REPORTS OF THE COUNCIL ON MEDICAL EDUCATION

The following reports, 1–7, were presented by Darlyne Menscer, MD, Chair:

1. COUNCIL ON MEDICAL EDUCATION SUNSET REVIEW OF 2006 HOUSE POLICIES

Reference committee hearing: see report of Reference Committee C.

HOUSE ACTION: RECOMMENDATIONS ADOPTED AS FOLLOWS
REMAINDER OF REPORT FILED

At its 1984 Interim Meeting, the House of Delegates established a sunset mechanism for House policies (Policy G-600.110). Under this mechanism, a policy established by the House ceases to exist after 10 years unless action is taken by the House to retain it. The objective of the sunset mechanism is to help ensure that the AMA Policy Database is current, coherent, and relevant. By eliminating outmoded, duplicative, and inconsistent policies, the sunset mechanism contributes to the ability of the AMA to communicate and promote its policy positions. It also contributes to the efficiency and effectiveness of House of Delegates deliberations.

At its 2012 Annual Meeting, the House amended Policy G-600.110, which now reads as follows:

1. As the House of Delegates adopts policies, a maximum ten-year time horizon shall exist. A policy will typically sunset after ten years unless action is taken by the House of Delegates to retain it. Any action of our AMA House that reaffirms or amends an existing policy position shall reset the sunset "clock," making the reaffirmed or amended policy viable for another 10 years.

2. In the implementation and ongoing operation of our AMA policy sunset mechanism, the following procedures shall be followed: (a) Each year, the Speakers shall provide a list of policies that are subject to review under the policy sunset mechanism; (b) Such policies shall be assigned to the appropriate AMA Councils for review; (c) Each AMA council that has been asked to review policies shall develop and submit a report to the House of Delegates identifying policies that are scheduled to sunset; (d) For each policy under review, the reviewing council can recommend one of the following actions: (i) Retain the policy; (ii) Sunset the policy; (iii) Retain part of the policy; or (iv) Reconcile the policy with more recent and like policy; (e) For each recommendation that it makes to retain a policy in any fashion, the reviewing Council shall provide a succinct, but cogent justification; (f) The Speakers shall determine the best way for the House of Delegates to handle the sunset reports.

3. Nothing in this policy shall prohibit a report to the HOD or resolution to sunset a policy earlier than its 10-year horizon if it is no longer relevant, has been superseded by a more current policy, or has been accomplished.

4. The AMA Councils and the House of Delegates should conform to the following guidelines for sunset: (a) when a policy is no longer relevant or necessary; (b) when a policy or directive has been accomplished; or (c) when the policy or directive is part of an established AMA practice that is transparent to the House and codified elsewhere such as the AMA Bylaws or the AMA House of Delegates Reference Manual: Procedures, Policies and Practices.

5. The most recent policy shall be deemed to supersede contradictory past AMA policies.

6. Sunset policies will be retained in the AMA historical archives.

The Council on Medical Education's recommendations on the disposition of the 2006 House policies that were assigned to it are included in the Appendix to this report.

RECOMMENDATION

The Council on Medical Education recommends that the House of Delegates policies that are listed in the Appendix to this report be acted upon in the manner indicated and the remainder of this report be filed.

APPENDIX - Recommended Actions on 2006 and Other Related House of Delegates Policies

HOUSE OF DELEGATES POLICIES	
Policy Number, Title, Policy	*Recommended Action*
H-040.970 The Uniformed Services University of the Health Sciences The AMA fully supports the continuation of the Uniformed Services University of the Health Sciences as an institution and urges the Executive and Legislative Branches of the United States Government to fulfill their responsibility to our armed forces by fully funding the Uniformed Services University of the Health Sciences. (Res. 315, A-96; Reaffirmed: CME Rep. 2, A-06)	Retain; the USUHS serves the unique needs of the US Armed Forces, so it is important for the AMA to maintain its support for the university's continuation and its full funding.
H-200.952 Diversity in Medical Education Our AMA: (1) commends the Institute of Medicine for its report, "In the Nation's Compelling Interest: Ensuring Diversity in the Health Care Workforce," and supports the concept that a racially and ethnically diverse educational experience results in better educational outcomes; and (2) encourages medical schools, health care institutions, managed care and other appropriate groups to develop policies articulating the value and importance of diversity as a goal that benefits all participants, and strategies to accomplish that goal. (Res. 305, A-06)	Retain; still relevant, but append to H-200.951, Strategies for Enhancing Diversity in the Physician Workforce, as follows: "Our AMA (1) supports increased diversity across all specialties in the physician workforce in the categories of race, ethnicity, gender, sexual orientation/gender identity, socioeconomic origin and persons with disabilities.; (2) Commends the Institute of Medicine for its report, "In the Nation's Compelling Interest: Ensuring Diversity in the Health Care Workforce," and supports the concept that a racially and ethnically diverse educational experience results in better educational outcomes; and (3) Encourages medical schools, health care institutions, managed care and other appropriate groups to develop policies articulating the value and importance of diversity as a goal that benefits all participants, and strategies to accomplish that goal.
H-200.953 The Physician Workforce: Recommendations for Policy Implementation AMA policy is that there is now a shortage of physicians, at least in some regions and specialties, and that evidence exists for additional shortages in the future. (CME Rep. 8, A-05; Reaffirmation I-06)	Sunset; superseded by H-200.954, US Physician Shortage, which states, in part, that our AMA "explicitly recognizes the existing shortage of physicians in many specialties and areas of the US."
H-230.966 Physician Appeals Mechanism for Denial of Academic Appointment Hospital governing boards and hospital medical staffs through their Bylaws must remain responsible for medical staff selection. In situations in which hospital medical staff privileges are granted by contract on the condition of an academic appointment, the physician must be made aware of and agree to the linkage. Under those circumstances when a physician may lose an academic appointment after full and fair due process, no further action is required for revocation of hospital medical staff privileges. (CME Rep. 8, A-96; Reaffirmed: CME Rep. 2, A-06)	Retain; still relevant.
H-255.977 International Medical Graduates Participation in Medical Societies Our AMA encourages the federation of state, county, and specialty medical societies to identify qualified and interested international medical graduates to be invited, appointed and elected to committees and leadership positions within the House of Medicine. (Res. 217, A-91; Reaffirmed: Sunset Report, I-01; Modified: Res. 616, A-06)	Sunset; superseded by H-255.984, IMG Participation (see below), which is proposed for integration into H-255.988, Report of the Ad Hoc Committee on Foreign Medical Graduates, as part of proposed new item 15.
H-255.984 IMG Participation The AMA offers encouragement and assistance to state, county, and specialty medical societies in fostering greater participation of international medical graduates in leadership positions at all levels of organized medicine, by providing guidelines and non-financial incentives, such as recognition for outstanding achievements by either individuals or organizations in promoting leadership among International medical graduates.(Sub. Res. 20, I-87; Reaffirmed: CLRPD Rep. 3, I-97; Modified: Res. 616, A-06)	Still relevant, but sunset and integrate into H-255.988, Report of the Ad Hoc Committee on Foreign Medical Graduates, as part of proposed new item 15.
H-255.986 Foreign Medical Graduates in Residency Programs The AMA continues to support the position that those foreign	Still relevant, but sunset and integrate into H-255.988, Report of the Ad Hoc Committee on Foreign Medical

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Policy Number, Title, Policy	*Recommended Action*
medical graduates who plan to return to their country of origin have the opportunity to obtain graduate medical education in the U.S.(Res. 114, A-86; Reaffirmed: Sunset Report, I-96; Reaffirmed: CME Rep. 2, A-06)	Graduates, as part of proposed new item 23.
H-255.988 Report of the Ad Hoc Committee on Foreign Medical Graduates 1. The AMA reaffirms its support of current U.S. visa and immigration requirements applicable to foreign national physicians who are graduates of medical schools other than those in the United States and Canada. 2. The AMA continues to support current regulations governing the issuance of exchange visitor visas to foreign national IMGs, including the requirements for successful completion of the USMLE. 3. The AMA reaffirms its policy that the U.S. and Canada medical schools be accredited by a nongovernmental accrediting body. 4. The AMA continues to support cooperation in the collection and analysis of information on medical schools in nations other than the U.S. and Canada. 5. The AMA supports continued cooperation with the ECFMG and other appropriate organizations to disseminate information to prospective and current students in foreign medical schools. 6. The AMA continues to support working with the ECFMG and other appropriate organizations in developing effective methods to evaluate the clinical skills of IMGs. 7. The AMA strongly supports the policy that the core clinical curriculum of a foreign medical school should be provided by that school and that U.S. hospitals should not provide substitute core clinical experience for students attending a foreign medical school. 8. The AMA continues to support working with the Accreditation Council for Graduate Medical Education (ACGME) and the Federation of State Medical Boards (FSMB) to assure that institutions offering accredited residencies, residency program directors, and U.S. licensing authorities do not deviate from established standards when evaluating graduates of foreign medical schools. 9. The AMA, in cooperation with the ACGME and the FSMB, supports only those modifications in established graduate medical education or licensing standards designed to enhance the quality of medical education and patient care. 10. The AMA continues to support the activities of the ECFMG related to verification of education credentials and testing of IMGs. 11. Special consideration should be given to the limited number of IMGs who are refugees from foreign governments that refuse to provide pertinent information usually required to establish eligibility for residency training or licensure. 12. The AMA reaffirms its existing policy supporting the use of accreditation standards to enhance the quality of patient care and medical education. Also the AMA opposes the use of such standards for purposes of regulating physician manpower. 13. AMA representatives to the ACGME, residency review committees and to the ECFMG should support AMA policy opposing discrimination. In particular, these AMA representatives should emphasize that AMA policy does not prohibit the appointment of qualified graduates of foreign medical schools to residency training programs. 14. The AMA reaffirms its support for the requirement that all medical school graduates complete at least one year of graduate medical education in an accredited U.S. program in order to qualify for full and unrestricted licensure. 15. The AMA reaffirms and supports publicizing existing policy concerning the granting of staff and clinical privileges in hospitals and other health facilities. 16. The AMA reaffirms its support of the participation of all physicians, including graduates of foreign as well as U.S. and Canadian medical schools, in organized medicine. 17. The AMA encourages the constituent medical societies to support qualified IMGs for nominations to AMA committees and councils. 18. The AMA	Retain; still relevant, with edits as shown for accuracy, current terminology (e.g., IMGs rather than FMGs), and to integrate other relevant policies into a more comprehensive policy. H-255.988 ~~Report of the Ad Hoc Committee on Foreign Medical Graduates~~ <u>AMA Principles on International Medical Graduates</u> <u>Our AMA supports:</u> 1. ~~The AMA reaffirms its support of c~~<u>C</u>urrent U.S. visa and immigration requirements applicable to foreign national physicians who are graduates of medical schools other than those in the United States and Canada. 2. ~~The AMA continues to support c~~<u>C</u>urrent regulations governing the issuance of exchange visitor visas to foreign national IMGs, including the requirements for successful completion of the USMLE. 3. The AMA reaffirms its policy that the U.S. and Canada medical schools be accredited by a nongovernmental accrediting body. 4. ~~The AMA continues to support c~~<u>C</u>ooperation in the collection and analysis of information on medical schools in nations other than the U.S. and Canada. 5. ~~The AMA supports c~~<u>C</u>ontinued cooperation with the ECFMG and other appropriate organizations to disseminate information to prospective and current students in foreign medical schools. <u>An AMA member, who is an IMG, should be appointed regularly as one of the AMA's representatives to the ECFMG Board of Trustees.</u> ~~6. The AMA continues to support working with the ECFMG and other appropriate organizations in developing effective methods to evaluate the clinical skills of IMGs.~~ *(Note: Item 6 is already reflected in H-255.966 (3), Abolish Discrimination in Licensure of IMGs, which reads "Our AMA will continue to work with the Educational Commission for Foreign Medical Graduates and other appropriate organizations in developing effective methods to evaluate the clinical skills of IMGs."* ~~7. The AMA strongly supports the policy that the~~ <u>6.</u> <u>The</u> core clinical curriculum of a foreign medical school should be provided by that school ~~and that~~<u>;</u> U.S. hospitals should not provide substitute core clinical experience for students attending a foreign medical school. ~~8~~<u>7</u>. ~~W~~<u>w</u>orking with the Accreditation Council for Graduate Medical Education (ACGME) and the Federation of State Medical Boards (FSMB) to assure that institutions offering accredited residencies, residency program directors, and U.S. licensing authorities do not deviate from established standards when evaluating graduates of foreign medical schools. ~~9~~<u>8</u>. ~~The AMA, I~~<u>i</u>n cooperation with the ACGME and the FSMB, supports only those modifications in established graduate medical education or licensing standards designed to enhance the quality of medical education and patient care. ~~10~~<u>9</u>. The AMA continues to support the activities of the

