

Assessing Competence for Reentry

What Matters Most?

THE Association of American Medical Colleges reports a current shortage of physicians in the United States which is projected to be greater than 90,000 by the year 2020.¹ The most recent analysis specific to anesthesiology, which utilized 2007 data, projects a shortage of more than 4,400 anesthesiologists by the year 2020.‡ Without doubt the healthcare landscape has changed over the past 6 yr, and the inherent assumptions which were reasonable in 2007, have likely lost validity over time. Nevertheless, increasing numbers of physicians are anticipated to work for reduced hours or intermittently leave the workforce, most often to fulfill family or personal priorities.^{2,3}

One potential strategy to address the workforce shortage is to encourage qualified physicians, who are clinically inactive, to resume patient care. Estimates suggest that as many as 10,000 physicians could reenter practice each year if an effective reentry system existed.⁴ In 2011, at least 31 states required clinically inactive physicians to participate in a reentry program before resuming patient care.§ Few such programs exist, and even fewer provide a supervised, hands-on assessment of clinical performance; which would seem to be an essential component to determine competence for independent practice for physicians in procedural specialties.⁵ We assert that



“... simulation is a unique tool for the potential reentry of out-of-practice physicians due to its ability to assess situational awareness [and] critical reasoning skills....”

Photo: J. P. Rathmell.

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‡ Daugherty L, Fonseca R, Kumar KB, Michaud P-C: An analysis of the labor markets for anesthesiology. Santa Monica, CA: RAND Corporation, TR-688-EES, 2010. Available at: http://www.rand.org/pubs/technical_reports/TR688.html. Accessed December 17, 2012.

§ AMA. American Medical Association Facts on Physician Reentry. Available at: <http://www.ama-assn.org/ama/pub/education-careers/finding-position/physician-reentry.page>. Accessed December 17, 2012.

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the ideal system for assessing readiness for reentry into a procedural specialty, such as anesthesiology, would include a formative assessment of clinical performance.

Time away from practice can lead to a decay of knowledge, degradation in the ability to apply knowledge, and/or deterioration in clinical skills. On the most fundamental level, an assessment of readiness for independent practice requires an evaluation of whether the physician *knows* what is required to carry out professional duties. Higher level skills include a demonstration that the physician *knows how* to apply knowledge (competence), and that they can *show how* they provide care (performance). The highest level assessment evaluates whether the physician *does* what they show that they can do. Written examinations test cognitive knowledge, therefore, their relevance is restricted primarily to test knowledge. An assessment of what matters most, performance in the

clinical setting, is more difficult, with inherent limitations and risks. One limitation is the inability to assess performance during infrequent life-threatening events, which can undermine the validity of an assessment performed during routine patient care. Moreover, using the clinical setting to test anesthesiologists' responses undermines patient safety, as performance failures can have deleterious consequences for patients.

Alternatively, an assessment might be performed using high-fidelity simulation, where scenarios can be programmed and activated on demand to replicate the clinical domain in a highly structured and interactive manner, to both identify and remedy learner gaps. In this environment, mistakes are without consequence to a patient. The responses and decisions of an anesthesiologist to dynamic critical incidents can be argued as “what matters most” to high quality, safe patient

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care, and simulation seems well suited to assess the competence of the anesthesiologist in this vital area.

An additional strength of simulation is the ability to replicate the intensity and complexity of the operating room in which the anesthesiologist must continuously filter, integrate, and analyze streams of data from multiple sources which include nursing staff, surgeons, the operative field, physical examination of the patient, multiple monitors, and an array of clinical equipments. Simulation is a unique tool to assess the anesthesiologist's competency in this important domain and close any identified gaps before independent patient care.

In this issue of *ANESTHESIOLOGY*, DeMaria *et al.*⁶ describe a reentry program designed for anesthesiologists which consists of assessment and retraining components. In this retrospective case series, the authors describe the characteristics of 20 anesthesiologists who participated in the program at the authors' institution over an 11-yr period. On the basis of a follow-up survey, 11 of 15 (73%) respondents were clinically active for 1 yr after participation in the program. DeMaria *et al.* used simulation as a formative assessment tool to ascertain gaps, and as a retraining tool to close identified gaps.

