Comprehensive Review of USMLE

Committee to Evaluate the USMLE Program (CEUP) • Summary of the Final Report and Recommendations

EXECUTIVE SUMMARY

This document is a summary of the work and recommendations of the Committee to Evaluate the USMLE Program (CEUP), a committee constituted by the USMLE Composite Committee and comprising students, residents, clinicians, and members of the licensing, graduate, and undergraduate education communities. The goal of the committee was to determine if the mission and purpose of USMLE were effectively and efficiently supported by the current design, structure, and format of the USMLE. This process was to be guided, in part, by an analysis of information gathered from stakeholders, and was to result in recommendations to USMLE governance. The CEUP worked from 2006 to early 2008.

The USMLE examination program was designed in the late-1980s and introduced during the period 1992 to 1994. The program replaced the NBME Part Examination program and the Federation Licensing Examination (FLEX) program, which were the widely accepted medical licensing examination programs at that time. Since the introduction of USMLE, one major change in format/delivery and one major addition to the examination sequence have been implemented; these were, respectively, the transition from paper-based to computer delivery in 1999 and the introduction of a standardized patient examination in 2004. Except for these changes, and for the gradual evolution of content that occurred in response to shifts in medical practice and education, the overall structure and focus of the Step examinations have remained relatively unchanged.

To understand the rationale behind the recommendations described in this document, it is important to recognize and understand the nature of the framework that supports USMLE design, structure, and process. The values and priorities of the profession and the patients and society it serves should be reflected in the knowledge and skills tested within the licensing examination. When USMLE was first designed, early planners were clear to note that the structure of the Step examinations would reflect the knowledge and skills expected to have been acquired by students and residents as they move successfully through their training toward initial medical licensure. In recent years, educational leaders have more formally recognized and prioritized competencies that extend beyond the domains of medical science and clinical skills—competencies that are deemed important to the profession and the patients they serve but more difficult to assess using standard tools. At the same time, knowledge is expanding progressively, and the expectation that clinicians be able to draw on these fundamental insights in their approach to patients has become ever more critical. The desire to elevate the breadth and quality of assessment to meet the expectations of the broader profession and the public was a major theme in the committee's deliberations, and it has had a significant impact on the recommendations that resulted. The committee also acknowledged that any new or additional assessment tools implied by the recommendations must be rigorous, and should respect the balance between cost and value to the examinee and licensing authorities.

In deliberations that extended from 2006 to early 2008, the CEUP solicited, interpreted and evaluated the opinions of many hundreds of stakeholders, many with divergent opinions. The themes that emerged were unified into a series of guiding principles as follows:

1 *Primary Purpose.* USMLE is intended for initial medical licensure.
2 *Secondary Uses.* Other uses of examination results may be recognized, provided they do not compromise the primary purpose.
3 *Decision Points.* USMLE will assess readiness for supervised and unsupervised practice.
4 *General Competencies.* USMLE strives to assess competencies necessary for safe and effective practice.
5 *Reliability and Validity.* USMLE assessments must be reliable and valid.
6 *Evolution.* USMLE should reflect the evolution of medical education, training, and curricula.

The recommendations that follow outline a series of steps that in the considered opinion of the committee will serve to enhance the value and utility of the USMLE program. These recommendations, and the process used to frame them, are elaborated in the accompanying report.

Recommendation #1
CEUP recommends that USMLE design a series of assessments that are specifically intended to support decisions about a physician's readiness to provide patient care at each of two patient-centered points: a) at the interface between undergraduate and graduate medical education (supervised practice), b) at the beginning of independent (unsupervised) practice.

Recommendation #2
CEUP recommends that USMLE adopt a general competencies schema* for the overall design, development, and scoring of USMLE, using a model consistent with national standards. Further, CEUP recommends that, as the USMLE program evolves, it should foster a research agenda that explores new ways to measure those general competencies important to medical practice and licensure, which are difficult to assess using current methodologies.

Recommendation #3
CEUP recommends that USMLE emphasize the importance of the scientific foundations of medicine in all components of the assessment process. The assessment of these foundations should occur within a clinical context or framework, to the greatest extent possible.