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supports studying the feasibility of conducting peer-to-peer membership recruitment efforts aimed at IMGs who are not AMA members. 19. The AMA is committed to using its existing publications to highlight policies and activities of interest to IMGs, stressing the common concerns of all physicians. 20. The AMA supports demonstrating its interests in issues related to IMGs by publicizing its many relevant resources to all physicians, especially to nonmember IMGs. 21. The AMA supports expansion of its efforts to prepare and disseminate information about requirements for admission to accredited residency programs, the availability of positions, and the problems of becoming licensed and entering full and unrestricted medical practice in the U.S. that face IMGs. This information should be addressed to college students, high school and college advisors, and students in foreign medical schools. 22. The AMA continues to recognize the common aims and goals of all physicians, particularly those practicing in the U.S., and supports making every effort to include all physicians who are permanent residents of the U.S. in the mainstream of American medicine. 23. The AMA is committed to identifying and publicizing resources within the AMA that will respond to inquiries from IMGs. 24. The AMA is committed to providing leadership to promote the international exchange of medical knowledge as well as cultural understanding between the U.S. and other nations. 25. The AMA urges institutions that sponsor exchange visitor programs in medical education, clinical medicine and public health to tailor programs for the individual visiting scholar that will meet the needs of the scholar, the institution, and the nation to which he will return. 26. The AMA is committed to informing foreign national IMGs that the availability of training and practice opportunities in the U.S. is limited by the availability of fiscal and human resources to maintain the quality of medical education and patient care in the U.S.	ECFMG related to verification of education credentials and testing of IMGs. 11. 10. That Sspecial consideration should be given to the limited number of IMGs who are refugees from foreign governments that refuse to provide pertinent information usually required to establish eligibility for residency training or licensure. 12. The AMA reaffirms its existing policy supporting the use of 11. That accreditation standards to enhance the quality of patient care and medical education. Also the AMA opposes the use of such standards and not be used for purposes of regulating physician manpower. 13. 12. That AMA representatives to the ACGME, residency review committees and to the ECFMG should support AMA policy opposing discrimination. *(Note: Language added from H.310-962:* Medical school admissions officers and directors of residency programs should select applicants on the basis of merit, without considering status as an IMG or an ethnic name as a negative factor. In particular, these AMA representatives should emphasize that AMA policy does not prohibit the appointment of qualified graduates of foreign medical schools to residency training programs. 14. 13. The AMA reaffirms its support for the requirement that all medical school graduates complete at least one year of graduate medical education in an accredited U.S. program in order to qualify for full and unrestricted licensure. 15. 14. The AMA reaffirms and supports pPublicizing existing policy concerning the granting of staff and clinical privileges in hospitals and other health facilities. 16. 15. The AMA reaffirms its support of the participation of all physicians, including graduates of foreign as well as U.S. and Canadian medical schools, in organized medicine. *(Note: Language added from H-255.984)* The AMA offers encouragement and assistance to state, county, and specialty medical societies in fostering greater membership among IMGs and their participation in leadership positions at all levels of organized medicine, including AMA committees and councils and state boards of medicine, by providing guidelines and non-financial incentives, such as recognition for outstanding achievements by either individuals or organizations in promoting leadership among IMGs. 17. The AMA encourages the constituent medical societies to support qualified IMGs for nominations to AMA committees and councils. *(Note: reflected in language added above)* 18 16. The AMA s Supports studying the feasibility of conducting peer-to-peer membership recruitment efforts aimed at IMGs who are not AMA members. 19. 17. The AMA membership outreach to IMGs, to include is committed to a) using its existing publications to highlight policies and activities of interest to IMGs, stressing the common concerns of all physicians.; b) 20. The AMA supports demonstrating its interests in issues related to IMGs by publicizing its many relevant resources to all physicians, especially to nonmember IMGs; *(moved from existing 23, below:)* c) identifying and publicizing AMA resources to respond to inquiries from IMGs; and d) . 21. The AMA supports expansion of

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	its efforts to prepare and disseminate information about requirements for admission to accredited residency programs, the availability of positions, and the problems of becoming licensed and entering full and unrestricted medical practice in the U.S. that face IMGs. This information should be addressed to college students, high school and college advisors, and students in foreign medical schools. 22. 18. The AMA continues to recognize Recognition of the common aims and goals of all physicians, particularly those practicing in the U.S., and supports making every effort to for includeing all physicians who are permanent residents of the U.S. in the mainstream of American medicine. *(Note: Moved to new 17.c, above)* 23. The AMA is committed to identifying and publicizing resources within the AMA that will respond to inquiries from IMGs. 24. 19. The AMA is committed to providing Its leadership role to promote the international exchange of medical knowledge as well as cultural understanding between the U.S. and other nations. 25. The AMA urges 20. Iinstitutions that sponsor exchange visitor programs in medical education, clinical medicine and public health to tailor programs for the individual visiting scholar that will meet the needs of the scholar, the institution, and the nation to which he will return. 26.21. The AMA is committed to Iinforming foreign national IMGs that the availability of training and practice opportunities in the U.S. is limited by the availability of fiscal and human resources to maintain the quality of medical education and patient care in the U.S. *(Note: Language added from H-255.986)*, and that those IMGs who plan to return to their country of origin have the opportunity to obtain GME in the United States. *(Note: Language added from H-255.999[6])* 22. U.S. medical schools offering admission with advanced standing, within the capabilities determined by each institution, to international medical students who satisfy the requirements of the institution for matriculation. *(Note: Language added from H-255.999[7])* 23. Providing U.S. students who are considering attendance at an international medical school with information enabling them to assess the difficulties and consequences associated with matriculation in a foreign medical school. *(Note: Language added from H-255.999[10])* 24. The Federation of State Medical Boards, its member boards, and the ECFMG in their willingness to adjust their administrative procedures in processing IMG applications so that original documents do not have to be recertified in home countries when physicians apply for licenses in a second state.
H-255.999 Final Report of the Ad Hoc Committee on Foreign Medical Graduate Affairs Our AMA: (1) Supports actively seeking qualified international medical graduates for nomination or appointment to all the councils of the AMA. (2) Supports the development of a special effort to recruit IMGs for AMA membership. (3) Encourages state medical societies to make an effort to include qualified foreign-trained physicians among their nominees for	Still relevant, but sunset and integrate relevant portions into H-255.988, Report of the Ad Hoc Committee on Foreign Medical Graduates, as shown above. Item 1 reflected in proposed new item 15. Item 2 reflected in proposed new items 16 and 17. Item 3 reflected in proposed new item 15. Item 4 reflected in proposed new item 5. Item 5 reflected in proposed new item 15. Item 6 added as proposed new item 22.

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medical licensing boards. (4) Supports considering appointing a qualified IMG as one of its representatives to the ECFMG Board of Trustees. (5) Encourages state, county and specialty medical organizations to make a special effort to encourage membership and participation by IMGs. (6) Continues its policy that U.S. medical schools offer admission with advanced standing, within the capabilities determined by each institution, to international medical students who satisfy the requirements of the institution for matriculation. (7) Continues to provide U.S. students who are considering attendance at an international medical school with information enabling them to assess the difficulties and consequences associated with matriculation in a foreign medical school. (8) Encourages medical schools to develop special programs for IMGs entering the United States as exchange visitors. These programs should be designed to meet the needs of the country and culture from which the physicians come, as well as the needs of the physicians. (9) Commends and supports the American specialty boards for their interest in evaluating oral examinations and in developing techniques aimed at enhancing the reliability and validity of oral examinations. (10) Commends and supports the Federation of State Boards, its several member boards and the ECFMG in their willingness to adjust their administrative procedures in processing IMG applications so that original documents do not have to be recertified in home countries when physicians apply for licenses in a second state. (11) Regularly appoint an AMA member, who is an international medical graduate, as one of its representatives to the Educational Commission for Foreign Medical Graduates Board of Trustees.	Item 7 added as proposed new item 23. Item 8 reflected in proposed new item 20. Item 9 is superseded by H-275.924, Maintenance of Certification, which reads, in part, "There should be multiple options for how an assessment could be structured to accommodate different learning styles." Item 10 added as proposed new item 24. Item 11 reflected in proposed new item 5.
H-275.979 Medicare Reporting of Adverse Incidents in Hospitals to State Agencies The AMA opposes the sharing of information generated through the Medicare utilization process or other institutional review with state licensure bodies until hospital quality assurance committees have been notified and given a reasonable time to respond. (Res. 118, I-86; Reaffirmed: Sunset Report, I-96; Reaffirmed: CME Rep. 2, A-06)	Retain; still relevant.
H-275.980 Funding of State Medical Boards (1) The AMA urges state medical associations to recommend to their respective state legislatures that all fees and charges collected by the state licensing/disciplinary board(s), or on its behalf, be specifically designated for use of the board(s) in fulfilling its duties under the state's medical practice act. (2) When such funds are inadequate to support such activities, state general funds should be used to support the board's effective fulfillment of its duties mandated by the state's medical practice act. (Sub. Res. 23, I-86; Reaffirmed: Sunset Report, I-96; Reaffirmed: CME Rep. 2, A-06)	Retain; still relevant.
H-275.990 Clinical Diagnostic Electromyography The AMA urges appropriate state boards of medical examiners, certification boards, and others to consider the following statement when dealing with the performance of clinical diagnostic electromyography: "Clinical diagnostic electromyographic examinations involving the selection of the muscles to be studied, modifying the examination as the data unfold, inserting the needle electrodes, recording of and interpreting the data thereby obtained, describing the findings, and the rendering of a diagnostic opinion based upon an integration of the clinical history, physical examination features, other pertinent clinical data and the electromyographic findings, should be performed only by a fully	Retain, still relevant, and edit to incorporate H-275.999, Electromyoneurographic Procedures and D-275.970, Needle Electromyography (both of which are being sunset in this report), to read as follows: ~~The AMA urges appropriate state boards of medical examiners, certification boards, and others to consider the following statement when dealing with the performance of clinical diagnostic electromyography:~~ "(1) Clinical diagnostic electromyographic examinations—involving the selection of the muscles to be studied, modifying the examination as the data unfold, inserting the needle electrodes, recording of and

