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Students Voice Concern Over Proposed New Clinical Exam

Medical students supported by the American Medical Association have voiced concern about the cost, efficacy, and content of the new clinical skills examination that will be administered as part of the United States Medical Licensing Exam (USMLE). The new exam is designed to measure clinical skills as a part of the licensing process. On June 20, a resolution was passed by the Association of American Medical Colleges (AAMC) Executive Council that supports not adding the $1,000 estimated cost of the exam to medical students.

Medical students contend the exam does not have the capacity to objectively evaluate clinical competencies. For the past 15 years, the National Board of Medical Examiners has been studying the exam's feasibility and has administered pilot tests at 40 medical schools. Henry Pohl, M.D., vice dean for academic administration at Albany Medical College, supports the exam, indicating that there have been many versions pilot-tested and that the current version will be able to identify the few students who lack the skills needed to practice medicine.

AAMC recommended that the exam be deferred until an external funding mechanism is identified. In addition, the association suggested that the cost could be distributed across the entire community of physicians through small increments in licensing and re-licensing fees.

(Gabriel B. "Proposed new clinical exam draws cost, efficacy concerns." Reporter. Association of American Medical Colleges. 11:1, 4-5; August 2002.)

Using Residents for Objective Structured Training Examinations

Objective structured clinical training examinations (OSTE) have been used to evaluate faculty clinical skills. Senior medical students at the University of California, Irvine, rated an OSTE for generalist resident teachers. OSTEs are designed to provide rapid and rigorous evaluation of clinical teaching skills as well as new approaches to teacher training.

Fifteen fourth-year medical students completed 30 hours of training as standardized students and raters who evaluated 31 primary care residents. Residents went through a 13-hour teaching skills curriculum. Two students who were situated at each OSTE station—as well as one who watched via a remote camera—rated the residents. A research psychologist and an attending physician with medical education training also evaluated the residents to corroborate the students' ratings.

OSTE stations included orienting a learner, outpatient precepting, bedside teaching, providing feedback, inpatient teaching, teaching charting, teaching a procedure, and giving a mini-lecture. The senior medical students competently enacted and rated an OSTE for generalist resident teachers with high inter-rater reliability.

Selectivity of Applicants and USMLE Step I Performance

The average MCAT scores attained by students between 1996 and 1999 in two public medical schools in the Southeast and the Midwest were collected. In addition, the performance of these students on the first sitting of USMLE Step 1 was also acquired. The study also included undergraduate science grade-point averages.

The study demonstrated that the inclusion of institutional MCAT averages can produce a small improvement in predicting a medical student’s performance and could be a useful addition to the traditional prediction model used for admission. It should also lead to further studies to determine if this might contribute to predicting basic science achievement in medical school.

The authors’ final conclusion was that by adding a measure of an applicant’s undergraduate institutional selectivity by employing the average MCAT score of applicants from institutions can produce a small improvement in the prediction of performance on USMLE Step 1.

(Basco WT, David PW, Gregory GE, Hudson A. “Undergraduate institutional MCAT scores as predictors of USMLE Step 1 performance.” Academic Medicine. 77: Supplement. S13-S16; October 2002.)

Wireless Learning in Medical School

Improving classroom interaction between students and instructors is the goal of a Stanford University School of Medicine wireless polling system. Palm m125 handheld computers that were equipped with the Palm Bluetooth Card, a Secure Digital Input/Output card, and a Stanford custom-designed software were used by students to communicate with faculty.

Faculty members felt they were better able to tailor course material to the needs of a particular class. This new approach is also faster and provides feedback that is probably more reliable because of the anonymity that the students have. Pat Cross, a professor of structural biology, remarked that Stanford students come from different backgrounds and the course content can be fine-tuned, leading to better trained medical professionals.

“Students answer questions more truthfully because there is no public embarrassment for answering incorrectly,” he said.


Teaching Research on a Shoestring Budget

Students often work in academic environments with little or no resources to perform research. It would be helpful to have methods available to permit students and residents to perform scholarly activity that may be required or may simply be one of their areas of interest.