As outlined by DeMaria *et al.*, the use of simulation allows assessment scenarios to be standardized across participants and over the scope of perioperative care. Cognitive skills may not require simulation for assessment. What matters most in anesthesiology is the ability to prioritize multiple tasks while assimilating input from a constantly evolving setting that requires sorting expected anatomic and physiologic changes from unexpected ones while operating increasingly complex equipment and distinguishing artifact from reality. From this perspective, simulation is a unique tool for the potential reentry of out-of-practice physicians due to its ability to assess situational awareness, critical reasoning skills and other desirable attributes during routine care, and during those infrequent and unpredictable perioperative events where failure to execute the proper response can mean the difference between life and death. DeMaria *et al.* suggest that simulation is capable of identifying gaps in management, and as part of a comprehensive retraining program, closing such critical gaps in the majority of individuals seeking reentry.

Simulation has been used extensively as an educational tool to facilitate the application of knowledge, concepts, procedural skills and to develop crew resource management skills and effective decision making during critical incidents. There are noteworthy precedents for using simulation for assessment. The United States Medical Licensing

Examination Step 2 Clinical Skills uses standardized patients to assess skills of medical students. The Israeli Board of Anesthesiology Examination Committee has integrated simulation into its board certification process.⁷ In a report adopted by the Federation of State Medical Boards in April 2012, a role for simulation was outlined in the assessment of suitability for return to practice "because simulations replicate cognitive and procedural skills and simulate team interaction."^{||}

DeMaria *et al.* did not evaluate whether skills assessed in simulation (competency) transfer to the clinical setting (performance). The general question of transferability of simulation competency to the clinical setting has been addressed to only a limited degree in specific domains within anesthesiology.⁸ Although we would not expect perfect transferability of simulation competency to critical events in patient care, reasonable alternatives do not exist, and the use of simulation seems prudent while we await studies on the validity of whether simulation-based competency transfer to clinical performance.

Limitations of the DeMaria *et al.* report include the outcome measure used to determine success or failure of the reentry program: whether the program graduate is working or not. In the absence of standards, one must decide whether this criterion is an acceptable metric for measuring success. Ideally, validated measures with greater discrimination for quality and safety should be used. A further limitation of DeMaria *et al.* program is directly related to its strength: it is intentionally tailored for each participant to meet prescribed mandates and individual needs. Although this permits a targeted assessment and remediation of the participant, it undermines program standardization, which limits the ability to reproduce the program. This restricts the development of additional programs and the ability to assess programmatic outcomes across sites. The American Medical Association has called for an increase in consistency among reentry programs in order to "demonstrate graduates' comparable preparation and readiness" for independent practice.[#]

DeMaria *et al.* seem to equivocate regarding whether they are providing a competency assessment, presumably due to concerns regarding legal challenges either from the candidate, the referring entity, and/or regulatory boards. In the absence of a predefined relationship with regulatory bodies, licensing and credentialing organizations may not acknowledge the conclusions of reentry programs. However, the Federation of State Medical Boards opines that academic medical centers and community hospital training centers can provide a "complete reentry package from initial assessment...to final evaluation of competence and performance in practice."^{||} Whether other regulatory groups adopt this position is uncertain. Should a reentry program graduate who regains his or her license regain board certification status? DeMaria *et al.* did not address this.

Significant questions remain about reentry and the requirement for a formative assessment and retraining. However, the efforts of DeMaria *et al.* have helped further the field through their report on one option among a

^{||} FSMB. Federation of State Medical Boards Report of the Special Committee on Reentry to Practice, 2012. Available at: <http://www.fsmb.org/pdf/pub-sp-cmt-reentry.pdf>. Accessed December 17, 2012.

[#] AMA. Recommendations for a Coordinated National Approach to Reentry, 2010. Available at: <http://www.ama-assn.org/ama/pub/education-careers/finding-position/physician-reentry.page>. Accessed December 17, 2012.

limited number of alternatives to assess clinical competence. Although their 10-yr experience is limited to 20 individuals, they have nonetheless outlined a possible path to successful remediation and reentry. The integration of simulation in their program has highlighted a unique tool. We look forward to additional study, scrutiny, and refinement regarding best practices for reentry readiness with particular focus on a formative assessment that can be used to guide retraining. Simulation certainly seems poised to have an impact in fields in which decisiveness and prompt definitive management is an inherent requirement for patient safety. Having a tool to assess competence in an anesthesiologist's ability to function in a highly intense and complex environment and to respond effectively to critical incidents seems fundamental to any reentry program. These attributes are "what matters most" to our patients.

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