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licensed physician qualified by reason of education, training, and experience in these procedures."	interpreting the data thereby obtained, describing the findings, and the rendering of a diagnostic opinion based upon an integration of the clinical history, physical examination features, other pertinent clinical data and the electromyographic findings, —is the practice of medicine and should be performed only by a fully licensed physician qualified by reason of education, training, and experience in these procedures." (2) Non-physician health care professionals should not expand their scope of practice to include performing needle electromyography. (3) Physicians should not prepare reports and submit claims on needle electromyographic studies that they did not perform or personally supervise. (4) State boards of medical examiners should investigate and take appropriate action whenever cases involving the performance of clinical electromyographic examinations by unqualified persons contrary to the state medical practice act are brought to their attention.
H-275.999 Electromyoneurographic Procedures (1) The term "electromyography" rather than "electromyoneurography" should be used in all communications regarding this subject. (2) The AMA urges state boards of medical examiners to investigate and take appropriate action whenever cases involving the performance of clinical electromyographic examinations by unqualified persons contrary to the state medical practice act are brought to their attention. (CMS Rep. F, A-77; Reaffirmed: CLRPD Rep. C, A-89; Amended by Sunset Report, I-96; Reaffirmed: CME Rep. 2, A-06)	Still relevant, but sunset and integrate into H-275.990, Clinical Diagnostic Electromyography for purposes of a more streamlined Policy Finder. The first recommendation does not need to be retained.
H-295.883 Comprehensive Reform at the Interface of Medical Education and Health Care Our AMA expresses its commitment to ensuring the quality of undergraduate, graduate, and continuing medical education. (CME Rep. 6, A-02; Reaffirmed: CME Rep. 3, A-06)	Sunset; superseded by H-295.995, Recommendations for Future Directions for Medical Education, which reads, in part: "(34) The AMA, in cooperation with others, supports continued efforts to review and define standards for medical education at all levels. The AMA supports continued participation in the evaluation and accreditation of medical education at all levels."
H-295.910 Restrictive Covenants During Training The AMA strongly urges residency and fellowship training programs that utilize restrictive covenants to provide written intent to impose such restrictions in advance of the interview process. (Res. 6, I-96; Reaffirmed: CME Rep. 2, A-06)	Sunset; already reflected in ACGME program requirements: "The Sponsoring Institution must maintain a policy which states that neither the Sponsoring Institution nor any of its ACGME-accredited programs will require a resident/fellow to sign a non-competition guarantee or restrictive covenant." Also superseded by H-310.929 (7), Principles for Graduate Medical Education: "Restrictive covenants must not be required of residents or applicants for residency education," H-295.901, Restrictive Covenants in Residency and Fellowship Training Programs: "Our AMA adopts as policy and publicizes to all teaching institutions the Current Opinion that it is unethical for a teaching institution to seek a non-competition guarantee in return for fulfilling its educational obligations. Physicians-in-training should not be asked to sign covenants not-to-compete as a condition of their entry into any residency or fellowship program," and H-310.917, Securing Funding for Graduate Medical Education: "3. Our AMA encourages all funders of GME to adhere to the Accreditation Council for Graduate Medical Education's requirements on restrictive covenants and its principles guiding the relationship between GME, industry and other funding sources, as well as the AMA's Opinion 8.061, and other AMA policy that protects residents and fellows from exploitation, including physicians training in non-ACGME-accredited programs."

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H-295.912 Education of Medical Students and Residents about Domestic Violence Screening The AMA will continue its support for the education of medical students and residents on domestic violence by advocating that medical schools and graduate medical education programs educate students and resident physicians to sensitively inquire about family abuse with all patients, when appropriate and as part of a comprehensive history and physical examination, and provide information about the available community resources for the management of the patient. (Res. 303, I-96; Reaffirmed: CME Rep. 2, A-06)	Retain.
H-295.913 Hepatitis Vaccinations The AMA will pursue various avenues to assure that all medical students be vaccinated for Hepatitis B at the beginning of their first year of study, or upon entering a residency training program, unless evidence of immunity can be demonstrated. (Sub. Res. 228, A-96; Reaffirmed: CME Rep. 2, A-06)	Sunset; superseded by H-440.958, Universal Immunization for Hepatitis B Virus, which reads, in part: "(2) The AMA encourages the immunization of all students entering medical school. The costs for the immunizations should be included in the school tuition." In addition, this is already reflected in LCME requirements, including 12.7, Immunization Guidelines, which reads: "A medical school follows accepted guidelines in determining immunization requirements for its medical students." Further, 12.8, Student Exposure Policies/Procedures, notes that "A medical school has policies in place that effectively address medical student exposure to infectious and environmental hazards, including: The education of medical students about methods of prevention. The procedures for care and treatment after exposure, including a definition of financial responsibility. The effects of infectious and environmental disease or disability on medical student learning activities. All registered medical students (including visiting students) are informed of these policies before undertaking any educational activities that would place them at risk." Hepatitis B is also encompassed in Recommended Vaccines for Healthcare Workers, from the Centers for Disease Control and Prevention: http://www.cdc.gov/vaccines/adults/rec-vac/hcw.html
H-295.915 Residency Program Responsibility for Resident Education The AMA affirms that the basic skills and competencies for the practice of medicine and its specialties must be determined solely by the medical profession. (Res. 313, A-96; Reaffirmed: CME Rep. 2, A-06)	Retain; still relevant.
H-295.916 Improving Medical School/Community Practice (1) Medical schools should be encouraged to include community physicians who serve as volunteer faculty in medical school activities and in committees and other decision-making bodies related to the student educational program, such as the curriculum committee and the admission committee, and in search committees for medical school deans and department chairs. (2) County/state medical societies should be encouraged to include medical school administrators and faculty members in committees and other society activities, and to consider creating a seat for medical school deans in the state society house of delegates. (3) There should be mechanisms established at local or state levels to address tensions arising between the academic and practice communities, such as problems associated with the granting of faculty appointment or hospital staff privileges. (4) The AMA Medical School Visitation Program should be widely publicized and medical schools who have not yet participated should be encouraged to do so. Periodic re-visits should be encouraged. (5) Medical schools and other academic continuing medical education providers should work with community	Retain, still relevant, but delete the following section, as this program is no longer in existence (having been superseded by the AMA's Accelerating Change in Medical Education consortium). (4) The AMA Medical School Visitation Program should be widely publicized and medical schools who have not yet participated should be encouraged to do so. Periodic re-visits should be encouraged. (5~~4~~) Medical schools and other academic continuing medical education providers should work with community physicians to develop continuing education programs that address local needs. (6~~5~~) Community physician groups and schools of medicine should be encouraged to communicate during the initial stages of discussions about the formation of patient care networks.

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physicians to develop continuing education programs that address local needs. (6) Community physician groups and schools of medicine should be encouraged to communicate during the initial stages of discussions about the formation of patient care networks. (BOT Rep. 20, A-96; Reaffirmed: CME Rep. 2, A-06)	
H-295.917 Protection of Medical Students in the Event of Medical School Closure or Reduction in Enrollment The AMA will develop a plan of action to assist and protect medical students in the event of reduction in enrollment or closure of medical schools. (Sub. Res. 310, A-96; Modified and reaffirmed: CME Rep. 2, A-06)	Sunset; superseded by H-295.908, Protection of Medical Students in the Event of Medical School Closure or Reduction in Enrollment, which reads, "The AMA will continue to monitor medical school closures, mergers, and changes in ownership. In the case of medical school closure or decreases in class size that affect enrolled students, the AMA will provide appropriate assistance, where feasible, so that medical students will experience an orderly transition."
H-295.969 Nondiscrimination Toward Medical School and Residency Applicants Our AMA urges (1) the Liaison Committee on Medical Education to amend the Standards for Accreditation of Medical Education Programs Leading to the MD Degree, Part 2, Medical Students, Admissions to read: "In addition, there must be no discrimination on the basis of sex, age, race, creed, national origin, gender identity, or sexual orientation"; and (2) the Accreditation Council for Graduate Medical Education to amend the "General Essentials of Accredited Residencies, Eligibility and Selection of Residents" to read: "There must be no discrimination on the basis of sex, age, race, creed, national origin, gender identity or sexual orientation."	Retain in part, as follows, with a title change to "Nondiscrimination Toward ~~Medical School and~~ Residency Applicants," to read as follows: Our AMA urges ~~(1) the Liaison Committee on Medical Education to amend the Standards for Accreditation of Medical Education Programs Leading to the MD Degree, Part 2, Medical Students, Admissions to read: "In addition, there must be no discrimination on the basis of sex, age, race, creed, national origin, gender identity, or sexual orientation"; and (2)~~ the Accreditation Council for Graduate Medical Education to amend ~~the "General Essentials of Accredited Residencies, Eligibility and Selection of Residents"~~ its Institutional Requirements to read: "In assessing and selecting applicants for residency/fellowship programs, ACGME-accredited programs ~~There~~ must be no~~t~~ discriminati~~on~~e on the basis of sex, age, race, creed, national origin, gender identity, or sexual orientation." Item 1 of the policy, covering the LCME, is no longer needed, in that LCME element 3.4 states that "A medical school does not discriminate on the basis of age, creed, gender identity, national origin, race, sex, or sexual orientation." (Element is the new language for standard.) As for item 2 of the policy, the current ACGME Institutional Requirements, effective July 1, 2015, do not include this language, aside from the following, which relates to harassment of resident/fellow physicians who are already in programs, versus discrimination against program applicants, which is the focus of the AMA policy: "IV.H.3. Harassment: The Sponsoring Institution must have a policy, not necessarily GME-specific, covering sexual and other forms of harassment, that allows residents/fellows access to processes to raise and resolve complaints in a safe and non-punitive environment consistent with applicable laws and regulations." Accordingly, this portion of the policy should be maintained, with the noted editorial changes to change the reference from "General Essentials of Accredited Residencies" to "Institutional Requirements," the current terminology.
H-300.951 Credit for Reading Medical Journals The AMA continues to support appropriate credit for medical journal study and make every effort to simplify the process by which this is accomplished. (Res. 315, I-96; Reaffirmed: CME Rep. 2, A-06)	Retain; still relevant.