A gerontologist at Naropa University in Boulder, Colorado, provides some tips to facilitate non-funded research. He indicates that data from previous research is available from the Internet at little or no expense that can be used as the basis for in-depth interviews employed in some research protocols.

Employing such data sets provides students with an opportunity to have a research experience virtually without cost. Such research does not mean doing projects that are second class. Thoughtful preparation is required by the students to identify research topics. The author indicates that they can address a need for knowledge or aspects of knowledge that cannot be gained by traditional quantitative methods.

(Atchley R. Teaching students how to do research on a shoestring budget. Gerontology and Geriatrics Education. 22(3), 3-9; 2002.)
Problem-based Learning and Basic Science Faculty

A problem-based learning (PBL) curriculum does not place unreasonable demands on the time of basic science faculty, according to a paper from biochemistry and molecular biology faculty at the University of New Mexico. The authors point out that many arguments have been presented about the wisdom, effectiveness, and educational efficiency of PBL to teach the basic medical sciences. However, many of these have been grounded in emotion, faculty tradition, and faculty perception according to the authors.

They point out the rapid and extensive proliferation of PBL and its application to the basic science disciplines. In addition, they cite how it has been shown to improve problem-solving skills, augment performance on clinical clerkships, and enhance understanding and retention of the basic medical sciences. They analyzed a hybrid PBL curriculum that was given to 73 medical students to determine how much of the basic scientist's time is spent delivering the curriculum. This took place during the first 18 months of medical school.

Upon analysis of their study they conclude that the teaching burden of basic scientists at medical schools that teach using PBL need not be unreasonable or excessive. While the results of the study demonstrated an increase of faculty time commitment in a hybrid PBL curriculum, it did not support the argument that PBL is excessively costly in terms of faculty time.


Analyzing Student Performance on Comprehensive Osteopathic Exam

Student performance was reported to be improved on the Comprehensive Osteopathic Medical Examination (COMLEX) Level 2 by Lake Erie College of Osteopathic Medicine (LECOM) as a result of the Training, Evaluation, Assessment of Clinical Competencies and Homecoming (TEACCH) program.

Early in the fourth year, LECOM students return to their campus for a weeklong series of evaluations. These include an 800 multiple-choice examination in the various core clinical and basic science areas, EKG interpretation, diagnostic imaging, neuromusculoskeletal examination, and osteopathic manipulative medicine.

Those students scoring in the lower 10 percent are counseled and monitored as well as placed in a study program designed to improve their chances of passing COMLEX Level 2. That intervention, LECOM postulates, has had a positive impact on these at-risk students.

(Agostini DE, Stano S, Parente DH. "Student performance on the Comprehensive Osteopathic Medical Licensing Examination-USA Level 2 following a clinical evaluation, feedback, and intervention program." JAOA. 102:477-480; 2002.)

WebOSCE Proves Highly Effective

Drexel University College of Medicine in Philadelphia has been using a 10-station standardized patient-based examination that employs a videoconference interface. Nine other students take the Objective Structured Clinical Examination (OSCE) on-site. This was done so that a total of 221 students were on-site and 26 were in remote locations.

While the students in both groups evaluated the examination experience equally, those who took it on site did significantly better than those who took it by WebOSCE except for physical examination and information-giving skills, which did not differ. The students rated the WebOSCE examination very highly and provided helpful comments to improve the technology.

Increase Predicted for 2003 Medical School Applicant Pool

While the Association of American Medical Colleges (AAMC) reported that the number of students who applied to medical schools for the 2002 entering class was 33,501, the smallest in the last six years, the association reports that this year applications are expected to rise by four to six percent.

The number of people taking the MCAT increased by six percent from last year's total. Six years ago the application pool was 47,000. AAMC President Jordan Cohen, M.D., indicated that this projection provides hope that the decline has ended. New health challenges facing the nation and a possible physician shortage have been cause for concern.

Scholarships and Loan Repayment Program to Ease Nursing Shortage

On August 1, President Bush signed into law a program offering incentives for people to seek a career in nursing. Applications to nursing schools have declined by almost seven percent in each of the past six years. There is concern that by 2008 there will be a shortage of 450,000 nurses.

