HOD ACTION: Council on Medical Education Report 7 adopted as amended and the remainder of the report filed.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION

CME Report 7-A-09

Subject: Transforming the Medical Education Learning Environment

Presented by: Claudette E. Dalton, MD, Chair

Referred to: Reference Committee C
(Rodney G. Hood, MD, Chair)

Recommendations 2 and 3 of Council on Medical Education Report 9 (A-07), "A Balanced Medical Curriculum," which were adopted by the House of Delegates, ask that our American Medical Association:

> Collaborate with other groups to define changes to the clinical education environment that would support medical student and resident physician acquisition of appropriate core competencies and continue to advocate for appropriate funding for education to support these changes.
>
> Prepare a report for the 2009 Annual Meeting of the House of Delegates summarizing actions taken and successes achieved in bringing about educational program and clinical learning environment change. (Directive D-295.947 #2, A Balanced Medical Curriculum, AMA Policy Database).

This report will describe activities through the AMA Initiative to Transform Medical Education (ITME) that are aimed at bringing about positive changes in the medical education learning environment.

BACKGROUND OF ITME

The Council on Medical Education began ITME in 2005 with the goal to:

> Promote excellence in patient care by implementing reform in the medical education and training system across the continuum, from premedical preparation and medical school admission through continuing physician professional development.

Phase 1 of ITME (2005-2006) identified current strengths and gaps physician education across the continuum. Phase 2 of ITME (2006-2007) developed general recommendations for change in the medical education system to address the gaps. The final recommendations from Phase 2 are included as an Appendix to this report.

Phase 3 of ITME, which began in 2007, consists of developing focused strategies for change to implement the recommendations. The first area selected for action was the medical education learning environment for medical students and resident physicians, since the environment in which trainees learn has been recognized by many as a key factor in their professional development.[1-2] Therefore, ITME recommended that:

> The learning environment throughout the medical education continuum should be conducive to the development of appropriate attitudes, behaviors, and values, as well as knowledge and skills in medical students and resident physicians.

DEFINING THE LEARNING ENVIRONMENT

ITME aims to make recommendations and develop action plans leading to changes to the learning environment that would result in positive learner outcomes. To begin this process, ITME sought broad-based input from relevant stakeholder groups. The activities related to the learning environment began with an invitational conference in December 2007 that included representation from medical school and residency program faculty and administrators, researchers from a variety of disciplines and perspectives, medical students, resident physicians, and medical education organizations.

Conference goals were to:

- Develop a comprehensive definition of the learning environment;
- Identify types of factors in the learning environment that may affect learner outcomes; and
- Create recommendations for action that would add to existing knowledge about how to mitigate negative and enhance positive factors in the medical education learning environment.

Conference participants began by developing the following operational description of the learning environment:

> At any point in time, the learning environment is a social system that includes the learner (including the external relationships and other factors affecting the learner), the individuals with whom the learner interacts, the setting(s) and purpose(s) of the interaction, and the formal and informal rules/policies/norms governing the interaction.

As described, the learning environment represents the context for the learner as he/she functions within an educational program. It is complex and, for any given learner, changes from day to day and year to year.

CATEGORIZING FACTORS THAT INFLUENCE THE LEARNING ENVIRONMENT

The conference then attempted to identify the factors in the learning environment that influence learner outcomes. These were categorized under the following broad headings:

Institutional Culture

The values and norms of the medical school or teaching hospital, as embodied in formal policies and informal procedures. Examples include:

- Evaluation and promotion policies for faculty and other codified faculty reward systems;
- Student and resident advancement and graduation policies;
- Admissions policies and criteria; and
- Policies and practices related to learner mistreatment and teacher-learner relationships.

The institutional culture codifies institutional beliefs and values, and, as such, influences the behavior of organizational members.[3]

Curriculum

The "curriculum," or what is learned, can be divided into two general categories:

The formal curriculum includes the objectives and competencies of the educational program and the explicit learning experiences and methods of evaluation designed to assure learners' attainment of the objectives/competencies. Examples include:

- The balance among subject areas taught;
- The teaching methods used; and
- The criteria and processes for evaluation of students and residents.

The informal/"hidden" curriculum includes the actions, behaviors, and expressed or implied attitudes and values of faculty, supervisors, peers, and others with whom the learner interacts.[4-6] Examples include:

- Statements/expressed opinions of role models, including faculty and other supervisors; and
- Unofficial "rules" that guide action within a given educational setting or group/team, for example, do not hold up the work of the ward team.[1]

Educational Climate

The perceptions of learners (medical students and resident physicians) that are influenced by the organizational culture and the curriculum (formal and informal/hidden) about what it means and is required to be a student/resident and, more importantly, a physician.[2,7] Examples include:

- Learner attitudes and values at a given stage of training about such things as patients and the practice of medicine; and
- Concrete learner behaviors resulting from the perception of what is expected of them in a specific learning environment.