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H-300.952 Dissemination of Information Regarding CME Activities The AMA will continue to support the current system of Continuing Medical Education accreditation in which the Accreditation Council for Continuing Medical Education accredits sponsors whose mission and intended audience are on a regional or national level and state medical societies accredit sponsors whose mission and intended audience are physicians within state and contiguous states, following the guidelines enunciated by the ACCME. (CME Rep. 7, I-96; Reaffirmed: CME Rep. 2, A-06)	Retain; still relevant.
H-300.955 Restructuring of Continuing Medical Education Credits The AMA encourages state licensing boards with CME reporting requirements to allow AMA Physician's Recognition Award Category 1 and Category 2 continuing medical education credit toward reregistration of the license to practice medicine; and all state licensing boards be urged to accept a current and valid AMA Physician's Recognition Award as evidence of completion of these requirements. (CME Rep. 7, A-96; Reaffirmed: CME Rep. 2, A-06)	Retain; still relevant.
H-300.977 Revisions to the Physician's Recognition Award Our AMA has adopted the following changes in the Physician's Recognition Award: (1) to accept recertification by an AMA-recognized specialty board in satisfaction of requirements for a three-year PRA certificate; (2) to allow credit for international conferences when these have been approved by the AMA prior to the event; and (3) to allow credit for teaching to be reported for AMA PRA Category 2 credit toward the award. (CME Rep. D, I-90; Reaffirmed: Sunset Report, I-00; Modified and reaffirmed: CME Rep. 2, A-06)	Retain; still relevant.
H-305.954 Repayment of Medical School Loans Our AMA will further develop and more aggressively publicize a low interest and extended payment loan program for young physician members of the AMA to assist them in retiring their educational debts. (CME Rep. O, A-93; Appended: Res. 610, I-98; Modified: CME Rep. 13, A-06)	Retain; still relevant, with a minor editorial change: "Our AMA will further develop and more aggressively publicize a low interest rate and extended payment loan program for young physician members of the AMA to assist them in retiring their educational debts."
H-305.965 Student Loans Our AMA: (1) reaffirms its support of legislation that would defer the repayment of loans for education until the completion of residency training; and (2) lobby before the next federal budget for deferment of medical student loans for the full initial residency period. (Sub. Res. 203, A-90; Appended Res. 306, I-99; Reaffirmation A-01; Reaffirmation I-06)	Retain; still relevant, but with the following editorial revision, to remove the time certain: "(2) lobby ~~before the next federal budget~~ for deferment of medical student loans for the full initial residency period."
H-310.923 Eliminating Religious Discrimination from Residency Programs Our AMA encourages residency programs to: (1) make an effort to accommodate residents' religious holidays and observances, provided that patient care and the rights of other residents are not compromised; and (2) explicitly inform applicants and entrants about their policies and procedures related to accommodation for religious holidays and observances. (CME Rep. 10, A-06)	Retain; still relevant.
H-310.925 National Resident Matching Program Reform Our AMA supports the National Resident Matching Program as an efficient and effective placement system for filling positions in graduate medical education in the US. (CME Rep. 4, A-05; Reaffirmed: CME Rep. 15, A-06)	Sunset; superseded by more specific policies, including D-310.977, National Resident Matching Program Reform and D-310.974, Policy Suggestions to Improve the National Resident Matching Program.

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H-310.937 Impact of Health Care Merging on Residents' Welfare The AMA supports resident representation in negotiation of housestaff contracts and benefits and will take a leadership role and make available staff resources to facilitate the relocation of residents who are displaced abruptly by unexpected residency program closure or downsizing. (CME Rep. 2, I-96; Modified and Reaffirmed: CME Rep. 2, A-06)	Sunset; superseded by H-310.943, Closing of Residency Programs, which reads: "The AMA: (1) encourages the Accreditation Council for Graduate Medical Education (ACGME) to address the problem of non-educational closing or downsizing of residency training programs; (2) reminds all institutions involved in educating residents of their contractual responsibilities to the resident; (3) encourages the ACGME and the various Residency Review Committees to reexamine requirements for "years of continuous training" to determine the need for implementing waivers to accommodate residents affected by non-educational closure or downsizing; (4) will work with the American Board of Medical Specialties Member Boards to encourage all its member boards to develop a mechanism to accommodate the discontinuities in training that arise from residency closures, regardless of cause, including waiving continuity care requirements and granting residents credit for partial years of training; (5) urges residency programs and teaching hospitals be monitored by the applicable Residency Review Committees to ensure that decreases in resident numbers do not place undue stress on remaining residents by affecting work hours or working conditions, as specified in Residency Review Committee requirements; (6) opposes the closure of residency/fellowship programs or reductions in the number of current positions in programs as a result of changes in GME funding; and (7) will work with the Centers for Medicare and Medicaid Services (CMS), ACGME, and other appropriate organizations to advocate for the development and implementation of effective policies to permit graduate medical education funding to follow the resident physician from a closing to the receiving residency program (including waivers of CMS caps), in the event of temporary or permanent residency program closure.
H-310.962 Residency Programs Prejudiced Against Applicants with Ethnic Names The AMA encourages medical school admissions officers and directors of residency programs to select applicants on the basis of merit, without considering an ethnic name as a negative factor. (Res. 188, A-91; Reaffirmed by Res. 311, A-96; Reaffirmed: CME Rep. 2, A-06)	Still relevant, but sunset and integrate into edits to H-255.988, Report of the Ad Hoc Committee on Foreign Medical Graduates, as part of proposed new item 12.
H-310.982 Reevaluation of Residency Selection Process The AMA supports continued cooperation with the Association of American Medical Colleges in the evaluation of the residency selection process, with emphasis on the reduction of pressures that induce premature specialty decisions within the undergraduate medical curriculum. (Sub. Res. 112, I-86; Amended by Sunset Report, I-96; Modified and Reaffirmed: CME Rep. 2, A-06)	Retain; still relevant.
H-310.983 Residency Positions for Sale The AMA reaffirms its position that selection of residents should be based on the academic and personal qualifications of applicants and that monetary considerations should never compromise the selection process. (CME Rep. A, A-86; Reaffirmed: Sunset Report, I-96; Reaffirmed: CME Rep. 2, A-06)	Retain; still relevant. This policy is needed in light of concerns about adequate GME positions to meet future health care needs (and as medical school enrollments in the United States continue to expand). In addition, recent attempts to obtain GME funding support from private investors would lend support for retaining this policy.
H-310.986 Education for Residents on Issue of Medical Ethics The AMA believes that the presentation of educational materials on medical ethics should be in all residency training programs. (Sub. Res. 23, I-85; Modified by CLRPD Rep. 2, I-95; Reaffirmed by Sub. Res. 301, A-96; Reaffirmed: CME Rep. 2, A-06)	Sunset; superseded by H-295.961, Medicolegal, Political, Ethical and Economic Medical School Course, which reads, in part: "(1) The AMA urge every medical school and residency program to teach the legal, political, ethical and economic issues which will affect physicians. ... (3) An assessment of professional and ethical behavior,

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	such as exemplified in the AMA Principles of Medical Ethics, should be included in internal evaluations during medical school and residency training, and also in evaluations utilized for licensure and certification…(5) There should be attention to subject matter related to ethics and to the doctor-patient relationship at all levels of medical education: undergraduate, graduate, and continuing. Role modeling should be a key element in helping medical students and resident physicians to develop and maintain professionalism and high ethical standards. (6) There should be exploration of the feasibility of improving an assessment of ethical qualities in the admissions process to medical school. (7) Our AMA pledges support to the concept that professional attitudes, values, and behaviors should form an integral part of medical education across the continuum of undergraduate, graduate, and continuing medical education.
H-390.863 Resolution of DHHS Inspector General Audits of Teaching Physicians Our AMA will join with other interested organizations, such as the Association of American Medical Colleges and the American Hospital Association and with academic medical centers, universities and faculty practice plans, to encourage the Office of the Inspector General (OIG) of the Department of Health and Human Services and the Department of Justice to accept the following principles in dealing with institutions that cooperate with the OIG audits of teaching physicians who have billed through Medicare: (1) That punitive damages be limited to instances in which systematic, fraudulent behavior has been clearly demonstrated. (2) That full reimbursement with interest be accepted for inappropriate Medicare payments that were based on academic institutions' improper interpretation of Intermediary Letter (IL) 372, inadequate documentation, or other inadvertent errors in billing. (Res. 317, I-96; Reaffirmed: CME Rep. 2, A-06)	Sunset; no longer relevant.
H-405.962 The Practice of Public Health by Physicians Our AMA: (1) recognizes the practice of public health by physicians as the practice of medicine; (2) opposes specialty-specific license restrictions for American Board of Medical Specialties (ABMS)-recognized specialties; and (3) encourages the ABMS and the Federation of State Medical Boards to adopt similar policies recognizing the practice of public health by physicians as a legitimate practice of medicine and opposing specialty-specific license restrictions for ABMS-recognized specialties. (Res. 815, I-06)	Retain; still relevant.
H-405.966 Resident Physician Licenses The AMA supports the option of limited educational licenses in all states for resident physicians to provide care within their residency programs; and supports reduced licensure fees for resident physicians for participation solely in graduate medical education training programs when full medical licensure is required by a state. (Sub. Res. 312, A-96; Reaffirmed: CME Rep. 2, A-06)	Retain; still relevant.
D-200.986 Impact of Increasing Specialization and Declining Generalism in the Medical Profession Our AMA will: (1) Develop policy regarding the development and maintenance of the appropriate workforce balance between generalists and specialists in its Initiative to Transform Medical Education and in future studies or deliberations related to the medical workforce. (2) Through its Council on Medical Education, continue its close collaborations with the Association of American Medical Colleges, American Board of Medical Specialties, and	Sunset; no longer relevant or superseded by other AMA policy, such as D-200.979, Barriers to Primary Care as a Medical School Choice; H-295.995, Recommendations for Future Directions for Medical Education; H-295.956, Educational Grants for Innovative Programs in Undergraduate and Residency Training for Primary Care Careers; H-200.972, Primary Care Physicians in the Inner City; D-295.936, Educational Implications of the Medical Home Model; D-35.988, The Joint Commission

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Accreditation Council for Graduate Medical Education by actively participating in processes which define the content and scope of education and practice, including participation in defining medical school curriculum through the Liaison Committee on Medical Education and reviewing and commenting on proposed changes in the accreditation requirements of Graduate Medical Education programs by the ACGME. (3) Continue to seek input from the Federation on the need for physicians by both geographic region and specialty. (4) Support the concept of partnerships between primary care physicians and patients to coordinate access to all needed medical services and consultations (a "medical home") for all patients. (5) Encourage physician reimbursement changes which would make generalist physician practice more attractive. (6) Work with the Federation to convene and staff a "medical workforce commission" (which would include representatives of the medical education community, major specialty societies and the public) to project the optimal medical workforce for the US and to develop strategies to achieve that. (CME Rep. 12, A-06; Reaffirmation I-06)	Primary Care Home Initiative; and H-160.919, Principles of the Patient-Centered Medical Home.
D-200.993 Revisions to AMA Policy on the Physician Workforce Our AMA will, through its Councils, Sections, Minority Affairs Consortium, and other organizations, develop strategies to implement its workforce policy, through research, advocacy, and other relevant means; and collaborate with state and specialty societies and other interested groups to develop a national consensus on physician workforce policy. (CME Rep. 2, I-03; Reaffirmation I-06)	Sunset; superseded by H-200.955, Revisions to AMA Policy on the Physician Workforce , which reads, in part: "It is AMA policy that: (1) any workforce planning efforts, done by the AMA or others, should utilize data on all aspects of the health care system…. (2) Our AMA encourages and collaborates in the collection of the data needed for workforce planning and in the conduct of national and regional research on physician supply and distribution. The AMA will independently and in collaboration with state and specialty societies, national medical organizations, and other public and private sector groups, compile and disseminate the results of the research. (3) The medical profession must be integrally involved in any workforce planning efforts sponsored by federal or state governments, or by the private sector. (4) In order to enhance access to care, our AMA collaborates with the public and private sectors to ensure an adequate supply of physicians …. (7) Our AMA will collect and disseminate information on market demands and workforce needs, so as to assist medical students and resident physicians in selecting a specialty and choosing a career."
D-275.970 Needle Electromyography Our AMA affirms that performing needle electromyography is the practice of medicine, and will work to discourage: (1) other non-physician health care professionals from expanding their scope of practice to include performing needle electromyography; and (2) physicians from preparing reports and submitting claims on needle electromyographic studies that they did not perform or personally supervise.	Still relevant, but sunset and integrate into H-275.990, Clinical Diagnostic Electromyography for purposes of a more streamlined Policy Finder.
D-275.972 Spoken English Proficiency Component of the United States Medical Licensing Examination Our AMA will take no action to request the elimination of the Spoken English Proficiency score from the USMLE Step 2 CS. (CME Rep. 8, A-06)	Sunset; this "directive to take action" calls for no action; assumedly, the inaction was enacted at the time this policy was adopted.
D-295.949 Criminal Background Checks for Medical Students Our AMA will: (1) through relevant Councils and Sections, collaborate with other organizations working to develop policies and procedures for criminal background checks for applicants accepted to medical school and enrolled medical students, including the creation of guidelines for appropriate action related to individuals	Retain; still relevant.