Recommendation #4
CEUP recommends that the assessment of clinical skills remain a component of USMLE, but that USMLE consider ways to further enhance the testing methods currently used, in order to address additional skills important to medical practice. It is also recommended that the administrative challenges and costs to examinees associated with related testing formats be given substantial weight in the consideration of future changes.

Recommendation #5
CEUP recommends that USMLE introduce, as soon as possible, a testing format designed to assess an examinee's ability to recognize and define a clinical problem; to access appropriate reference resources in order to find the scientific and clinical information needed to address the problem; and to interpret and apply that information in an effective manner.

Recommendation #6
CEUP recommends that USMLE encourage the NBME to be attentive to ways in which it can meet the assessment needs among the secondary users of USMLE.

USMLE BACKGROUND

The United States Medical Licensing Examination™ (USMLE™) program provides a single pathway for primary licensure of all graduates of LCME-accredited medical schools in the United States and Canada, and all international medical graduates seeking postgraduate training and licensure in the United States. The USMLE is open to graduates of accredited osteopathic medical schools, although graduates of these schools may also meet state licensure requirements through completion of the three components of the osteopathic licensure examination program. In the aggregate, the three Steps of the

** Such as the six general competencies identified by the Accreditation Council on Graduate Medical Education (ACGME).*

USMLE are intended to certify to the state licensing authorities that successful candidates have the minimum knowledge and skills for initial licensure.

The USMLE program was designed in the late-1980s. At that time, the Educational Commission for Foreign Medical Graduates (ECFMG), the Federation of State Medical Boards (FSMB), and the National Board of Medical Examiners (NBME) brought together a group of medical organizations to discuss the possibility of a single examination for medical licensure. Through the work of a series of taskforces that followed, a proposal for USMLE emerged. In 1990, the proposal was agreed to by FSMB, and NBME, the two organizations that jointly own and direct the USMLE. The USMLE examination program was introduced during the period 1992 to 1994, replacing the NBME Part Examination program and the Federation Licensing Examination (FLEX) program, which were the widely accepted medical licensing examination programs at the time.

The overall design for USMLE, proposed at that time, has remained largely unchanged, with a few exceptions as noted below. USMLE has three Steps: Step 1 focuses primarily on understanding and application of key concepts of the basic biomedical sciences; Step 2, on knowledge, skills, and understanding of clinical science that forms the foundation for safe and competent supervised practice; and Step 3, on knowledge and understanding of the biomedical and clinical science essential for the unsupervised, general practice of medicine. Since the creation of the USMLE program, there have been two major changes to the program. The first involved movement to computer delivery of the examination. From a content perspective, this change allowed USMLE to provide a deeper probe of patient management skills through the inclusion of computer-based case simulations (CCS) in Step 3, and has allowed the development and introduction of multi-media multiple-choice questions (MCQs) for all Step examinations, which broaden the skill set assessed by the traditional MCQ format. The second major change, impacting Step 2, was expansion to include coverage of the clinical skills important to supervised practice; this was accomplished by introduction of a standardized patient (SP)-based, clinical skills (CS) examination in 2004.

Except for the changes noted above, and for the gradual evolution of content balance and focus that occurs in response to shifts in medical practice and education, the overall focus and purpose of the Step examinations have remained relatively unchanged.

During the original planning for USMLE, attention was given to establishing a clear definition of the relationship between medical education and the licensing examination process. First, the early USMLE proposals made it clear that the licensing examinations should not serve as, nor be perceived to be, a proxy for completion of high-quality medical education. The educational and assessment components to the licensing decision are independent of one another, and each is of high importance to the process. Second, and perhaps more important to the review process that is summarized in this document, the early plans for USMLE were clear to note that the structure of the Step examinations would reflect the knowledge and skills expected to have been acquired by students and residents as they move successfully through their training toward initial licensure, although there were no recommendations as to when the examinations should be administered within the continuum.

Although independent from medical education in any formal sense, USMLE draws heavily on the perspective of those who assure that physicians-in-training receive the educational and clinical experiences that are likely to result in safe and effective medical practice. This "educational" perspective has always been important in designing medical licensing programs, and has been a key to identifying the most effective ways to conceptualize the relevant knowledge areas and skills, to organize efforts to best sample these areas, and to develop test content and testing formats that will yield reliable and meaningful measures.