ACTIONS THAT WILL LEAD TO CHANGE IN THE LEARNING ENVIRONMENT

Conference participants next reviewed the existing "state of the art" related to knowledge about the learning environment. There is a substantial research literature on the learning environment, which constitutes an important base on which to build. However, the literature does not represent a comprehensive and easily-applied body of knowledge. The conference resulted in a set of recommendations for further action, along with implementation steps and timelines. The recommendations were as follows:

Study How to Change the Learning Environment

Develop and implement a research agenda that identifies and prioritizes the factors in the learning environment that contribute to learner outcomes. The research should use multiple methods and be conducted by multidisciplinary research teams. Funders should be encouraged to support such research.

Change the Formal and Informal Curriculum

Based on the results of research, develop, implement, and evaluate model programs designed to create a positive learning environment. Include a broad-based network of institutions and individuals with relevant expertise to develop principles for an effective learning environment that is evidence-based.

Change the Institutional Culture

Develop interventions to bring about change in the culture of teaching institutions, including institutional policies and procedures that would positively impact the learning environment.

Assure the Medical Education "Regulatory" System Supports Needed Changes

Assure that policies, practices, and standards of accrediting and licensing bodies are not in conflict with the requirements to create a positive learning environment.

The report of the December 2007 working conference is available on the web site of the Council on Medical Education.

DEVELOPING IMPLEMENTATION PLANS

In response to the first recommendation, a comprehensive bibliography was developed to serve as a basis for determining the existing evidence for the factors that are most important in creating a positive, or negative, learning environment. This served as the basis for a second, more focused meeting in December 2008 that included medical educators, researchers from a variety of disciplines, and representatives from medical education organizations. Participants debated the evidence for the importance of institutional culture; curriculum, both formal and informal; and educational climate in learner outcomes and finalized action plans to address the remaining recommendations from the first conference.

The following general concepts emerged from the meeting:

Managing Change

- The need to identify and adapt models from outside medicine, such as industries that have been successful in creating functional and effective organizational cultures.
- The importance of leaders and "champions" in stimulating and institutionalizing change.
- Change must be both "top down" and "bottom up."
- Change must be focused so that it does not become chaotic.
- Assure institutional reward systems are aligned with the goals of the change.

"Curriculum" Changes

- Determine how value-based competencies for physicians-in-training can best be incorporated in the formal and informal/hidden curriculum.
- Assure consistency between the objectives and teaching in the formal curriculum and the "messages" in the informal/hidden curriculum.
- Assure that role models are prepared, for example, through faculty development, to guide learners in the development of identified competencies.

Measuring the Outcomes of Change

- Identify evidence that a positive learning environment results in better outcomes (such as patient care).
- Identify and/or develop better tools to comprehensively measure the learning environment.

A final meeting report will be available on the Council on Medical Education web site in the summer of 2009.

CURRENT MANDATES RELATED TO THE LEARNING ENVIRONMENT

Accrediting bodies have imposed expectations that educational programs promote a positive learning environment.

Medical Schools

In 2008, the following Liaison Committee on Medical Education standard became effective:

> Standard MS-31A. Medical schools must ensure that the learning environment for medical students promotes the development of explicit and appropriate professional attributes (attitudes, behaviors, and identity) in their medical students.
> *Functions and Structure of a Medical School, June 2008 edition*

The explanatory annotation to the standard includes the following elements:

- The medical school and its affiliated clinical teaching sites share responsibility for creating a positive learning environment, and this shared responsibility should be reflected in formal agreements (such as affiliation agreements).
- Medical schools should define the professional attributes expected of learners and should inform students of the importance of demonstrating the attributes.
- The learning environment should be regularly assessed to determine positive and negative influences.
- The school should develop strategies to enhance the positive and mitigate negative influences.

In summary, this standard mandates that medical schools have ways to both evaluate their learning environment(s) and to remedy identified problems. As noted previously, however, there currently are only limited tools to allow schools to comprehensively undertake such an evaluation and limited expertise on how to bring about needed change.