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whose background checks raise concerns; (2) work to ensure that systems for criminal background checks for accepted applicants and medical students are standardized within and across institutions, as well as equitable, cost-effective, and consistent with the requirements for background checks being required of resident physicians and practicing physicians; and (3) continue to monitor the requirement for criminal background checks for accepted applicants and medical students by medical schools, hospitals/health systems, and state laws. (CME Rep. 9, A-06)	
D-295.951 Medical Student Clinical Education and Training Conditions: A Follow-up Report on LCME Actions 1. Our AMA encourages the Liaison Committee on Medical Education to continue to monitor compliance with its standard on medical student hours, through its annual survey of medical schools and through its accreditation reviews. If noncompliance with the requirement for medical schools to have policies and practices related to student work load is identified during the annual survey or the accreditation review, the LCME should take timely action to bring schools into compliance. 2. Our AMA will request the Association of American Medical Colleges to add an item to the AAMC Medical School Graduation Questionnaire that asks whether student duty hours were monitored. (CME Rep. 5, A-06)	Sunset; no longer needed. The Liaison Committee on Medical Education assesses clinical duty hours and non-clinical curricular hours, as set forth in the requirement cited below. The LCME also conducts interviews with medical students to assure that hours are reasonable and policies are followed, reviews class schedules, expects schools to have effective mechanisms to monitor and encourage violation reporting, and has cited schools for non-compliance in the past. "8.8 Monitoring Student Workload: The medical school faculty committee responsible for the medical curriculum and the program's administration and leadership ensure the development and implementation of effective policies and procedures regarding the amount of time medical students spend in required activities, including the total number of hours medical students are required to spend in clinical and educational activities during clerkships."
D-295.952 Update on the American Medical Association Initiative to Transform Medical Education Our AMA will, through its Initiative to Transform Medical Education, continue to work collaboratively with other organizations to bring about mutually agreed-upon reforms across the continuum of medical education aimed at enhancing physician and health system performance to better meet the health care needs of the public. (CME Rep. 3, A-06)	Sunset; the Initiative to Transform Medical Education is no longer active, having been superseded by the Accelerating Change in Medical Education.
D-305.969 Payment for Graduate Medical Education by the Centers for Medicare and Medicaid Services Our AMA will work with the Association of American Medical Colleges and other interested groups to prevent reduction in Medicare graduate medical education payments by disallowing reimbursement for the time residents spend in didactic learning. (Res. 317, A-06)	Sunset; superseded by D-305.967, The Preservation, Stability and Expansion of Full Funding for Graduate Medical Education, which reads, in part: "6. Our AMA will oppose regulatory and legislative efforts that reduce funding for GME from the full scope of resident educational activities that are designated by residency programs for accreditation and the board certification of their graduates (e.g. didactic teaching, community service, off-site ambulatory rotations, etc.)."
D-480.981 Increasing Awareness of the Benefits and Risks Associated with Complementary and Alternative Medicine Our AMA will promote awareness among medical students and physicians of the wide use of complementary and alternative medicine, including its benefits, risks, and evidence of efficacy or lack thereof. (Sub. Res. 306, A-06)	Sunset; superseded by H-295.902, Alternative Medicine, which reads, in part: "(1) AMA policy states that courses offered by medical schools on alternative medicine should present the scientific view of unconventional theories, treatments, and practice as well as the potential therapeutic utility, safety, and efficacy of these modalities."

**2. UPDATE ON MAINTENANCE OF CERTIFICATION AND
OSTEOPATHIC CONTINUOUS CERTIFICATION
(RESOLUTIONS 309-A-15, 318-A-15, 903-I-15, 924-I-15 AND 925-I-15)**

Reference committee hearing: see report of [Reference Committee C](#).

**HOUSE ACTION: RECOMMENDATIONS ADOPTED
REMAINDER OF REPORT FILED**
See Policy D-275.954

Resolution 309-A-15, Maintenance of Certification, introduced by the New York Delegation and referred by the American Medical Association (AMA) House of Delegates (HOD), asked that our AMA advocate for a moratorium on the maintenance of certification (MOC) requirements of all medical and surgical specialties until it has been reliably shown that these programs significantly improve patient care.

Resolution 318-A-15, Maintenance of Certification, introduced by the American College of Cardiology, Society for Cardiovascular Angiography and Interventions, American Society for Echocardiography and Heart Rhythm Society, and referred by the AMA HOD, asked that our AMA congratulate the American Board of Medical Specialties (ABMS) and its member boards on their century of service to our profession and our patients, and to engage the ABMS and its member Boards to conduct an independent, external review process to examine the performance and impact of Board policies, procedures, organizational structure and governance.

Resolution 903-I-15, Maintenance of Certification, introduced by the Indiana Delegation and referred by the AMA HOD, asked that our AMA oppose further requirements for physician board certification of physicians beyond the 10-year board recertification exams, placing on hold any additional MOC requirements until objective study of the validity and cost-effectiveness of such additional requirements is complete.

Resolution 924-I-15, Alternative Pathways to Board Recertification, introduced by the Washington Delegation and referred by the AMA HOD, asked that our AMA 1) review alternative pathways to board recertification that can assist physician credentialing and recredentialing by entities such as medical staffs, hospitals, employers and third party payers, and 2) support alternative mechanisms for board recertification that are determined to be equivalent in quality to established recertification pathways.

Resolution 925-I-15, National Board of Physicians and Surgeons, introduced by the Georgia Delegation and referred by the AMA HOD, asked that our AMA advocate that the National Board of Physicians and Surgeons (NBPAS) be recognized as an alternative to ABMS boards for recertification for physicians nationally.

Policy D-275.954 (1), Maintenance of Certification (MOC) and Osteopathic Continuous Certification (OCC), requires our AMA to prepare a yearly report regarding the MOC and OCC processes.

Reference Committees C and K at the 2015 Annual and Interim HOD Meetings heard limited and mixed testimony on Resolutions 309-A-15, 318-A-15 and 903-I-15. The process of MOC contains many elements, and suspension of the entire program as recommended in Resolution 309-A-15 would have included removal of components such as continuing medical education (CME) and fulfillment of licensing requirements. Also, a moratorium would have affected all 24 ABMS member boards, even though a number of these boards are viewed favorably by their diplomates. It is not the role of the AMA to oversee ABMS member board policies, procedures, organizational structure and governance processes as recommended in Resolution 318-A-15. The Council on Medical Education has been actively engaged in discussions with various stakeholders, including the ABMS, to make meaningful and effective changes in the methodology of maintenance of professional competency, and some specialties have already implemented alternative methods of MOC that meet the goals of Resolution 903-I-15. Reference Committee K felt that the study of alternative mechanisms for board recertification called for in Resolution 924-I-15 should be completed before supporting alternative pathways to recertification, as called for in Resolutions 924-I-15 and 925-I-15.

BACKGROUND

The Council on Medical Education has prepared reports covering MOC and OCC for the past seven years.[1–7] This report addresses Resolutions 309-A-15, 318-A-15, 903-I-15, 924-I-15 and 925-I-15 as well as the mandate of Policy D-275.954 (1) as it relates to MOC/OCC, and also provides an update on the most recent activities on this topic. As shown in the Appendix, the AMA has extensive policy on MOC and OCC.

The Council on Medical Education continues to monitor the implementation of MOC and OCC. Council members, along with the Board of Trustees and AMA staff, have participated in numerous meetings with the ABMS and its member boards during the last year, including:

- ABMS Committee on Continuing Certification (a Council member is appointed to this committee, which develops and oversees implementation of MOC standards. The Council member appointee facilitates bidirectional communication between the AMA and ABMS regarding MOC Standards and policies)
- ABMS Forum on Organizational Quality Improvement
- ABMS 2015 Conference
- Maintenance of Certification Summit
- ABMS Board of Directors Meeting

MAINTENANCE OF CERTIFICATION (MOC): AN UPDATE

The AMA congratulates the ABMS and the ABMS member boards on their century of service to the profession and its patients.

Update on the Emerging Data and Literature Regarding the Value of MOC

The Council on Medical Education reviewed recently published literature and emerging data as part of its ongoing efforts to objectively review MOC issues. Published data supporting behavioral changes resulting from participation in MOC is limited; however, recent studies show that MOC activities are resulting in quality care and performance improvement initiatives and programs.