USMLE Strategic Review

The mission statement of the USMLE calls upon the program to support medical licensing authorities through the development, delivery, and continual improvement of high-quality assessments across the continuum of physicians' preparation for practice. While the content and design for the USMLE Step examinations have been continuously reviewed and refreshed, there

has been no in-depth review of overall program design and structure since they were first conceived approximately two decades ago. In 2004, around the time that USMLE was nearing implementation of the Step 2 CS program, the USMLE Composite Committee instructed staff members at the NBME, FSMB, and ECFMG to develop a process for a comprehensive review of the entire USMLE program to determine if the mission and purpose of USMLE are effectively and efficiently supported by the current design, structure and format of the USMLE.

Planning Taskforce

The Composite Committee approved the formation of a Planning Taskforce to help guide the strategic review. This taskforce included representatives of the Composite Committee, the Step Committees, and the three organizations that govern USMLE. The Planning Taskforce held a series of meetings that resulted in recommendations for an information-gathering process and for the appointment of a second group to analyze collected information and shape recommendations. This second group was eventually called the Committee to Evaluate the USMLE Program (CEUP).

To inform the review, staff members were asked to gather information about the impact and relevance of the USMLE program from a wide range of sources.

Surveys

With input from the taskforce and members of other USMLE committees, staff developed a series of surveys targeted at specific stakeholder groups: state licensing authorities (executive directors and presidents/chairs); US student leaders (AMA and AAMC national leaders and AAMC campus leaders); samples of recent examinees (all three Steps; equal numbers of USMGs and IMGs); medical educators (deans and associate deans); selected international schools (deans and representatives); residency program directors (a representative sample); and representatives of the "House of Medicine" (American Board of Medical Specialties, Accreditation Council on Continuing Medical Education, Accreditation Council on Graduate Medical Education, Council on Medical Specialty Societies, Institute of Medicine, and Liaison Committee on Medical Education).

The taskforce-approved surveys were developed following a discussion of the general areas that would provide the most useful information. Questions sought opinions on issues such as: a) the importance of specific knowledge and skill areas to the licensing decision, b) how well USMLE currently assesses those specific areas, c) the impact of USMLE on examinees and on curriculum, d) the importance that should be given to the secondary uses of USMLE, and e) the need to have results on a national, numeric scale.

During spring-summer 2006, the majority of surveys were disseminated via the Internet, with email notification to potential respondents; some individuals were contacted and/or permitted to respond via hard copy. Survey results are discussed later in this document.

Stakeholder Meetings

In addition to the stakeholder surveys, the Planning Taskforce asked that a series of meetings be held to begin a dialogue with the major stakeholders on what a revamped USMLE might look like and how changes to the existing program would affect them both positively and negatively. Through mid-2007 a total of 27 sessions were held (facilitated by FSMB, NBME, and/or ECFMG staff).

During most of these sessions, participants, particularly the representatives from undergraduate medical education, were asked to consider four questions:

1 Does the USMLE design/structure make sense?
2 What should the role of USMLE be in meeting some of the non-licensure uses of examination results (e.g., medical school promotion and graduation decisions; residency selection)?
3 What impact has USMLE had on medical school curriculum and on the educational process? What should its impact be?
4 What will USMLE need to do to be relevant and useful in 2010 or beyond?

Representatives from the graduate medical education community were asked a few additional questions:

1 What impact has USMLE had on the postgraduate educational process? What should its impact be?

2 If all USMLE Step results were reported as pass/fail outcomes only, how would training programs screen/assess applicants?
3 Should USMLE play a role in assessing ACGME competencies?
4 Should the final assessment before initial, unrestricted licensure be based on the generalized undifferentiated medical practitioner (GUMP) model?

Staff members were present to facilitate the meetings and to record summaries of the themes that emerged from each discussion. The results of these meetings are discussed later in this document.

Analysis and Recommendation Process-CEUP

The Planning Taskforce reviewed and approved a potential pool of individuals for the CEUP, and the proposed pool of members was forwarded to the NBME and FSMB CEOs for review and approval. The appointed CEUP group had 19 members; about two-thirds of the members had direct experience with the USMLE program and about one-third did not.