The new legislation provides educational scholarships in exchange for service in facilities with critical shortages of nurses. It also provides opportunities for nurses to collaborate with other health professionals. Grants will be available as a result of the new law to provide comprehensive geriatric training.


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The Medical Education Digest also is available for viewing on the Internet at http://medicine.nova.edu/ostmed/admin/facdev.
Changing Motivation of Medical Students

Opportunities for active learning, imagination, and creativity may be suppressed in the traditional medical school curriculum. It is important for faculty in medical schools to learn more about student motivation. Faculty members are too often focused on grades and test performance than on comprehension and mastery of the material students need to know. Professional education that promotes a preference for mastery learning will produce a physician better prepared to adapt to continual change in medical practice.

The authors noted that while medical students begin their professional program highly motivated, by the end of their first year they develop an attitude of “just give me what I need to know or do to pass.” In the traditional curriculum the student is motivated to learn only what material is necessary to pass rather than developing the skills necessary for self-directed lifelong learning. It is suggested that students are more consistently motivated to learn when the physical and social environment is congruent with their affective learning style.

Medical education, the authors indicate, should help students develop the attitude that learning is a lifelong process and to do that they need to be motivated to become competent and use such skills routinely.

(Perot LJ, Deloney LA, and Hastings J. “Medical student motivation: does it change over time?” Annals of Behavioral Science and Medical Education. 8:97-100; 2002.)

Medical Students as Standardized Patients

With the use of standardized patients (SPs) becoming a common part of the medical education scene, there are costs and sometimes significant logistical difficulties associated with this component of the program. The Family Practice Department at the College of Human Medicine at Michigan State University utilized medical students in their preclinical and clinical years. A performance-based assessment (PBA) experience was established in the second year evaluating students’ abilities to integrate basic skills and knowledge.

These experiences were perceived by students as being effective and as a reinforcement of the goals of the curriculum. Students viewed the group learning experience provided by the patient training session as being valuable and that it was an important part of their positive attitude toward the time they spent as an SP. It was concluded that it was cost effective using students as SPs for PBA.

Virtual Medical School

“If we don’t take advantage of e-learning, we might lose our relevance,” said Ronald Harden, M.D., of Scotland’s University of Dundee Center for Medical Education regarding the creation of an extensive online medical curriculum. More than 20 U.S. medical schools are involved in online medical education. The National Board of Medical Examiners is a supporter of the International Virtual Medical School Project, as are schools from outside the United States who are contributing to the $4 million budget for the coming year.

Michael S. Gordon, M.D., Ph.D., the director of the University of Miami’s Center for Research and Medical Education, feels that it is critical for his school to participate in the electronic curriculum. “It’s inevitable that more education will be delivered over the Internet,” he said. “If you don’t join them, you’re putting your head in the sand.” However, while Stephen Smith, M.D., associate dean for medical education at Brown University Medical School, indicates that he is creating the structure for virtual medical education, he also cautions that the danger of distance education is that the student becomes unmotivated. “But,” he stressed, “creating an emotional aspect to e-learning makes that learning more powerful.”

Those involved with the virtual medical school seem to agree that it would be best to use e-learning together with the best of clinical training.
(Croasdale M. “Virtual medical school may become a reality. American Medical News; December 2, 2002.)

Cost-Effectiveness of Problem-based Learning

An 18-month study of the basic science faculty in the hybrid PBL curriculum at the University of New Mexico School of Medicine was done to measure its cost-effectiveness. The study was conducted to help evaluate whether excessive time commitments and excessive costs are associated with PBL.

The analysis did demonstrate that while there was an increase in faculty time, it did not support the claim that PBL is excessively costly in terms of faculty time. The investigators, both of who were basic scientists (Department of Biochemistry and Molecular Biology), also concluded that the PBL curriculum did not place unreasonable demands on the basic science faculty.

Medical Education and Handheld Computers

A fifth of the medical schools in the U.S. require fourth-year medical students to use handheld computers. Medical schools are using these electronic devices for such things as monitoring student performance, enhancing student-educator communication, improving course management, and ensuring that students have the latest information in classrooms, hospitals, and clinics.