One such example is an online activity developed by the Annenberg Center for Health Sciences at Eisenhower Medical Center (Rancho Mirage, CA) which addressed gaps in osteoporosis management; provided practice improvement options based on recognized models for such activities (e.g., the METRIC Diabetes Module offered by the American Academy of Family Physicians, a provider of MOC for Family Physicians Part IV, Improvement in Medical Practice, credit); and evaluated the impact of the activity in improving practice attributes and adherence to national standards of care. This practice improvement intervention to optimize fracture prevention resulted in significant improvements in all key performance measures other than the percentage of patients receiving a diagnosis of osteoporosis. Results were consistent with other practice improvement initiatives for osteoporosis and other areas of medicine. Improvements demonstrated in this activity support the benefit of performance improvement initiatives and provide a foundation for ongoing research including associations between performance improvement and health outcomes.[8]

A quality improvement (QI) intervention implemented at the University of California Davis Children's Hospital, which included stakeholder involvement, clinician education, standardization of documentation, policy changes, and the provision of American Board of Pediatrics Part IV MOC credits, improved the quality and timeliness of discharge summaries. This intervention demonstrated that the timelines and quality of discharge summaries can be markedly improved by actively engaging physicians in integrating improvement goals with QI education and practice.[9]

An MOC Part IV project that was created on the basis of an existing hypertension improvement program at the Permanente Medical Group allowed its participants to improve the care of their patients without an increased perceived burden to their practice. There was no association between the choice of improvement option and either the level of improvement or the perception of workload. This project also demonstrated that this MOC project was an effective way to document practice performance improvement.[10]

The American Board of Surgery recognizes participation in a registry that tracks patient outcomes as meeting the practice assessment requirement for MOC. Two recent studies provided evidence that active participation in a national or state registry can improve quality of care, often through the identification of best practices:

- Participation in the American College of Surgeons, National Surgical Quality Improvement Program (ACS NSQIP) is associated with reductions in adverse events after surgery. The results from this study confirm that participation in ACS NSQIP, for up to eight years, is associated with declining observed/expected ratios (improving performance); thus, QI increases with time in the program.[11]

- Registries in 47 hospitals in Washington State were used to evaluate the relationship between postoperative NSAID administration and anastomotic complications. This study showed that among patients undergoing non-elective colorectal resection, post-operative NSAID administration was associated with a significantly increased risk for anastomotic complications, with the prediction that these data may be enough for some surgeons to alter practice patterns. The results of this study, taken in the context of prior literature, emphasize the importance of a learning health care system to determine the proper role of drugs, devices and interventions.[12]

QI projects within the MOC Multi-Specialty Portfolio Program that were presented during the 2015 Forum on Organizational Quality Improvement (QI Forum), hosted by the ABMS, ranged from those involving large health systems with thousands of physicians, and cooperative projects between systems in different states, to small, single-center pilot programs. The QI Forum featured 34 improvement efforts from organizations including the Mayo Clinic, University of Vermont College of Medicine, Carolinas HealthCare System and many others (abms.org/ initiatives/delivering-organizational-quality-improvement/forum-on-organizational-quality-improvement/2015-qi-forum/). The goal of the QI Forum was to share findings, results and best practices to expand QI and measure value to patients, practitioners and organizations. An emerging theme during the 2015 QI Forum was the value that practicing physicians found in the MOC-integrated QI projects.

- One initiative at Johns Hopkins focusing on cardiovascular disease and improving hypertension control rates included the development of an updated checklist to emphasize several evidence-based interventions.[13]

- Another MOC-integrated initiative at the University of Michigan focused on improving workflow, which ultimately improved rates of tetanus, diphtheria and pertussis (Tdap) immunizations and diabetic foot exams.[14]

- In an initiative at the University of Nebraska, nearly 80 percent of physicians said that participation in the initiative helped them implement strategies to improve the immunization rates of children and adolescents.[15]

The literature also shows that despite the recent criticism about the value of MOC, participation in this process by board-certified family physicians has been consistent with historic participation rates and remains robust.[16] Similarly, a study that looked at all physicians whose original certification was granted in internal medicine from 1990-1993 showed that keeping up-to-date and fulfilling their professional obligations to patients appears to be most important to certified internists. Participation in the ABIM MOC program seems to be high, and most participants are completing the MOC requirements in a timely manner.[17] Another study that examined the career paths, disciplinary actions and ABMS certification status of internal medicine physicians who trained a decade ago suggests that policymakers could use board certification as a potential marker of higher performance and fewer disciplinary actions in practice.[18]

Because MOC has been introduced gradually during the last decade, the evidence that results from longitudinal data collection is just beginning to emerge. The ABMS Research and Education Foundation has been engaged in research efforts to support a range of national initiatives that have significant impact on the delivery of quality health care and improved outcomes. The ABMS Evidence Library, which houses the references and annotations of the research compilation, is available at evidencelibrary.abms.org. Continuous study of its evidence will be important in identifying improvements to the program as advances in clinical practice, technology and assessment occur.

ABMS MOC Directory Powered by MedEdPORTAL

The ABMS, in collaboration with the Association of American Medical Colleges, has developed the ABMS MOC Directory, which is powered by MedEdPORTAL (mededportal.org/abmsmoc/continuingeducation), an online repository of competency-based MOC activities that have been reviewed and approved by the ABMS and

appropriate participating member boards. Physicians are able to use the directory to identify MOC activities in a single portal that may be appropriate for their needs and provide continuing medical education (CME) credit. The listing includes activities approved for multiple specialties and/or practice settings. CME providers can expedite the review and approval process for their activities by ABMS member boards to ensure that CME activities are available to meet MOC requirements relevant to their specialty. The CME community will be allowed to submit relevant educational activities for approval to the portal on a rolling submission cycle (with no submission deadline). The directory provides a common platform for MOC activities and resources to assist diplomates in fulfilling their MOC Parts II and IV requirements.

Alternatives to the Secure, High-stakes Examination for Assessing Knowledge and Cognitive Skills in MOC

An ABMS Task Force on Innovations in the Assessment of Knowledge, Judgment and Skills has been meeting since last year to evaluate how innovations in assessment and adult learning can inform the delivery and design of MOC examinations offered by ABMS member boards. The task force is exploring a number of innovations that could address diplomates' concerns about MOC Part III cognitive knowledge: blueprinting and modularization techniques that facilitate customizing of exam content to reflect focused practices within the disciplines; access to materials similar to those used at the point of care; remote access to test material, which would alleviate the need for examinees to travel to testing centers; performance feedback mechanisms to guide educational and development plans; and movement toward frequent, low-stakes, formative testing in place of infrequent, high-stakes, summative testing. The task force also is reviewing innovations in test development that simulate clinical scenarios and assess diagnostic acumen and clinical judgment rather than recall.

Concurrent with these efforts, some ABMS member boards are also looking at ways to innovate assessment of medical knowledge, and some have implemented alternatives to the traditional high-stakes secure examination.[19]

- The American Board of Anesthesiology (ABA) developed MOCA 2.0 to create a tool for ongoing low-stakes assessment and provide more extensive, question-specific feedback. It was also designed to provide focused content that could be reviewed periodically to refresh knowledge and document cognitive expertise. To help ABA diplomates achieve a better understanding of this model, ABA developed a free web application known as the MOCA Minute™. The MOCA Minute is a longitudinal assessment tool that requires diplomates to answer 30 questions per calendar quarter, or 120 per year, in lieu of taking a 10-year exam. Participation in the MOCA exam pilot was voluntary and did not guarantee a passing score on the MOCA Exam and had no impact on the volunteer's program requirements. Analysis of the July 2014 MOCA examination showed that MOCA Minute was associated with improved exam performance.[20] Further analysis of the pilot data is underway to determine whether participants accessed the links to additional resources, learned the material, and improved performance in the content knowledge areas represented in the MOCA Minute Pilot.

- The American Board of Dermatology (ABD) emphasizes the learning experience by making test preparation material available six months before the examination. The material includes diagnoses from which the general dermatology clinical images will be drawn as well as questions that will be used to generate the subspecialty modular examinations. All examinees are required to take the general dermatology module, consisting of 100 clinical images designed to assess diagnostic skills. The diplomate can then choose among 50-item subspecialty modules in medical dermatology, dermatopathology, pediatric dermatology or dermatologic surgery. Passing scores are required for the general and subspecialty modules. The ABD also successfully completed trials employing remote proctoring technology to monitor examination administration in the diplomates' homes or offices.

- The American Board of Plastic Surgery (ABPS) developed a secure, modular, computer-based exam for its 10-year MOC cycle. The ABPS offers its diplomates an MOC Study Guide with more than 2,300 multiple-choice question (MCQs) items derived from the same sources used for the MOC exam. Diplomates can study the entire guide or focus on specialty-specific practice content. For each 200-item MOC exam, 25 percent of the items address core principles and 75 percent are specialty-based. Performance results are provided to examinees to help focus future learning.

- The American Board of Internal Medicine (ABIM) has enhanced its exam by including new fidelity features, such as a zoom feature for images, presentation of realistic laboratory reports with normal ranges, embedded audio clips of heart sounds, and video clips of patient presentations. A new web-based, geographic score report

presents more clearly the performance results for a given examinee, to highlight areas of strength and weakness for specific exam questions that were missed. Some of the exams allow the examinee to select the best of two or best of three options instead of being limited to a single option response. The ABIM is also researching and developing the use of external or web resources during the examination, computer-based simulation with patient avatars, and the introduction of adaptive testing techniques, where the exam advances differently depending on an examinee's response to each situation and where the examinees might be able to leave early based on their performance.

- The American Board of Obstetrics and Gynecology (ABOG) will begin a pilot program in 2016 to integrate the self-assessment and external assessment MOC requirements to allow diplomates to continuously demonstrate their knowledge of the specialty. The pilot will also allow diplomates to earn an exemption from the current computer-based MOC examination in the sixth year of the program if they reach a threshold of performance during the first five years of the self-assessment program. Currently, the secure, external assessment is offered in the last year of each ABOG diplomate's six-year cycle in a modular test format, and physicians are allowed to choose two selections that are the most relevant to their current practice.

The ABMS is initiating a pilot project to test assessment models for the recertification examination, similar to the ABA's MOCA Minute described above. The ABA's announcement to replace its current MOCA Examination with the MOCA Minute in 2016 has stimulated interest among ABMS member boards to develop similar assessment approaches for their disciplines. Within a general framework for the assessment models being tested, there is substantial room for board-specific differences in program emphasis and assessment formats. For example, the ABA's MOCA Minute uses question-based assessments, but other options include article-based assessments and problem/topic-based assessments that group items around a theme, such as management of asthma in children, or a combination of the two. Member boards will decide which approaches are most appropriate for their specialty.

Update on the Requirements for Maintaining Underlying Specialty Board Certifications

Some of the larger ABMS member boards that offer numerous subspecialty certifications have made changes to their MOC requirements for maintaining underlying primary or initial specialty board certification to allow physicians the option to focus only on MOC activities relevant to their practice. For example, ABIM diplomates no longer need to maintain underlying subspecialty certificates in a foundational discipline to remain certified in any of the ABIM's 20 subspecialties. All ABIM diplomates are now able to choose the certification they wish to maintain. This policy change, effective January 1, 2016, affected the nine subspecialties that previously had this requirement: adolescent medicine, adult congenital heart disease, advanced heart failure and transplant cardiology, clinical cardiac electrophysiology, hospice and palliative medicine, interventional cardiology, sleep medicine, sports medicine and transplant hepatology. For instance, interventional cardiology diplomates will no longer need to maintain cardiovascular disease certification in order to maintain certification in interventional cardiology. Similarly, the American Board of Pediatrics (ABP) allows its diplomates to maintain subspecialty certification without simultaneously maintaining certification in general pediatrics. However, there is one exception— pediatricians who wish to maintain certification in pediatric transplant hepatology are required to maintain certification in pediatric gastroenterology. These policies will not change the ABP requirements for initial certification in these subspecialties.

Update on MOC Part IV, Practice Performance Assessment

The ABMS is conducting a comprehensive review of the Improvement in Medical Practice (IMP) element of MOC. The goals of the review are to: 1) clarify IMP's purpose and intent; 2) align requirements across the 24 ABMS member boards; 3) integrate IMP with other physician professional assessment activities; and 4) deliver more value to practicing physicians.

