Medical-Education-Industrial Complex?

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“In the councils of government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists, and will persist.”

President Dwight D. Eisenhower in his farewell speech on January 17, 1961

President Eisenhower’s farewell speech has been a frequently cited warning about the permanent armament industry in collusion with the military establishment, the so-called military-industrial complex, gaining immense political and economic power. As we have witnessed the continuous rise and permanence of the military-industrial complex, we have to appreciate Eisenhower’s prophecy and prediction. Interestingly, in another part of his speech, Eisenhower presented another warning, that of dangers of federal funding for research, stating that “partly because of the huge costs involved, a government contract becomes virtually a substitute for intellectual curiosity.”

Over the years, Eisenhower’s warning about the military-industrial complex has been used in identifying other analogous areas where various “industries” have gained enormous economic and political power. During the 1980s, *New England Journal of Medicine* editor Arnold Relman popularized the term “medical-industrial complex” [1]. According to Relman, the “medical-industrial complex” is “...a large and growing network of private corporations engaged in the business of supplying health-care services to patients for profit – services heretofore provided by nonprofit institutions or

individual practitioners” [1] (p 963). Relman does not include manufacturers of pharmaceuticals and medical equipment in the “medical-industrial complex.” Relman’s [1] warning about the commercialization of healthcare was, as in Eisenhower’s case of the military-industrial complex, prescient. Healthcare costs in the USA have become clearly unsustainable. There is significant waste in US healthcare, and while many of the sources of waste are attributed to non-adherence, addictions, behavioral comorbidities, administrative inefficiencies, defensive medicine, excessive care, and others, we in academic medicine cannot simply stand by without examining our own contribution to inefficiency and waste. We should step in to examine opportunities to optimize fiscal responsibilities. We have a moral obligation to look for improving fiscal responsibility in every corner of healthcare.

Medical Education: New “Medical-Education-Industrial Complex?”

History repeats itself in various permutations. During the last few decades, we, in our opinion, have witnessed the gradual development of yet another kind of industrial complex in the field of medical education, as medical education became a big business. We propose to call it the “medical-education-industrial complex.” This business complex includes numerous educational organizations, licensing and accrediting agencies, certifying boards, medical education companies, conferences, and numerous other venues. Some of the accrediting/regulatory agencies have appeared claiming public demands for control, regulation, and continuous improvement of the physician workforce. We do not question the necessity of accreditation and certification of physicians, as a certain degree of “quality control” is definitely needed. However, we are afraid of what we see as uncontrolled growth of many of these institutions, which, similarly to the “military-industrial complex,” are gradually gaining enormous, unyielding political and economical power. This power is unquestionable and unchallengeable. The decrees of these agencies come out

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frequently without solid justification and in feudal style, with hidden or overt fees. These fees bring the organizations more economic power and provide justification for them to create more bureaucratic structures and measures and unchecked regulations. The costs of these fees are borne mostly by physicians, physicians-in-training, and training institutions, who, through billings and through affiliations with healthcare organizations, may in turn pass on these costs ultimately to healthcare consumers and the general public.

Interestingly, and perhaps most importantly, although the purpose of such examinations for doctors in and out of training are deemed necessary for safety and quality assurance, there is currently no proven correlation between test scores and clinical performance. Tests are constructed by the organizations themselves, pass rates are arbitrarily established, and no correlations with health outcomes are insured. We all know that a great test taker is just that—someone who knows how to come up with the right answers. How that individual treats patients and colleagues and serves the community is independent of the test.

Rise of the Economic Power of Medical Specialty Boards

An illustration of the uncontrolled rise of economic power of organizations that we consider part of the medical-education-industrial complex is a recently published research letter in the *Journal of American Medical Association (JAMA)* [2]. It brings to the forefront the issue of economic power yielded by the medical specialty boards' fees. The authors of this letter [2] compiled the fee structures for initial board certifications and maintenance of certification (MOC) through the published websites of the 24 American Board of Medical Specialties (ABMS) member boards as of March 2017. They also obtained the most recently published (for 2013) tax documents from the Internal Revenue Service (IRS). These documents provided data about assets. In 2017, the mean fee for an initial written examination was \$1846. Fourteen boards also required an oral examination for initial certification at a mean of \$1694. The member boards reported \$263 million in revenue and \$239 million in expenses—a surplus of \$24 million. Examination fees accounted for 87.7% of revenue and 21.3% of expenditures! Officers and employee compensation and benefits accounted for 42.2% of expenses, about twice as much as the expenditures for examination fees. Boards reported \$701 million in assets and \$65.6 million in liabilities. Between 2003 and 2013, the change in net balance for all boards together grew from \$237 million to \$635 million. These are staggering numbers.

The numbers for the American Board of Psychiatry and Neurology (ABPN) are similarly noteworthy. The initial fee (which includes application and written certifying fee) was

\$2385 (only allergy and immunology, dermatology, otolaryngology, and radiology charged more). The total revenue was \$19.8 million (\$16.5 million from fees). Total expenses of the ABPN were \$12.1 million (\$1.5 million in certification costs and \$5.8 million in compensation). Thus, it seems that the ABPN net profit was \$7.7 million in 2013 (based on data in Drolet and Tandon [2]). The total assets of the ABPN were \$91.2 million, with liabilities of \$2 million, resulting in a net balance of \$89.2 million. Interestingly, the published yearly ABPN reports usually do not include these numbers. After reviewing these data, it would seem important to question why the ABPN examination fee has been so high. And why is there an annual MOC fee of \$150 (\$1500 total for recertification) for a recertification examination with a passing rate of 99%? These numbers may be particularly discouraging for young physicians who are just out of residency training and paying these fees.