The CEUP was charged with evaluating the effectiveness of the current USMLE program in meeting the USMLE mission and the stated purpose of its examinations. CEUP considered several broad questions, including: What is the role of high-stakes examinations in assessment of physician candidates for primary licensure? What should be assessed and by what means? How is the current process working? Are there areas that should be assessed that currently are not?

CEUP held a series of full meetings from November 2006 through December 2007 with periodic, between-meeting conference calls for subgroups of members who addressed specific segments of the review process.

CEUP Activities

One of the first activities undertaken was the identification of general principles that would guide the committee's deliberations and their final recommendations.

Guiding Principles

The guiding principles identified by CEUP relate to the following issues:

1 *Primary purpose*
USMLE is intended for initial medical licensure.
2 *Secondary uses*
Other uses of examination results may be recognized provided they do not compromise the primary purpose.
3 *Decision points*
USMLE will assess readiness for supervised and unsupervised practice.
4 *General competencies*
USMLE strives to assess competencies necessary for safe and effective practice.
5 *Reliability and validity*
USMLE assessments must be reliable and valid.
6 *Evolution*
USMLE should reflect the evolution of medical education, training, and curricula.

Review of Survey Data

Staff and CEUP member review of the data gathered through surveying revealed some general trends, described below.

1 *Knowledge areas and skills needed for licensing decision.*
With some variation, there tended to be overall support for the importance of assessing the knowledge and skill areas that USMLE currently attempts to measure. The clinical sciences tended to be the highest rated in importance for the licensing decision.
2 *Quality of USMLE in assessing knowledge and skills needed for licensure.*
There was a sense that USMLE did a good job in assessing all of these areas, with the exception of Step 2 CS.
3 *Importance of reporting on a numeric scale.*
With the exception of the US student leaders, the majority of respondents in each of the surveyed groups thought that, overall, numeric scores should continue, but when asked specifically about the secondary (non-licensure) decisions that are based on USMLE results, there was more variance of opinion on the need for numeric reporting.

4 *Impact of USMLE.*
Surveyed constituencies did not agree with statements that the current USMLE format had negative effects on medical education across a number of domains. The statement eliciting the highest degree of agreement, although still by only a minority of respondents, was that USMLE interfered with student focus on the undergraduate curriculum.

5 *Overall evaluation of USMLE in meeting goal of assessing knowledge and skills necessary for safe and effective patient care.*
In terms of this overall assessment, the surveyed groups agreed at a relatively high rate.

Survey Comments

A brief summary is provided below.

- Many comments related to Step 2 CS, questioning the value added by its inclusion in the USMLE sequence, and noting the redundancy with what some US schools are already measuring, as well as the difficult burden it places on students. Comments also related to the limitations of the standardized testing format in assessing what is truly important to practice, and to the possibility that USMLE is unfair to IMGs. Step 2 CS was cited as a component of USMLE that should be closely examined.
- Clinical reasoning and problem solving were cited as areas of assessment that might be improved.
- A number of comments stressed the importance of assessing other ACGME competencies, with suggested approaches. However, other comments indicated that no additional areas need be covered.
- Many comments supported the current three-Step structure. Some comments cited the value of reflecting the progression of education, with several opportunities to identify individuals with deficiencies. However, there were also comments that reflected concern for issues around cost and exam length. Some comments suggested ways in which Steps could be combined or eliminated.
- Many comments suggested a close review of the allotted timing and length of the examinations.
- The issue of numeric versus pass/fail (only) reporting was raised in a number of comments, with varying opinions. For those against numeric reporting, there were concerns expressed for the use of scores by residency program directors.
- Many of the additional comments expressed thanks for the opportunity to participate. Many also expressed appreciation for the quality of USMLE and the role it plays in the education and licensing process.

Stakeholder Meetings

As part of the information-gathering effort, a large number of meetings were held in order to gather the opinions of a variety of stakeholders. These meetings allowed a dialogue about the pros and cons of the current USMLE program and provided opportunities for suggestions on improvements to design, structure, formats, and reporting.

Although meetings with stakeholders continued past spring of 2007, emphasis shifted from broad information gathering to an emphasis on seeking the reaction of stakeholders to the early themes that were emerging from CEUP discussions. CEUP continued to receive updates on stakeholder reactions throughout its deliberations, including comments and suggestions from the leadership of a number of national associations focused on basic science education.