Graduate Medical Education

The Accreditation Council for Graduate Medical Education (ACGME) Institutional Requirements (effective July 1, 2007) state that:

> The Sponsoring Institution and its programs must provide an educational and work environment in which residents may raise and resolve issues without fear of intimidation or retaliation. Mechanisms to ensure this environment must include:

a) An organization or other forum for resident to communicate and exchange information on their educational and work environment, their program, and other resident issues;
b) A process by which individual residents can address concerns in a confidential and protected manner. (Section IIF1)

In addition, the ACGME Common Program Requirements (effective July 1, 2007), in the section on "Resident Duty Hours in the Working and Learning Environment (Section VIA1) state that:

> The program must be committed to and be responsible for promoting patient safety and resident well-being and to providing a supportive educational environment.

In summary, these expectations speak in general terms about the learning environment, but without specifics of what characteristics the environment should have to be, for example, "supportive."

RECOMMENDATIONS

The learning environment is crucial to the professional development of physicians. Determining how to create a learning environment that supports such development requires collaboration among many stakeholder groups with varying perspectives and skills. The Council on Medical Education, therefore, recommends that the following be adopted and that the remainder of the report be filed.

1. That our American Medical Association collaborate with relevant individuals and stakeholder groups, including the Liaison Committee on Medical Education, the Association of American Medical Colleges, and the Accreditation Council for Graduate Medical Education, to identify or develop tools useful in evaluating the learning environment. (Directive to Take Action)

2. That our AMA conduct a literature review on the learning environment and identify existing gaps in tools to measure the learning environment and assess its outcomes. Finalize and widely disseminate the literature review, including information on: a) available valid and reliable tools and the best strategies for their use to measure the learning environment; b) evidence-based characteristics of a positive learning environment; c) successful models of learning environment change; and d) evidence for the linkage between a positive learning environment and learner outcomes, including quality patient care. (Directive to Take Action)

3. That our AMA based on results of a literature review on the learning environment, that our AMA work with funding agencies and partner institutions, such as medical schools and teaching hospitals, to design, implement, and evaluate model programs and work with the Liaison Committee on Medical Education and the Accreditation Council for Graduate Medical Education with the aim of using the results to bring about learning environment change. (Directive to Take Action)

4. That our AMA report back to the AMA House of Delegates on the outcomes of the efforts to bring about learning environment change at the 2011 Annual Meeting. (Directive to Take Action)

Fiscal Note: $5500 for staff time to conduct research and prepare reports for dissemination.

APPENDIX

ITME PHASE 2
RECOMMENDATIONS FOR CHANGE ACROSS
THE MEDICAL EDUCATION CONTINUUM

1. Apportion more weight in admissions decisions to characteristics of applicants that predict success in the interpersonal domains of medicine. Use valid and reliable measures to assess these traits during the admissions process.

2. Consider creating alternatives to the current sequence of the medical education continuum, including introducing options that can enable physicians to re-enter or modify their practice.

3. Introduce core competencies across the medical education continuum in new and expanded content areas that are necessary for practice in the evolving health care system.

4. Introduce new methods of evaluation (such as multi-source evaluations, self- and peer-assessment, and competency-based assessment) that are appropriate to assess the core competencies.

5. Ensure that faculty ate all stages of the educational continuum are prepared to teach new content, employ new methods of teaching and evaluation, and act as role models for learners.

6. Ensure that the organizational environment in medical schools and teaching hospitals tangibly values and rewards participation in education.

7. Ensure that the learning environment throughout the medical education continuum is conducive to the development of appropriate attitudes, behaviors and values, as well as knowledge and skills.

8. Enhance coordination among accreditation, certification, and licensing bodies.

9. Support enhanced funding for medical education research, planning and delivery across the curriculum.

10. Evaluate the effectiveness of changes in the medical education system based on their outcomes.

REFERENCES

1. Brainard A, Brislen H. Learning professionalism: A view from the trenches. Academic Medicine 2007;82(11):1010-1013.

2. Wear D, Castellani B. The development of professionalism: Curriculum matters. Academic Medicine 2000;75(6):602-611.

3. Smith K, Saavedra R, Raeke J et al. The journey to creating a campus-wide culture of professionalism. Academic Medicine 2007; 82(11):1015-1021.

4. Hafferty F. Beyond curriculum reform: Confronting medicine's hidden curriculum. Academic Medicine 1998;73(4):403-407.

5. Haidet P, Stein H. The role of the student-teacher relationship in the formation of physicians: The hidden curriculum as process. J of Gen Intern Med 1006,21(Suppl 1):S16-S20.

6. Hundert E. Characteristics of the informal curriculum and trainees ethical choices. Academic Medicine 1996;71(6):624-633.