

LETTERS TO THE EDITOR

Response to “Relationship Between COMLEX and USMLE Scores Among Osteopathic Medical Students Who Take Both Examinations”

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I was very interested to read “Relationship Between COMLEX and USMLE Scores Among Osteopathic Medical Students Who Take Both Examinations” in the January 2010 issue of *Teaching and Learning in Medicine*, in which Dr. Chick and colleagues attempt to correlate scores of the two examination series through an analysis of the first of three examinations in the sequence. As president of the National Board of Osteopathic Medical Examiners (NBOME), the organization that created and administers the Comprehensive Osteopathic Medical Licensure Examination of the United States (COMLEX-USA), I have both a vested interest and duty on behalf of the NBOME Board to respectfully respond with a number of corrections/clarifications, which I will delineate in this letter. More important, I would like to begin with a critical point regarding the osteopathic medical profession and the COMLEX-USA series.

Both COMLEX-USA and USMLE are examinations designed primarily for the initial licensure of physicians and have been shown to be valid and reliable for this purpose. It is widely known that these examination scores are often also used for secondary purposes, such as hiring decisions or selecting residency applicants, and there is evidence to support the validity of those uses.

With the growth of the osteopathic medical profession and the successful expansion in the numbers of osteopathic medical schools, there is indeed—as stated in the article—a significant increase in the number of osteopathic medical students applying to Accreditation Council for Graduate Medical Education (ACGME)-accredited residency programs. In the article, Dr. Chick et al. contend there is the need for continued assessment of USMLE and COMLEX-USA correlations, because “allopathic residency directors may consider COMLEX-USA scores as a substitute for USMLE scores in hiring decisions for

osteopathic applicants.” They continue: “The rationale for this approach is based on the assumption that both exams test for medical knowledge and clinical skills, and thus there should be individual correlation between performance on both exams” (p. 3).

Generally speaking, *overdependence* on licensure examination scores for other purposes should be avoided, and most studies show that residency program directors do use a broad array of selection criteria for determining which resident applicants will best meet the needs of their program and the patients they serve.^{1–4} With specific reference to the premise stated in the article, “the question of score correlation has become more pressing as the number of osteopathic trainees in allopathic residency programs has risen . . .” (p. 4), we must respectfully disagree.

What *has* become more pressing in our view is the need to understand COMLEX-USA as the most appropriate assessment tool for osteopathic medical students. COMLEX-USA is the recognized pathway to licensure for osteopathic physicians in all 50 of the United States and a number of foreign jurisdictions. The Federation of State Medical Boards of the United States has undertaken a comprehensive review of COMLEX-USA and USMLE⁵ and concluded that both are valid and reliable for their respective intended purposes, stating that “the evidence supporting the validity of score-based inferences for COMLEX-USA” was “exemplary.”⁶

As a profession, osteopathic medicine honors its shared social contract with the public and its critical role in self-regulation by assuring osteopathic physicians are licensed based on the COMLEX-USA, an examination series that is designed for the practice of osteopathic medicine and validated for that distinct purpose. Only the COMLEX-USA series assesses the skills and philosophy unique to the osteopathic medical profession. Only COMLEX-USA is designed based on the practice patterns of osteopathic physicians. Because of this, COMLEX-USA is the most appropriate assessment tool to measure the competency of an osteopathic medical student or physician. Indeed, the article states, “It may be that the curriculum in osteopathic medical

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schools is more closely aligned to the COMLEX while the curriculum in the allopathic medical schools is more closely aligned with the USMLE” (p. 6). We could not agree more.

Comparisons of the nature explored in the Chick article are generally to be avoided. First, osteopathic medical students and residents train for the practice of osteopathic medicine, regardless of where they elect to complete the graduate medical education portion of their training. The curriculum of every osteopathic medical school incorporates distinctive osteopathic principles and prepares DOs for medical practice as osteopathic physicians. Likewise, COMLEX-USA incorporates these distinctive osteopathic principles and is constructed and validated based on practice patterns that are distinctive to DOs. This was briefly noted in the article and undoubtedly contributes to any variance in scores.