An ABMS task force has been appointed to conduct the review and develop a statement of principles to be considered by the Board of Directors in June 2016. Several work streams will inform the task force's deliberations, including:

- A Review of Member Board IMP activities: To be led by the ABMS Committee on Continuing Certification, the review of member boards' IMP activities will inform the task force about best practices, concerns, and other observations and recommendations of this group;

- Stakeholder Input: Input from both internal and external stakeholders will be gathered to understand their expectations of the MOC process as it relates to QI;

- Review of Information: A comprehensive review of public materials from websites, articles, etc., will be conducted to identify which IMP activities have been reported as most problematic for diplomates and which activities have been identified as most helpful/appropriate; and

- Facilitated Board Discussion: The ABMS Board of Directors will engage in a facilitated and structured discussion about IMP and the key issues to be determined.

Since adopting the IMP requirement as programmatic policy in 2000, the ABMS member boards have taken different approaches to its implementation, which has raised important questions about what ABMS board certification should signify relative to medical practice improvement. Some diplomates, specialty societies, and others have recently expressed dissatisfaction with current IMP requirements as time-consuming and burdensome, out-of-sync with current medical practice, poorly aligned with other professional assessment and improvement activities, and highly variable among the boards. Some specialty societies have called for the elimination of the IMP requirement altogether.

The ABMS believes that the task force's review of the IMP requirement will lead to a community-wide conclusion on IMP's role and purpose and will guide the boards in the design and delivery of their MOC programs. Issues for discussion include:

- What is the purpose and value of the IMP requirement;
- Whether the AMA PI-CME model is appropriate for all physicians and all improvement activities;
- Whether and how personal improvement relates to system improvement;
- What constitutes meaningful engagement of physicians in system-level improvement activities; and
- What specific value is added to the certificate (credential to practice in a specialty) by including a requirement to demonstrate improvement in medical practice.

At its October 2015 meeting, the ABMS Board of Directors reaffirmed its commitment to the IMP component of the ABMS Program for MOC. The Board continued its discussion on QI and the purpose and intent of IMP during its retreat and meeting in February 2016, and the task force will report its findings to the Board at its meeting in June 2016.

MOC Part IV Pilot Programs/Innovations

Several member boards have taken steps to make MOC Part IV meaningful but less onerous for physicians while developing new programs.

- The American Board of Radiology has expanded options for Part IV requirements that focus on giving credit for activities that diplomates are already performing as part of their practices or voluntary professional efforts (theabr.org/moc-prt4-activities).

- The American Board of Thoracic Surgery replaced the requirement for mandatory database participation with PI and required its diplomates to participate in a practice QI project by January 2016. For those who do not participate in a board-approved database/registry, the board will continue to require participation in the Professional Portfolio Program until the practice QI process starts.

The ABIM has extended the policy announced on February 3, 2015 and will not require Practice Assessment, Patient Voice and Patient Safety in its MOC program through December 31, 2018.

ABMS Multi-Specialty Portfolio Program

The ABMS Portfolio Program (mocportfolioprogram.org) provides a streamlined approach for hospitals, health care organizations and professional societies to support physician involvement in QI initiatives by allowing physicians the opportunity to receive MOC Part IV credit. Because the Portfolio Program allows hospitals and health care organizations to apply Part IV MOC to team-based, multi-specialty projects that physicians are already engaging in

at their organizations, it eases the burden on physicians by reducing duplication of QI projects and promotes organizational effectiveness and efficiency through team-based initiatives. Many of these MOC activities satisfy other national, state and private-sector QI and reporting activities. Furthermore, there are no additional costs to physicians who participate in the program.

As of January 2016, 20 ABMS member boards are participating in the Portfolio Program and more than 1,300 QI projects have been approved for MOC Part IV from the 64 active Portfolio Sponsor organizations. Nearly 8,000 individual physicians have completed those projects, with some physicians participating in more than one activity, for a total of over 10,000 MOC Part IV completions being awarded.

Applicant organizations are considered based on the maturity, strength, and support of their internal QI program, and must be able to ensure that physicians meaningfully participate in QI activities. In addition, they must meet the reporting requirement, as outlined in the Portfolio Program Standards and Guidelines. For more information on the application process, see mocactivitymanager.org.

In October 2014, the AMA launched the STEPS Forward™ (Solutions Toward Effective PracticeS) practice transformation series, a practice-based series that allows physicians to earn CME credit for completing online learning modules. The goal is to provide physicians with relevant strategies that can improve practice efficiency and achieve Triple Aim outcomes—better care, better health and lower cost, as well as greater professional satisfaction.

A two-year pilot program launched in April 2016 allows physicians in Portfolio Program sponsor-organizations who are certified by the 20 participating ABMS member boards to receive MOC credit for participating in live, CME-accredited, lifelong learning and self-assessment activities that are specifically and proactively linked to an IMP initiative.

Cost Effectiveness of MOC

The ABMS member boards recognize concerns that physicians have voiced over the cost of MOC. For example, in February 2015, the ABIM announced that MOC enrollment fees would remain at or below the 2014 levels through at least 2017. The MOC participation fee (which includes the cost of CME, time away from the office, etc.) varies depending on which activities are chosen to complete CME to meet MOC requirements.

In its 2015 Standards for Programs for MOC, the ABMS recognized that physicians have multiple expenses associated with ongoing learning and assessment, including the recertification exam and CME requirements, and is working with its member boards to identify learning and assessment redundancies among these multiple interests. The Portfolio Program (described above) represents one way in which the member boards are actively working to identify learning redundancies and streamline processes to reduce overall MOC costs. Moving to remote testing and modularization of exams may also have an impact on reducing costs.

ALTERNATIVE PATHWAYS TO BOARD RECERTIFICATION

AMA policy reinforces the need for ongoing learning and practice improvement and supports the need for an evidence-based certification process that is evaluated regularly to ensure physicians' needs are being met and that activities are relevant to clinical practice. The AMA has adopted extensive policy (H-275.924) that outlines the principles of the ABMS MOC and AOA-BOS OCC and supports the intent of these programs.

The ABMS MOC program, established by ABMS member boards in 2000, was designed to provide a comprehensive approach to physician lifelong learning, self-assessment and quality improvement and was based on sound theoretical rationale.[21] However, there have been differences of opinion about the efficacy of MOC implementation in improving physician care and patient outcomes.[22] As MOC has evolved, so too have the administrative obligations physicians face, and there is concern about external regulations related to payment and performance measurement, perceived loss of autonomy, and the time and administrative burdens of electronic medical records.[23] Some believe that recent changes requiring physicians to engage in various medical knowledge, practice-assessment and patient-safety activities as well as periodic recertification exams do not constitute optimal use of the physician's time and that there is no convincing evidence that MOC has improved the quality of care.[22] There is also concern about the scope of the MOC examination for physicians whose practices have narrowed over time, the experience of testing in secure computer-based testing facilities, the financial and emotional costs of

preparing for and taking the examination, and the challenges of finding performance-improvement activities that are relevant to physicians' practice and easily integrated into their clinical environment.[24]

Resolutions 924-I-15 and 925-I-15 ask the AMA to review alternative pathways to board recertification to determine whether alternative mechanisms, i.e., National Board of Physicians and Surgeons (NBPAS) Recertification, are in fact equivalent in quality to established pathways. As a first step, the following background information about recertification programs is provided below.

ABMS Maintenance of Certification Program

The ABMS (abms.org), founded in 1933 as the Federation of Independent Specialty Boards, bases its certification on collective standards of training, experience and ethical behavior as a means of identifying those physicians capable of delivering high-quality specialized medical care. Currently, each of the 24 ABMS member boards develops its specific standards for certification, and together they certify more than 800,000 allopathic and osteopathic physicians in 37 primary specialties and 123 subspecialties.[23] The wide-scale use of ABMS board certification is reflected in both training and delivery systems, and based on core competencies developed and adopted by the ABMS and the Accreditation Council for Graduate Medical Education (ACGME).

Once board certified, physicians maintain their medical specialty expertise by participating in a continuous professional development program called the ABMS Program for MOC, a system of ongoing professional development and practice assessment and improvement. The program involves ongoing measurement of six core competencies defined by the ABMS and ACGME: practice-based learning and improvement, patient care and procedural skills, systems-based practice, medical knowledge, interpersonal and communication skills, and professionalism. These competencies, which are the same ones used in the ACGME's Next Accreditation System, are measured in the ABMS Program for MOC within a four-part framework:

- Part I: Professionalism and Professional Standing (maintain a valid, unrestricted medical license)
- Part II: Lifelong Learning and Self-Assessment (complete a minimum of 25 CME credits per year [averaged over 2 to 5 years])
- Part III: Assessment of Knowledge, Judgment, and Skills (pass a secure examination to assess cognitive skills at periodic intervals)
- Part IV: Improvement in Medical Practice (participate in practice assessment and quality improvement every 2 to 5 years)

Diplomates with lifetime (grandfathered) certification are not required to participate in the MOC program. However, they are strongly encouraged to enter the MOC program. While those member boards that have lifetime certificates will not rescind them, some payers and those who grant clinical privileges may not accept them to meet their board certification requirements.[25,26]

To ensure that MOC meets the needs of patients, physicians and the community in general, the ABMS periodically reviews the MOC program standards. The ABMS 2015 Standards for MOC were developed over two years, with input from physician leaders, practicing physicians, and the public, including a representative from the Council on Medical Education. The updated Standards provide a more flexible framework for ABMS member boards to develop their own programs for MOC. The Standards include elements common to MOC for all boards and define a patient-centric perspective, addressing professionalism, patient safety, and performance improvement. Member boards were also encouraged by the ABMS, in the development of the 2015 Standards, to accept distinctions in learning and assessment appropriate for the specialty and to provide feedback to physicians on their examination performance.

AOA Osteopathic Continuous Certification

The AOA Bureau of Osteopathic Specialists (AOA-BOS) (osteopathic.org/inside-aoa/development/aoa-board-certification/Pages/bos-history.aspx) was organized in 1939 as the Advisory Board for Osteopathic Specialists to meet the needs resulting from the growth of specialization in the osteopathic profession. Today, 18 AOA-BOS specialty certifying boards offer osteopathic physicians the option to earn board certification in a number of specialties and subspecialties, and together these boards have certified more than 27,500 physicians (with some of these physicians holding multiple certifications).

Each of the 18 specialty certifying AOA-BOS member boards has implemented OCC, effective January 1, 2013. All osteopathic physicians who hold a time-limited certificate are required to participate in the following five components of the OCC process in order to maintain osteopathic board certification:

- Component 1 - Unrestricted Licensure: requires that physicians who are board certified by the AOA hold a valid, unrestricted license to practice medicine in one of the 50 states, and adhere to the AOA's Code of Ethics.
- Component 2 - Life Long Learning/CME: requires that all recertifying diplomates fulfill a minimum of 120 hours of CME credit during each three-year CME cycle (three certifying boards require 150 hours). Of these 120 plus CME credit hours, a minimum of 50 credit hours must be in the specialty area of certification. Self-assessment activities are also designated by each of the 18 specialty certification boards. If an osteopathic physician holds subspecialty certification(s), a percentage of their specialty credit hours must be in their subspecialty certification area.
- Component 3 - Cognitive Assessment: requires provision of one (or more) psychometrically valid and proctored examinations that assess a physician's specialty medical knowledge as well as core competencies in the provision of health care.
- Component 4 - Practice Performance Assessment and Improvement: requires that physicians engage in continuous quality improvement through comparison of personal practice performance measured against national standards for the physician's medical specialty.
- Component 5 - Continuous AOA Membership.