According to Ray Dannenhoffer, assistant dean for support services and director of medical computing at the University of Buffalo School of Medicine and BioMedical Sciences, handheld computers “can provide more informed patient care at the patient’s bedside.”

Last year the University of Buffalo became the first medical school to provide every one of its 594 students with a handheld computer (Palm m500s). Handheld computers are being used to:

- Write prescriptions
- Monitor critical information
- Indicate drug interactions
- Calculate health indices.

Graduate Medical Education Needs Assessment

The Department of Pediatric Medicine at the Hospital for Sick Children of the University of Toronto assessed the different methods of performing a needs assessment of residents. They defined such an assessment as a systemic process to collect and analyze information on what a target group needs to learn. Learning needs assessments identify deficiencies in knowledge, skills, behavior, or attitude in current teaching practices or anticipating deficiencies based on expected changes in health care needs. Needs assessment is a fundamental step to assuring the relevance of educational activity to the target audience. The authors identify several categories of need including:

**Normative:** Measured gap between a set of established standards (set by expert opinion or research) and the individual or group’s current knowledge.

**Prescribed:** Areas educators or program planners determine as inadequate and that need educational intervention (takes normative needs into account and focuses on deficiencies).

**Comparative:** Learning needs identified by comparing two similar groups or individuals against normative standards.

**Expressed:** What learners say they need to know.

**Unperceived:** Discrepancies not perceived by learners as needs (what learners don’t know they need to know).

Methods to perform needs assessments include surveys/questionnaires, interviews, chart audits, chart-stimulated recall (residents explain rationale behind a particular patient management decision), standardized patients, and environmental scans (checking existing sources of information in the institutional setting or outside the institution). Educators usually use more than one needs-assessment method to plan educational activities.


Complementary and Alternative Medicine in Medical Schools

A total of 123 courses in complementary and alternative medicine (CAM) are offered in U.S. medical schools. This was determined by a study in which 117 medical schools responded to a survey sent to 124 schools. Of these, 37 percent (28 schools) offered two or more courses in CAM and another 45 (63 percent) offered at least one course. There were 75 (64 percent) of the responding schools that offered one or more courses, including topics in CAM in required courses. Elective course time ranged from 6 to 160 contact hours, with 9 schools providing more than 100 hours. Five schools, including the University of Florida College of Medicine, offered clerkship rotations. Required course time in CAM ranged from 2 to 10 hours, with an average of 4.5 hours.

CAM courses were offered by separate institutes or centers affiliated with the medical schools. These included the Institute for the Study of Health and Illness, which sponsors a course offered by the University of California, San Francisco, School of Medicine, the Center for Spirituality and Healing at the University of Minnesota, Minneapolis, and the Center for Mind-Body Medicine, affiliated with Georgetown University. A report of the Association of American Medical Colleges, Medical School Objectives Project, stated that physicians should be “sufficiently knowledgeable about traditional and nontraditional modes of care to provide intelligent guidance to their patients.”

Applications to D.O. Schools Increase

After several years of decline, the spring and fall MCAT administration rose by 5.6 percent over the previous year. As in the case of the allopathic medical schools, this translates into an increase in the applicant pool for osteopathic medical schools. Allen Singer, Ph.D., of the American Association of Colleges of Osteopathic Medicine (AACOM), indicated that the organization projects that applications to the 2003 entering class will increase by from 8 to 18 percent. In 2002, the nation had the smallest medical school applicant pool in six years with 33,501; in 1996, 47,000 people applied to medical school. AACOM interprets the rise in this year's MCAT-takers to the weak labor market, since enrollments to graduate and professional schools tend to increase when jobs for college graduates become more difficult to obtain.

However, AACOM indicated that their projections for increased enrollments could be somewhat distorted since the new Edward Via Virginia School of Osteopathic Medicine admits its first class this year. Jordan Cohen, M.D., president of the Association of American Medical Colleges, indicated that the projection for this year provides hope that the medical school applicant decline has ended.