Moreover, COMLEX-USA Level 1, Level 2-CE (Cognitive Evaluation), and Level 2-PE (Performance Evaluation-Clinical Skills Examination) are required to be taken and passed to meet graduation requirements from every college of osteopathic medicine, an accreditation standard that minimal qualification in knowledge and clinical skills are demonstrated prior to entry into graduate medical education.⁷

The article also states that “the number of osteopathic students attempting the USMLE Step 1 has however remained under 1500 annually, suggesting that the majority of osteopathic residents in allopathic programs have taken the COMLEX in lieu of the USMLE” (p. 4). It is important to note osteopathic medical students are not taking COMLEX-USA “in lieu of” the USMLE. COMLEX-USA is the series of examinations osteopathic medical students are required to take, precisely because it is designed to assess the curriculum taught at colleges of osteopathic medicine and the competencies patients expect of osteopathic physicians. Requiring USMLE scores of osteopathic medical school graduates in addition to COMLEX-USA—as a few programs do—with the associated time, expense, and energy required is unfounded and represents an unnecessary and unfair burden for osteopathic physicians. It is also a potential barrier for residency programs in attracting a larger pool of qualified applicants to their residency programs.

Whether one knowledge examination predicts another (e.g., COMLEX predicting USMLE) might be of some interest, but it would seem to pale in comparison to the importance of whether an examination such as COMLEX or USMLE predicts performance of examinees in residency and in practice thereafter, and to predicting important physician competencies in addition to medical knowledge.

Related to the correlation between different knowledge-based examinations and the specialty of internal medicine, for example—as this was the focus of this article—is the widespread acceptance of the Internal Medicine In-Training Examination (IM-ITE) as an evaluation tool for quality outcomes. The IM-ITE was developed jointly by the American College of Physicians, the Association of Program Directors of Internal Medicine, and the Association of Professors of Inter-

nal Medicine. Many medical education research studies have used scores on these examinations to help to validate the quality of their programs. However, associations of USMLE scores on IM-ITE scores, as published in the *Annals of Internal Medicine* by McDonald and colleagues,⁸ have been reported to be significantly lower than those of USMLE with COMLEX reported in this article. Cavalieri et al. published a .72 correlation between the former COMLEX-Level 1 and scores on the American Osteopathic Board of Internal Medicine examination for board certification.⁹ In addition, some studies have shown much lower (or negative) correlations between USMLE scores and residency in-training examinations in other clinical specialties.¹⁰

Unfortunately, we found several statements in the article to be quite misleading regarding COMLEX-USA and performance of osteopathic physicians, and these could potentially have unintended consequences. The first example can be found in the second paragraph of the introduction where standard setting for USMLE is described in some detail. The “3-digit passing score” and the periodic adjustment of passing standards is noted, and later in the article, a “progressive historical increase in the minimum USMLE passing score” is referenced (p. 6). In comparison, when discussing COMLEX-USA scores, there is discussion neither of the rigorous standard setting procedures in place for COMLEX-USA nor of the fact that COMLEX-USA standards for passing have likewise been adjusted upward every 3 to 4 years over the past decade. For example, standards for COMLEX-USA Level 2-CE were raised in 2009, contributing to a significant reduction in the first-time taker pass rate.

Failing to point out that the 3-digit scores (for both examinations) are standard scores may lead to misinterpretation of scores. Failure to provide information about NBOME standard-setting processes, which have been described by independent psychometric consultants as exemplary and are detailed in the literature as well as on the Web site of the NBOME, is an unfortunate omission.¹¹

You may be interested to know that residency program directors from ACGME programs participate in standard-setting activities for COMLEX-USA and that the ACGME has been invited to join NBOME’s Liaison Committee and other committees related to COMLEX-USA.

The inclusion of Table 2 in the article, titled “MD and DO test statistics for USMLE Step 1 and COMLEX Step 1,” can also lead to misinterpretation. The title is obviously a misnomer in that it selectively fails to include about half of the MD population who took the USMLE examinations in the respective years, leaving out 20,602 MD examinees from international medical schools who took Step 1 alone. This is particularly surprising given the fact that 38.2% of those matches in ACGME Internal Medicine Residencies (categorical) were international medical graduates.¹² The title also mislabels COMLEX Level 1 as “Step 1,” a mistake that occurs periodically throughout the article. In fact, when the scores of all MD examinees are included in this table for USMLE, the total pass rates for MDs for Step 1 are 76%—identical to that for the DO cohort.¹³

As noted in the article, only a self-selected cohort of osteopathic physicians also elect to take USMLE Step 1, which is not a requirement. This clearly lowers the stakes for them with Step 1, which could further skew interpretation of results. In addition, a very low percentage of DOs take any subsequent USMLE examination (i.e., Step 2-CK, Step 2-CS, Step 3).¹³ Care in presentation of this material and in avoidance of overgeneralization of results is clearly warranted.