In reviewing the summaries from the initial information-gathering meetings, several consistent themes emerged:

1 R*eflecting trends in medicine.* USMLE needs to be attentive to the evolution of medicine, as it relates to safe and effective practice, and reflect those changes in the demonstration of knowledge areas and skills required for initial licensure.

2 *General competencies.* USMLE should move to a design that would reflect the concept of general competencies, with the understanding that the valid and reliable assessment of some of these competencies may be challenging and, perhaps, beyond the capability of the licensing examination system.

3 *Integration of content.* USMLE should seek to better merge the assessment of the science important to medicine with the assessment of clinical knowledge and skills important to practice.

4 *Assessment of clinical skills.* Primary concerns about the current approach to measuring clinical skills are in the "execution" of this relatively new assessment, the burden it has put on examinees, and the uncertainty of whether it has contributed positively to the licensing process. There were suggestions that Step 2 CS be eliminated. There were also suggestions for enhancements to the current clinical skills assessment and for expanding the role of clinical skills assessment in the USMLE examinations.

5 *General examinations and specialized training.* There was acknowledgement that the broad-based, general nature of the current Step 3 examination, required for the undifferentiated license to practice medicine, does not match the specialized training of many examinees at the point that they take the exam. There were mixed opinions on whether all physicians should be required to demonstrate mastery of a common set of knowledge and skills.

6 *USMLE and curricular innovation.* There was strong sentiment that the structure, timing, and reporting approaches for the current USMLE make it difficult for medical schools to introduce curricular changes.

7 *Numeric and pass/fail reporting.* Opinions on the relative merits of reporting scores versus pass/fail only varied within and across meeting groups.

Overall Impressions of Stakeholder Feedback

Taken as a whole, CEUP found the following points important when considering the survey data and stakeholder group meeting summaries:

- On several topics, there appeared to be a "disconnect" between the survey data and the meeting feedback, which might be explained by the general mindset and motivational differences between those participating in the somewhat passive act of responding to the survey and the more active step of attending and participating in a special meeting. The meeting feedback was significantly more negative than the survey feedback.
- It is likely that, excepting examinees, many of the respondents and meeting participants had never seen the full exam sequence and had very little experience with USMLE content. This should be considered when interpreting results related specifically to content.
- In general, none of the feedback seemed to indicate that USMLE is broken, but there was considerable interest in enhancing and improving the program.
- There appeared to be very strong reactions to Step 2 CS, and CEUP felt that survey and stakeholder meeting data on this component needed to be interpreted in a special way by attempting to separate (but still be attentive to) issues related to the mechanics and costs of Step 2 CS versus the value of what the exam is intended to measure. On the issue of mechanics and costs, CEUP recognized that USMLE must be very attentive to the burden put on examinees by this testing format and that the impact on examinees must be considered when proposing future directions. Concerning the skills measured by Step 2 CS, there seemed to be legitimate concerns about content. Many people wanted to see the exam begin to assess whether the examinee can detect and interpret abnormal findings and handle challenging communication issues. There was a frequently expressed sentiment that this exam was ripe for enhancement and that many of the more advanced communication skills and other competencies could be assessed through this vehicle.
- There seemed to be several issues on which USMGs and IMGs had different opinions, and CEUP concluded that it needs to be careful to evaluate the impact of potential changes for the full testing population.

Other Data

In addition to the quantitative and qualitative data above, staff made available to CEUP a variety of literature regarding competency assessment and domains, and summations of the work of a number of organizations including the National Alliance for Physician Competence and the American Board of Medical Specialties/Accreditation Council on Graduate Medical Education. These data and the ongoing iterative feedback from various stakeholder groups were posted on a secure web site and were available to committee members for review and online discussion. The Committee was also provided

with feedback from the three Step Committees in the form of a summary of discussions at the July 2007 Step Committee Retreat. During that retreat, Step Committee members discussed themes that were emerging from CEUP work and began to relate those themes to the development of test content.

