

The Changing United States Medical Licensing Examination®

Steven Haist, MD

Dr. Haist is vice president of Test Development Services for the National Board of Medical Examiners.

The United States Medical Licensing Examination (USMLE®) is currently a series of four examinations co-owned and administered by the Federation of State Medical Boards (FSMB) and the National Board of Medical Examiners® (NBME®). The four examinations include Step 1, Step 2 Clinical Knowledge (CK), Step 2 Clinical Skills (CS), and Step 3. Successful completion of the examination series is required for initial licensure to practice medicine without supervision for all allopathic physicians in all 70 medical licensure jurisdictions across the United States and its territories.

In 2004, the governing entity of USMLE, the Composite Committee, requested an in-depth review of the USMLE program in terms of purpose, design, and format. This request resulted in the formation of the Committee to Evaluate the USMLE Program (CEUP). The work of this group, completed in 2008, culminated in six recommendations. Five of these recommendations were adopted by the Composite Committee in January 2009. The recommendations include:

1. Supporting state medical boards' two licensing decisions: the first decision point, which is entry into supervised practice, and the second decision point, which is entry into independent practice;
2. Adopting a general competencies schema for the overall design, development, and scoring of USMLE, using a model consistent with national standards (Furthermore, as the USMLE program evolves, it should foster a research agenda that explores new ways to measure those competencies

important to medical practice and licensure.);

3. Emphasizing the importance of the scientific foundations of medicine in all components of the assessment process;
4. Maintaining the assessment of clinical skills as a component of USMLE and considering ways to further enhance the testing methods currently used in order to address additional skills important to the practice of medicine; and
5. Developing a testing format designed to assess examinees' ability to recognize and define a clinical problem, access appropriate clinical and scientific reference resources, and interpret and apply information in an effective manner.

The sixth recommendation encouraged the NBME to be attentive to ways in which it can meet the assessment needs of secondary users of USMLE. While considered important, this recommendation was not officially adopted by the Composite Committee because it did not address the primary purpose of the USMLE—medical licensure.

In order to implement the CEUP's recommendations, the USMLE program has undergone and will be undergoing significant changes. A series of practice analyses has been completed to assist NBME staff and governance in making informed decisions about examination content and design at both decision points. Three studies have been conducted, two of which were surveys. In the first survey, interns were asked about the clinical activities and procedures they performed, their practice setting, and challenges

encountered during August of the internship year. A second survey of newly licensed physicians (four years or less) inquired about experience with various clinical procedures as well as the reason for initial licensure (e.g. moonlighting) and practice setting. A third study involved an analysis of five national health care utilization databases; the findings from the analyses will help inform the distribution of questions across the examinations by setting, diseases covered, and therapeutics and other clinical interventions assessed.

To further inform examination design and score reporting, the Accreditation Council on Graduate Medical Education (ACGME) competency schema has been adopted and sub-competencies have been defined. The competency schema will also drive research on how best to measure less easily assessed competencies. Also, questions assessing examinees' understanding of foundational science continue to be included in Step 1 and Step 2 CK and are being included in Step 3 to a greater extent than in the past. All foundational science examination content is assessed in a clinical context and requires understanding and application of basic science concepts important to the practice of medicine. This increased emphasis on understanding and application of important basic science principles in the USMLE examinations may impact examinees' approach to preparing for Step 3.

The Step 2 CS examination implemented significant changes during the summer of 2012. The examinee-standardized patient encounter now more closely simulates a real physician-patient encounter.

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Patient responses are designed to foster dialogue that is more like a natural conversation rather than a series of questions followed by yes/no answers. Examinees will not be rewarded for asking many often unrelated questions in as short a period of time as possible. The post-encounter clinical note now requires examinees to link their differential diagnosis to the history and physical examination, rather than only documenting the history and physical and listing diagnoses. The Communication and Interpersonal Skills scale has been revised from a Likert rating scale format to a checklist consisting of specific behaviors defined in the literature as essential for effective patient–physician communication. Further changes to the Step 2 CS examination will likely occur and may center on advanced communication skills such as “telling bad news,” discussing care with an angry patient or family member, and counseling patients regarding needed changes in lifestyle.

In addition to the standardized patient examination, clinical skills assessment continues to be an important part of all USMLE examinations. Several years ago, heart sounds were introduced in multiple-choice questions (MCQs), and the avatar used to depict the patient has recently been updated with a stethoscope bell feature. Recently, additional heart sounds have been added, and lung sounds may be added in the near future. The use of pictures is being increased across examinations. Specifically, text descriptions of dermatologic findings are being replaced by pictures and, where appropriate, other physical examination findings described in text are being replaced by pictures as

well. In the near future, video may be introduced.

The fifth recommendation calls for a testing format designed to assess examinees’ ability to recognize and define a clinical problem, access appropriate clinical and scientific reference resources, and interpret and apply information in an effective manner. Extensive developmental work and research to assess such a format’s reliability and validity will take time. In the short term, we have increased the number of biostatistics and epidemiology questions in Step 1, Step 2 CK, and Step 3, and we are currently implementing two new formats to assess an examinee’s ability to apply knowledge of biostatistics in real-life settings. These formats, which appear in Step 2 CK and Step 3, include the use of faux pharmaceutical advertisements and scientific abstracts associated with two and three MCQs, respectively. The questions are designed to assess common and important biostatistical concepts such as study design, number needed to treat or harm, and confidence intervals, as well as skills such as interpreting data displays and applying study results to clinical practice.

In addition, the two-day Step 3 examination will become two independent examinations (tentatively referred to as Step 3A and Step 3B) that will assess different sets of competencies and have separate pass/fail decisions. This change will occur no earlier than the middle of 2014. Step 3B will focus on whether examinees possess the knowledge essential to the independent practice of medicine, including a comprehensive knowledge of clinical medicine. This examination will use traditional MCQs and computer-based case

simulations. Step 3A will assess examinees’ ability to apply foundational science knowledge important to the practice of medicine. Step 3A examination will also require demonstration of evidence-based medicine and quantitative reasoning skills important to patient care and lifelong learning. Furthermore, it will assess knowledge related to systems-based practice including patient safety and other competencies. Item formats will include single MCQs related to patient safety and biostatistics as well as sets of MCQs associated with pharmaceutical advertisements and scientific abstracts. MCQs or new response formats with new stimuli may be used in the future to assess knowledge of professionalism and communication and interpersonal skills. Lessons learned in the implementation of the new Step 3 examinations will inform decisions about potential changes to the structure and implementation of Steps 1 and 2, the examinations to support the first decision point, and readiness to enter supervised practice. These changes will not occur before 2016.

In conclusion, the NBME and FSMB are committed to providing the highest quality assessment to inform licensure decisions to protect the health of the public. Assessing different competencies and using new formats may increase costs, but we will monitor these changes over time to minimize the increases. We are also committed to timely and focused communication with a broad range of stakeholders, including medical school faculty, residency program directors, residents, medical students, and the public. More information can be found at www.usmle.org/cru that will be of interest to faculty and other stakeholders.

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