Also of note is that results or discussion of performance assessments such as COMLEX-USA Level 2-PE and USMLE Step 2-CS were not included in this article, further minimizing its impact. One might surmise that pass-fail rates in critical areas such as doctor-patient communication, medical history-taking, and physical examination skills might be of critical interest to program directors of internal medicine residency programs. Further study is warranted.

In summary, although the tendency to make a head-to-head comparison is understandable, the NBOME believes that COMLEX-USA examinations are distinct and unique to the osteopathic medical profession, and their results should therefore be understood and evaluated in that context. We wish to encourage residency program directors and others who may be called upon to make judgments about osteopathic medical students to take the time to understand COMLEX-USA, what it measures, how its standards are set and what COMLEX-USA scores mean. We provide both information and percentile conversion tools on our Web site (<http://www.nbome.org>) that can help, and our staff is available to respond to requests for further information.

The NBOME appreciates your interest in COMLEX-USA. As you may know, osteopathic medical schools represent the fastest growing element of U.S. medical education. Over the last decade, DO medical schools have grown from 19 colleges with just over 10,300 students to 26 colleges with more than 17,000 students. Currently one in five U.S. medical students is attending an osteopathic medical school. No doubt many of them will train in ACGME-accredited internal medicine residency programs, serve your patients, and become your colleagues.

Thank you for allowing us to respond to your publication of this article in *Teaching and Learning in Medicine*. We appreciate the opportunity to provide our perspective and would welcome any interest that you have in assisting us to meet our

mission of protecting the public by providing the means to assess competencies for osteopathic medicine and related health care professions.

Sincerely,
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REFERENCES

1. Green M, Jones P, Thomas JX. Selection criteria for residency: Results of a national program directors study. *Academic Medicine* 2009;83;3: 362-7.
2. McMahon GT, Tallia AF. Anticipating the challenges of reforming the United States Medical Licensing Examination. *Academic Medicine* 2010;85(3):453-6.
3. O'Donnell MJ, Obenshain SS, Erdmann JB. Background essential to the proper use of results of Step 1 and Step 2 of the USMLE. *Academic Medicine* 1993;10:734-9.
4. Berner ES, Brooks CM, Erdmann JB. Use of the USMLE to select residents. *Academic Medicine* 1993;68:753-9.
5. Federation of State Medical Boards. Policy documents. http://www.fsmb.org/grpol_policydocs.html.
6. Federation of State Medical Boards. *Report of the Board of Directors*. Available at: http://www.fsmb.org/pdf/bd_rpt_08-1_cmles.pdf. Accessed April 10, 2010.
7. American Osteopathic Association. Commission on Osteopathic College Accreditation Standards. Available at: <http://www.osteopathic.org/pdf/SB03-Standards%20of%20Accreditation%20July%202009.pdf>. Accessed April 10, 2010.
8. McDonald FS, Zeger SL, Kolars JC. Associations between United States Medical Licensing Examination (USMLE) and Internal Medicine In-Training Examination (IM-ITE) scores. *Journal of General Internal Medicine* 2008;23(7):1016-9.
9. Cavalieri TA, Shen L, Slick GL. Predictive validity of osteopathic medical licensing examinations for osteopathic medical knowledge measured by graduate written examinations. *Journal of the American Osteopathic Association*. 2003;103:337-42.
10. Black KP, Abzug JM, Chinchilli VM. Orthopedic in-training examination scores: A correlation with USMLE results. *The Journal of Bone and Joint Surgery* 2006;88:671-6.
11. National Board of Osteopathic Medical Examiners. *The approach to standard setting*. Available at: http://www.nbome.org/standardsetting_app.asp?m=can Accessed April 10, 2010.
12. American Academy of Family Physicians. Table 6. 2010 National Residency Match Program Results. Available at: <http://www.aafp.org/online/en/home/residents/match/table6.html>. Accessed April 10, 2010.
13. National Board of Medical Examiners. *2009 Annual report*. Available at: <http://www.nbme.org/Publications/2009AnnualReport/index.html>. Accessed April 10, 2010.