CEUP Review

CEUP reviewed all of the information gathered through surveys and meetings and evaluated this information in light of what its members saw as important shifts in approaches to organizing the medical education experience and shifts in thinking about the knowledge and skills that the physician must bring to the practice environment. It was through the combined process of evaluating stakeholder opinions and consideration of contemporary thought in the educational and practice community that CEUP arrived at the recommendations that follow.

Recommendations

Beginning in late-2006 through its final meeting in December 2007, CEUP considered all of the above information in its deliberations. CEUP also received feedback, both positive and negative, from the stakeholder community on the publicly shared themes that emerged during its deliberations. Concerning this latter activity, it is the opinion of CEUP that USMLE should continue the process of seeking stakeholder reactions, going forward, as CEUP recommendations are considered.

Most of the CEUP recommendations, provided below, are relatively general, without a high level of detail. Specific information regarding the number, format, and timing of exam units that inform each licensing decision need to be refined. CEUP recommendations permit flexibility in design and administration.

CEUP recognized the variation in opinion about numeric scoring. CEUP did not provide a recommendation on the issue of score reporting (numeric versus pass/fail only) because it believed that the implications of its other recommendations, in terms of design and structure, need to be further defined before USMLE would be in a position to consider this reporting issue. It is possible that a redesigned USMLE could have results of some components reported numerically and some only pass/fail, depending on the ultimate design and formats of the assessments.

Also, although not contained in the formal recommendations, it should be noted that CEUP believes that students and graduates who take USMLE represent a special stakeholder group that is significantly impacted by the USMLE system. Implications, financial or otherwise, to this group should carry significant weight in the next level of deliberations.

Recommendation #1

CEUP recommends that USMLE design a series of assessments that are specifically intended to support decisions about a physician's readiness to provide patient care at each of two patient-centered points: a) at the interface between undergraduate and graduate medical education (supervised practice), and b) at the beginning of independent (unsupervised) practice.

Rationale: This structure reinforces the patient-centered focus of the USMLE and recognizes the graduated approach of physician responsibility for patient care. A key purpose of the USMLE is to provide licensing authorities with information regarding a candidate's readiness for patient care responsibilities. This recommendation is intended to affirm the importance of USMLE to decisions made at major transition points for examinees in terms of their education and the nature of the patient care that they deliver, and to add clarity to the specific purpose, focus, and design of each of the USMLE assessments. Descriptions of USMLE design, particularly for Steps 2 and 3, have always included language related to assessment for readiness to begin supervised and unsupervised practice, and the USMLE requirements articulated by primary users (state licensing boards) and suggested by secondary users (medical schools, residency programs, the ECFMG) indicate a desire to use USMLE information to support these decisions.

Recommendation #2

CEUP recommends that USMLE adopt a general competencies schema* for the overall design, development, and scoring of USMLE, using a model consistent with national standards. Further, CEUP recommends that, as

the USMLE program evolves, it should foster a research agenda that explores new ways to measure those general competencies, important to medical practice and licensure, which are difficult to assess using current methodologies.

Rationale: USMLE design has always attempted to reflect best thinking about the ways to organize and sample content areas to produce measures that are meaningful to decisions about safe and effective practice. USMLE should incorporate what has become an evolving national approach to focusing on the general competencies that all physicians must acquire and maintain. Adoption of this recommendation assures that USMLE keeps pace with best thinking about the explicit capacities considered important to the practice of medicine.

With regard to the research that this recommendation may require, CEUP recognizes that not all of the competencies that are being discussed broadly are easily measurable with existing assessment tools. Furthermore, no assessment should be included in USMLE unless and until valid and reliable tools are available. Development of valid and reliable measures of these competencies should be an important goal and should be part of a critical agenda for the USMLE.

Recommendation #3

CEUP recommends that USMLE emphasize the importance of the scientific foundations of medicine in all components of the assessment process. The assessment of these foundations should occur within a clinical context or framework, to the greatest extent possible.

Rationale: As stated in the rationale above for considering a competencies model for the design of USMLE, this recommendation suggests that USMLE will benefit from best thinking about the approaches to blending science and clinical practice that has been occurring for many years at both a national level and at individual medical schools. The intention is not simply to reflect the structure or direction of education, but to learn from those efforts that are intended to better organize and represent important knowledge and skills. The recommendation calls upon USMLE to more explicitly deal with the issue of clinical relevance and to weave the assessment of important science throughout the USMLE program. It should be noted, however, that CEUP recommendations do not specify the number or timing of assessments.

