clinical practice: a challenge for medical educators. *J Contin Educ Health Prof*. 2008;28(1):5–13.

18 Green ML, Aagaard EM, Caverzagie KJ, et al. Charting the road to competence: developmental milestones for internal medicine residency training. *J Grad Med Educ*. 2009;1(1):5–20.

19 ACGME Outcome Project. Available at: http://www.acgme.org/outcome/project/timeline/TIMELINE_index_frame.htm. Accessed November 21, 2009.

20 Medicare Payment Advisory Commission. Report to the congress: improving incentives in the medicare program. Available at: www.medpac.gov/documents/Jun09_EntireReport.pdf. Accessed December 28, 2009.