The educational organizations and institutions present an interesting phenomenon; they are not for profit, yet quite profitable, as seen in the example of the ABMS member boards. Unlike in the case of for-profit organizations, there are no shareholders, and it is not clear what happens with the profits. Similarly to some non-profit hospital systems, they may be using their profits to expand and build more bureaucratic structures. In order to use their profits instead of just amassing them, they may create more unnecessary bureaucracy and expenses that may be questioned by those who pay their fees. For our specialty, the ABPN has 30 committees (in addition to the board of directors) for different subspecialties, staff, and members who travel to various educational meetings to report on ABPN activities (these could be available online) and programs that bestow financial awards (grants) to senior educators (\$200,000/year). Thus, we have a registered (quasi) not-for-profit organization with an interesting distribution of profits.

Need for Reevaluation of the Role and Function of Educational Organizations

We have provided just one example of educational organizations that, akin to the previously mentioned “complexes,” amass enormous (at least, in the field of medicine) economic and, in a way, political power. The entire field of medical education, the entire “medical-education-industrial complex,” seems to be in need of thorough evaluation in order to answer some of the following questions. Is the amassed wealth of these organizations justifiable? Should the distribution of profits of these nonprofit organizations be reexamined? Who are these organizations fiscally responsible to? Why are the profits not eliminated through transparent and responsible balancing of revenues and expenses, or redistributed to the field of medical education in a way acceptable to all parties?

Are the products of these organizations' efforts clinically relevant? Medical education is clearly one area where we should look for some fiscal responsibility.

We do not deny that measures of quality control and quality assurance are essential for the practice of medicine. But we do believe that the process of insuring professional competence requires answering a number of seminal questions:

1. Who creates the need and demand for testing and certification? To whom are these agencies responsible and accountable?
2. Why, particularly in hard fiscal times for our field, are the institutions supporting (and demanding) independent and not coordinated accountability? In other words, and to take psychiatry as an example, why are the United States Medical Licensing Examination (USMLE), Psychiatry Resident-In-Training Examination (PRITE), ABPN, MOC, and hospital credentialing examinations independently written, with separate bills for medical schools, residencies, and individuals? Would we not cut costs and increase efficiency if we removed the silos?
3. Do the examinations prove their intention? How are the tests correlated with clinical outcomes, professionalism, and safety? What measures would demonstrate that the tests are, in fact, reliable and valid? Not only are the tests not correlated with clinical outcomes, but "competency" of the individual test taker is not compared with "known competent physicians." The tests are simply made as tests without known benchmarks that insure competency. For example, the pass rate for the ABPN examination is arbitrarily determined. Further, the pass rate for MOC is set at over 95%. Can we assume that this high pass rate is indicative of safe and competent professional psychiatrists in practice?
4. Given the lack of correlation with clinical outcomes, how do we justify the costs?

Recommendations for Improving the Functioning of the "Medical-Education-Industrial Complex"

Our professional duty is to do no harm and to maintain our social contract to care for patients in a professional, safe, and evidence-based manner. This standard should be the hallmark for undergraduate medical education, graduate medical education, and post-graduate certification and credentialing for medical licenses. Moreover, the means for the assessment of safe, competent physicians require an evidence base that substantiates the "testing" measures we use for our internal insurance of quality. It seems that we fail on all counts.

The internal "policing" and monitoring of credentialing, licensure, and accreditation is without standards or benchmarks that are outcome based. Further, the field of medical education is run by a host of organizations, a medical-education-industrial complex, that do not optimally coordinate. Instead, they monopolize the field with unclear accountability and with the potential to gather unrestricted and unchecked economic and "political" power. Can the field of medical education and its foot soldiers tolerate this reality for much longer?

We should try to implement some measures to improve the functioning of the medical-education-industrial complex and to tame it, e.g., (1) streamline and limit costs of examinations and return profits to educational systems to further outcome based examinations and research on assessment; (2) coordinate examinations across organizations so that they are produced in a developmentally appropriate fashion; (3) find a way to coordinate and streamline the assessment process so that the examinations can be used for multiple purposes; (4) find new ways for either outcome-based assessment, or at least have standards by known competent clinicians to serve as a comparison cohort; (5) consider which examinations (or parts of examinations) are essential and which are not; for instance, if graduation from an accredited residency program produces "certified" competent clinicians based on meeting the ACGME Milestones, Residency Committee requirements, and Clinical Skills Verification exams, what is the purpose of the ABPN examination (yet another computer-based knowledge test)? The ABPN examination has been noted to be a source of "external validation," but that is perhaps excessive if the clinician has been deemed competent through meeting all the mentioned requirements. Should the ABPN examination in some form be merged with the PRITE and administered as an in-service examination? That would make a lot of sense and save programs and residents a lot of money.

With these and other possible modifications, we might be better able to address our concerns about the ever-growing medical-education-industrial complex and reasonably meet our social contract to heal and educate.

Compliance with Ethical Standards

Disclosure On behalf of all authors, the corresponding author states that there is no conflict of interest.

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