Recommendation #4

CEUP recommends that the assessment of clinical skills remain a component of USMLE, but that USMLE consider ways to further enhance the testing methods currently used, in order to address additional skills important to medical practice. It is also recommended that the administrative challenges and costs to examinees associated with related testing formats be given substantial weight in the consideration of future changes.

Rationale: CEUP recognized that no other USMLE examination received as much attention in this review process as the Step 2 CS. Although there were negative reactions to the costs, details of delivery, and current standards expressed in both surveys and stakeholder meetings, there was support for the concept of an assessment of these skills, prior to licensure, as well as some recognition that the new examination has had a positive impact on education generally.

Although some comments indicated that this assessment should be done by schools and not by USMLE, CEUP thought it unlikely that a school-based approach would lead to a reliable, standardized system that would have meaning on a national level. Therefore, assessment of these skills should take place within the context of a licensing examination and are thus the responsibility of USMLE. Further, CEUP believes that limiting this assessment to only a single component of USMLE would be inconsistent with the broadly acknowledged importance of these skills to safe and effective patient care. However, it should be noted that CEUP made the distinction between a standardized patient exam and an assessment of clinical skills; it should be possible to assess some aspects of clinical skills using methods other than a standardized patient format. CEUP believes that any major increase in use of the standardized patient format would impose a significant burden on the examinee population, and efforts for a more comprehensive assessment of these competencies should be directed toward development of other formats.

Recommendation #5

CEUP recommends that USMLE introduce, as soon as possible, a testing format designed to assess an examinee's ability to recognize and define a clinical problem; to

** Such as the six general competencies identified by the Accreditation Council on Graduate Medical Education (ACGME).*

access appropriate reference resources in order to find the scientific and clinical information needed to address the problem; and to interpret and apply that information in an effective manner.

Rationale: The area most often cited as being overlooked by the current design and format of USMLE has to do with skills that are becoming part of the standard approach to clinical problem solving among students, residents and practitioners. These skills include the ability to define a clinical problem, gather and interpret scientific data relevant to the problem, and apply information in a patient-centered, appropriate manner. CEUP recognizes this major omission and encourages USMLE to develop a format that will better assess the examinee as an individual who, recognizing and interpreting the clinical context, is an effective information seeker and interpreter rather than solely an information retainer.

Recommendation #6

CEUP recommends that USMLE encourage the NBME to be attentive to ways in which it can meet the assessment needs among the secondary users of USMLE.

Rationale: One of the consistent themes brought to the attention of CEUP was the positive value of having multiple, nationally standardized assessments to help in the identification of at-risk students, in the early remediation of deficiencies, in the evaluation and improvement of curricula, and in postgraduate medical education. It is not clear that any accepted recommendations for changes to USMLE will result in challenges to meeting these needs, but a proactive program of monitoring and meeting these needs is in the best interest of medical education and, ultimately, patient care.

CONCLUSIONS

The introduction of the USMLE program in the early 1990s represented an enormous advance in efforts toward a single, uniform process for the assessment of knowledge and skills important to the practice of medicine. At that time, and through its more than 15 years of evolution, USMLE has remained a high-quality, state-of-the-art assessment program that has served well the needs of licensing authorities and other users.

As stated in the USMLE mission statement, an important goal of the USMLE program is "to continue to develop and improve assessments for licensure with the intent of assessing physicians more accurately and comprehensively." Considering the speed with which science and the practice of medicine are evolving, and recognizing the impact of ongoing national discussions on physician competencies in the education and practice communities, this review of USMLE has provided a unique opportunity to suggest ways to elevate the breadth and quality of assessment to meet the expectations of the profession and the public.

Although CEUP, during its deliberations and in its final recommendations, has focused primarily on issues that need to be addressed in the near term, it believes that it is equally important that USMLE undertake the task of determining program needs for the long term in order to stay meaningful and relevant to the licensing process. This goal of anticipating changes in medical practice, education, and licensure "just beyond the horizon" should be given a high priority as USMLE continues efforts to shape its future.

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