Maintenance of Certification: Reply

In Reply:

We were pleased to have our colleagues Cole *et al.* respond to our editorial.[1] They bring up two points. The first correctly notes that we misidentified Maintenance of Certification in Anesthesiology 2.0 as the program evaluated by the authors. Although we agree that their research was restricted to Maintenance of Certification in Anesthesiology 1.0, the title and intent of our editorial concerns maintenance of certification in general, not just Maintenance of Certification in Anesthesiology. Their second point suggests that Maintenance of Certification in Anesthesiology is using adult learning principles and thus is effective.

The objective of Zhou *et al.*[2] was to establish the value of Maintenance of Certification in Anesthesiology. They used the rate of state medical board disciplinary actions as an outcome measure. This outcome is largely a metric of lapses in professionalism rather than physician competence: the majority of state medical board disciplinary actions arise from substance abuse disorders, controlled substance violations, criminal convictions, or patient boundary violations. Incompetence and patient neglect make up only about 20%.[3]

Nevertheless, the outcomes of the study are revealing.[2] One arm of the study compared the rate of disciplinary actions imposed on anesthesiologists who received initial certification between 1994 and 1999 (before required Maintenance of Certification in Anesthesiology) *versus* those certified during the 2000 to 2005 "Maintenance of Certification in Anesthesiology era." There was no difference. A second arm examined anesthesiologists who received their initial certification between 1994 and 1999, comparing those who voluntarily participated in Maintenance of Certification in Anesthesiology with those who did not participate. The physicians who voluntarily participated in Maintenance of Certification in Anesthesiology had a reduced rate of state board disciplinary actions. The third arm considered only anesthesiologists who received their initial certification in the 2000 to 2005 "mandatory Maintenance of Certification in Anesthesiology era," comparing those who obeyed the rules and completed required Maintenance of Certification in Anesthesiology within the 10 yr cycle *versus* those who did not obey the rules. Those who completed the Maintenance of Certification in Anesthesiology requirements had fewer state medical board disciplinary actions. These associations do not permit us to conclude that Maintenance of Certification in Anesthesiology participation was the proximate cause of decreased state medical board disciplinary actions, and therefore these associations do not permit us to conclude that Maintenance of Certification in Anesthesiology (as studied) had value.

A study by Sun *et al.*[4] is referenced by the authors as foundational work on the effectiveness of the "Maintenance of Certification in Anesthesiology Minute." Before 2016, anesthesiologists wishing to recertify were required to take the Maintenance of Certification in Anesthesiology cognitive examination. In the study by Sun *et al.*[4] anesthesiologists who were to take the recertification examination within the next 6 months were offered the opportunity to participate in a "Maintenance of Certification in Anesthesiology Minute" question program to prepare for the examination. Sun *et al.*[4] compared examination scores in the group who volunteered for "Maintenance of Certification in Anesthesiology Minute" with those in the group who declined to participate. There was a 3% increase in the pass rate among those who volunteered *versus* those who declined. Without random assignment, one may conclude this modest effect could be attributable to internal motivation of the volunteers.

We find the results of Zhou *et al.* and Sun *et al.* consistent and convincing: those physicians who are adult learners as defined by Malcolm Knowles are more likely to obey rules, seek continuing medical education opportunities, and be less likely to commit infractions resulting in state medical board discipline.[2,4,5] These adult learners actively seek the continuing education most useful and relevant to their work. But, as Zhou *et al.* proved unequivocally, the introduction of Maintenance of Certification in Anesthesiology did not change the incidence of adverse medical board actions against anesthesiologists.[2]

Meanwhile, the medical profession grapples with finding meaningful programs and metrics with which to assess physician competency for Maintenance of Certification. We find evidence for this in the February 2, 2018 "Statement from the American Board of Medical Specialties and its Member Boards to Subspecialty and State Medical Societies about Maintenance of Certification."[6] The American Board of Medical Specialties (Chicago, Illinois) stated that Maintenance of Certification programs should deliver more value to participating physicians than they currently do and American Board of Medical Specialties acknowledged the then-current state of complexity, inconvenience, lack of relevance, and excessive indirect costs related to Maintenance of Certification. We support the American Board of Medical Specialties and its member boards while also agreeing with the American Board of Medical Specialties statement. Indeed, one of us personally testified (with American Board of Medical Specialties personnel in attendance) on January 29, 2019, before the General Assembly of the Commonwealth of Virginia in opposition to legislation that would disallow hospitals, medical groups, and health plans from requiring Maintenance of Certification for participation or membership. But we adamantly oppose teaching through mandate, a practice that reduces learning to an exercise in compliance, the effect of which is never more apparent than in the

attitude of physicians toward mandatory learning modules imposed by hospitals and other regulatory agencies.

We urge the certifying boards of the American Board of Medical Specialties to focus on their core mission: promoting the profession by establishing standards for initial certification and sensible, reasonably priced, and convenient standards for maintenance of certification. We urge them to leave the form and substance of education to relevant medical and scientific societies.

Competing Interests

The authors declare no competing interests.

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