Comprehensive review of the USMLE

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THE UNITED STATES MEDICAL LICENSURE EXAMINATION (USMLE) program provides a single pathway for the primary licensure of graduates of Liaison Committee on Medical Education (LCME)-accredited medical schools in the United States and Canada and all international medical graduates seeking postgraduate training and licensure in the United States. Graduates of accredited osteopathic medical schools may also use the USMLE to meet licensure requirements in most jurisdictions. In aggregate, the three steps of the USMLE certify that successful candidates have the minimum basic science and clinical knowledge and clinical skills for unsupervised general practice of medicine.

Although the USMLE was designed to meet the needs of state licensure boards, it has significant secondary uses. These include curriculum assessment, promotion and graduation decisions, and residency selection.

The USMLE program was designed in the late 1980s and was implemented in 1992, replacing the National Board of Medical Examiners (NBME) Certifying Examinations, the Federation Licensing Examination, and the Foreign Medical Graduate Examination in the Medical Sciences. There have been two major changes and additions. Computer-based testing began in 1999 (including computer-based patient management simulations) and a standardized patient-based step 2 Clinical Skills examination was added in 2004.

In early 2004, recognizing changes in the academic, regulatory, and practice environment since the introduction of the USMLE, the Composite Committee that governs the USMLE directed NBME, Federation of State Medical Boards (FSMB), and Education Commission for Foreign Medical Graduates (ECFMG) staff to undertake a review of the USMLE to determine if the design, structure, and format of the program continues to support the USMLE mission in the most effective manner.

The Composite Committee appointed the Committee to Evaluate the USMLE Program (CEUP), comprising 20 representatives from the broad community of USMLE stakeholders to conduct the work of the review. CEUP received information from a wide range of sources, including stakeholder surveys, open town hall sessions, and focus groups with key constituents. When it became clear that basic science educators were underrepresented in initial meetings, concerted efforts were made to gather opinions from the associations, societies, and interest groups that represent the basic science community.

CEUP considered the concerns of the basic science community and incorporated them with the concerns of other stakeholders. CEUP believes strongly that the sciences fundamental to medicine form its foundation and that physicians must be thoroughly prepared to apply fundamental science to medical practice throughout their careers. Because the USMLE is a medical licensing examination, it is appropriate that, to the greatest extent possible, assessment of fundamental science principles should be undertaken in a clinically relevant context. However, CEUP recognizes that there are scientific principles and translational materials essential to medical practice that cannot be presented in this manner. The responsibility for teaching fundamental science rests with medical schools; the USMLE should emphasize the importance of fundamental science to effective clinical practice while at the same time avoiding any interference with the efforts of medical school faculty to teach fundamental science in the most effective manner.

All stakeholders agree that physicians must have the ability to recognize uncertainty, gather pertinent information, and reach valid decisions supported by evidence. CEUP will call on the NBME to develop test item formats that probe these abilities more effectively.

CEUP recommendations regarding the structure of the examination will be at a very high level and framed in patient-centered, competency-based language. They recognize that state medical boards must make licensure decisions at two “gateway” points: 1) entry into supervised postgraduate training and 2) initial licensure for unsupervised practice. At each of these points, states require independent certification that candidates have at least minimum proficiency in all competencies that can be measured in a valid and reliable manner. These include the scientific foundation of medical practice, the application of medical knowledge to patient care, and the clinical skills relevant to practice level, whether measured by standardized patient-based assessments or other testing formats.

CEUP has not specified the number or timing of the assessment components to be used to at each decision point. Additionally, CEUP has not made recommendations regarding possible scoring paradigms for the USMLE. This will be the work of subsequent committees.

Time Line

Recommendations from CEUP will be reviewed by the Composite Committee in May 2008. Over the course of the next 6 months, USMLE committees and staff members will develop and study a series of hypothetical models for the USMLE program. The governing boards of the NBME, FSMB, and ECFMG will meet jointly in November 2009 to review recommendations. If the Composite Committee supports with CEUP recommendations, and the governing boards concur with the Composite Committee, the full National Board and Federation House of Delegates will receive the proposals for endorsement in late winter/early spring 2009.

The length of time required to implement recommended changes will depend on the extent of change. It will take some years to develop and pretest new test formats and items and to prepare supporting tools for medical schools and examination candidates. If the governing bodies of the USMLE program...
approve major changes in the program, the first components of a new examination program would probably become available in 2012 or 2013, for students in the LCME graduating classes of 2013 or 2014.

**Implications for Basic Science Education**

CEUP recommends a substantial increase in emphasis on fundamental medical science in the USMLE program. Rather than segregating basic science into a step 1-like examination, it is likely that there will be substantial amounts of fundamental science content throughout all elements of the USMLE. The early components might stress the principles of fundamental science as applied in clinical contexts. Later components may emphasize clinical decision making based on the ability to retrieve and evaluate fundamental science principles.

A new USMLE structure, although organized around two gateway points, is likely to offer enough flexibility in timing of the assessment components of each gateway to accommodate the broad range of curriculum structures in United States and international medical schools and the individual learning styles of students.

It is too soon to engage in productive speculation regarding the precise shape of a new licensing exam; months, and perhaps years, of careful collaborative work will be necessary to achieve the optimum result. Whatever forms the exam may take, there will likely be fundamental medical science materials in all components. It is not too early to explore curriculum models that encourage the interaction of basic scientists and clinicians throughout the undergraduate curriculum and, indeed, into graduate medical education.