Specific requirements for each specialty are available at osteopathic.org/inside-aoa/development/aoa-board-certification/occ-requirements. Osteopathic physicians who hold non-time-limited (non-expiring) certificates are not required to participate in OCC. However, to maintain their certification, they must continue to meet licensure, membership, and CME requirements (120-150 credits every three-year CME cycle, 30 of which are in AOA CME Category 1A).

National Board of Physicians and Surgeons

The National Board of Physicians and Surgeons (NBPAS) (nbpas.org) describes itself as an independent "grass roots initiative." The NBPAS offers a two-year certification program in all current ABMS specialties for physicians (MDs and DOs) who meet its criteria. The NBPAS has more than 2,000 certificants, and is working to gain acceptance by hospitals and payers. As of January 1, 2016, 24 hospitals (credentials committees, medical executive committees and/or hospital boards) had voted to accept the NBPAS as an alternative to ABMS recertification.

To be eligible for NBPAS certification, candidates must meet the following criteria:

- Be previously certified by an ABMS member board (currently, NBPAS certifies physicians in non-surgical ABMS specialties).
- Hold a valid, unrestricted license to practice medicine in at least one US state. Candidates who only hold a license outside of the US must provide evidence of an unrestricted license from a valid non-US licensing body.
- Have completed a minimum of 50 hours of CME within the past 24 months, provided by a provider recognized by the ACCME. CME must be related to one or more of the specialties in which the candidate is applying. Re-entry for physicians with lapsed certification requires 100 hours of CME within the past 24 months. Physicians in or within two years of training are exempt.
- For some specialties (interventional cardiology, electrophysiology, critical care), candidates must have active privileges to practice that specialty in at least one US hospital licensed by a nationally recognized credentialing organization with deeming authority from the Centers for Medicare & Medicaid Services (CMS), i.e., The Joint Commission, Healthcare Facilities Accreditation Program, and DNV (Det Norske Veritas) Healthcare.
- A candidate who has had their medical staff appointment/membership or clinical privileges in the specialty for which they are seeking certification involuntarily revoked and not reinstated must have subsequently maintained medical staff appointment/membership or clinical privileges for at least 24 months in another US hospital licensed by a nationally recognized credentialing organization with deeming authority from CMS, as listed above.

Physicians who are grandfathered and whose certification has not, by definition, expired must have completed at least 50 hours (not 100 hours) of CME in the past 24 months.

American Board of Physician Specialties

The American Board of Physician Specialties (ABPS) (abpsus.org) is a multi-specialty board certifying body of the American Association of Physician Specialists (AAPS), Inc., which was founded by surgeons in 1950. The member boards of the ABPS offer specialty certification examinations for qualified physicians (MDs and DOs). The ABPS is governed by a board of directors and chief executive officer, who oversee eligibility requirements and testing standards. The 12 member boards of the ABPS award certification in 18 specialties. The ABPS does not post the number of physicians who hold ABPS certificates.

The eligibility requirements for physician board certification differ among the various member boards; however, at minimum, ABPS member boards require that physicians have:

- An undergraduate college degree;
- Four years of medical school;
- Substantial, identifiable training, such as a three- to five-year residency in an ACGME-accredited program and several years of experience and proven competencies in the specific specialty or subspecialty; and
- A license to practice medicine.

ABPS offers periodic recertification and notes on its website that a physician's credentials should always reflect a dedication to CME in his or her area or areas of expertise, mastery of that newly gained knowledge and a willingness to adhere to a code of ethics and professionalism.

American Board of Facial Plastic and Reconstructive Surgery

The American Board of Facial Plastic and Reconstructive Surgery, Inc.® (ABFPRS) (abfprs.org) was established in 1986 to improve the quality of medical and surgical treatment available to the public by examining for professional expertise in facial plastic and reconstructive surgery. As of June 2015, the total number of active ABFPRS diplomates was 1,143.

To be eligible for certification, a surgeon must:

- Have completed a residency program approved by the ACGME or the Royal College of Physicians and Surgeons of Canada in one of the two medical specialties containing identifiable training in facial plastic and reconstructive surgery: otolaryngology/head-and-neck surgery or plastic surgery.
- Have earned prior certification by the American Board of Otolaryngology, American Board of Plastic Surgery or Royal College of Physicians and Surgeons of Canada in otolaryngology/head-and-neck surgery or plastic surgery.
- Have been in practice a minimum of two years.
- Have 100 operative reports accepted by a peer review committee.
- Successfully pass an 8-hour written and oral examination.
- Operate in an accredited facility.
- Hold the appropriate licensure and adhere to the ABFPRS Code of Ethics.

Since January 1, 2001, the certificates issued by the ABFPRS have been valid for 10 years only. Diplomates who were certified since then and who want to maintain their certification must participate in the ABFPRS Maintenance of Certification in Facial Plastic and Reconstructive Surgery® (MOC in FPRS℠) program. All diplomates, even those holding lifetime certificates, are encouraged to participate. The specific components of the MOC in FPRS℠ Program are similar to the four principles approved by the ABMS, and include evaluation of professional standing, evidence of lifelong learning, demonstration of cognitive expertise, and assessment of practice performance. (Detailed requirements are available at abfprs.org/applying/maintain.cfm)

American Board of Cosmetic Surgery, Inc.

The American Board of Cosmetic Surgery (ABCS) (americanboardcosmeticsurgery.org), established more than 30 years ago, offers board certification to qualifying surgeons. As of February 2, 2016, 374 surgeons held general cosmetic surgery certificates.

To be eligible for certification, a surgeon must:
- Hold at least one recognized board certificate in one of seven medical specialties related to cosmetic surgery before he or she can take the ABCS exam. The certifying board must be recognized by the ABMS or the equivalent from the AOA or American Board of Oral & Maxillofacial Surgery.
- Have completed a comprehensive fellowship training in cosmetic surgery.
- Pass a two-day written and oral exam covering all aspects of cosmetic surgery.

(Detailed requirements available at: americanboardcosmeticsurgery.org/wpcontent/uploads/2009/11/ABCS_2014_Certification_Requirements.pdf)

ABCS certification is valid for ten years. ABCS diplomates must be re-examined and complete all MOC requirements prior to completion of their 10th year of certification. Diplomates who are unsuccessful in passing the first recertification examination have one year to successfully challenge the exam, which includes two testing sessions. Diplomates who are unsuccessful after three attempts are required to retake the initial certifying examination, which includes the written and oral examination sessions. Diplomates must also complete 150 hours of CME and demonstrate a high level of patient satisfaction based on surveys.

Other Recertification Programs

Other developed countries are integrating career-long learning and assessment programs into their systems of professional regulation, showing that the emphasis on ongoing professional development is not exclusive to the United States. Examples of countries that have implemented MOC programs are included in CME Report 2-A-15, available at ama-assn.org/ama/pub/about-ama/our-people/ama-councils/council-medical-education/reports.page.

Other health care professions are also implementing MOC programs. For example, the National Commission on Certification of Physician Assistants (NCCPA) (nccpa.net/CertificationProcess), established in 1974 and currently the only certifying organization for physician assistants (PAs) in the United States, transitioned to a 10-year recertification process for PAs in 2014. During every two-year period, certified PAs must earn and log a minimum of 100 CME credits. They are also required to pass a recertification exam to assess general medical and surgical knowledge. PAs who fail to maintain their certification must meet CME requirements and take and pass the Physician Assistant National Recertifying Exam to regain it.

How the Licensing Boards, Hospitals, Employers and Third Parties View Alternative
  Pathways for Board Recertification

AMA policy H-275.924 (14) states that "the MOC program should not be a mandated requirement for licensure, credentialing, reimbursement, network participation, or employment." However, the AMA advocates that MOC be recognized as meeting some or all of a state's requirements for licensure, for physicians who are participating in MOC, to minimize the burden and avoid unnecessary duplication of work.

Many hospitals have independently made the decision to require board certification for staff privileges. Their leadership recognizes that diagnostic and treatment knowledge changes rapidly and learned skills in medicine can decline over time. They value the competencies for medical practice set by the profession and create procedures for their own institutions with respect to those competencies.

Various quality organizations and health care purchasers are also committed to increasing the value of patient care. They support the ABMS specialty certification system to help them identify excellence, commitment to professionalism, and continuous performance assessment and improvement.

Professionalism and the Public's Perspective

Society relies on members of the medical profession to establish standards for entering the profession to practice medicine and to ensure that they are maintaining certification throughout their practice careers.[27] Patients expect that their physician's certification reflects ongoing education and practice improvement. The ABMS reports that patients check their physician's certification via the ABMS website (certificationmatters.org) over one million times per year. Generally, patients and the public do not know about the intricacies of ABMS specialty board certification or

MOC, or that board certification and MOC are not required of all physicians. The only requirement to practice medicine legally is a valid active state license.

Professional health care providers, both physicians and non-physicians alike, are generally allowed to advertise to the public their training, education, experience and expertise. Twenty states have enacted legislation prohibiting deceptive or misleading advertising, communication or other deceptive or misleading conduct concerning the professional health care provider's skills, education, training, professional competence or licensure.

Some physicians may advertise that they are board certified or "board eligible." The AMA opposes any action, regardless of intent, that appears likely to confuse the public about the unique credentials of ABMS or AOA-BOS board certified physicians in any medical specialty, or take advantage of the prestige of any medical specialty for purposes contrary to the public good and safety (H-275.926 (1), Maintaining Medical Specialty Board Certification Standard). Similarly, the AMA's "Truth in Advertising" campaign highlights the need to improve transparency, clarity and reliability for the patient and public. Through this campaign, the AMA developed materials including a model bill, the "Health Care Professional Transparency Act," for use by state and specialty societies (ama-assn.org/go/tia). The campaign provides medical societies with tools and resources to develop and advocate for Truth in Advertising legislation to help ensure that patients are promptly and clearly informed of the training and qualifications of their health care practitioner. A drafting note in the model legislation, which was developed by a multi-specialty coalition of national medical associations, provides language that can be used to govern advertising of board certification status. The language requires that physicians not represent themselves in any manner as being certified by a public or private board, including, but not limited to a multi-disciplinary board, or designated as "board certified," unless (1) the advertisement states the full name of the certifying board and, (2) the board is a member board of either the ABMS or AOA; or that such board requires successful completion of a graduate medical education program accredited by the ACGME or the AOA that provides complete training in the specialty or subspecialty certified, followed by prerequisite certification by the ABMS or AOA board for that training field and further successful completion of an examination in the specialty or subspecialty certified. This requirement is to ensure not only clarity and transparency, but also consistent, reliable standardization. Otherwise, any physician would be able to advertise as being "board certified" without identifying the board that granted the certification or otherwise specifying the nature and rigor required to achieve that certification.

Need for Further Evaluation

Some medical specialty organizations, including the American College of Cardiology and American Gastroenterology Association, have announced their plans to develop alternative pathways to board recertification.[28,29] The American College of Physicians (ACP) Board of Regents recently approved a resolution to evaluate all certifying boards related to internal medicine against the College's accountability principles for certifying boards. These principles are part of a larger document that looks broadly at professional accountability, including physicians, health systems and regulatory agencies. It may be prudent for the AMA to review the plans and activities of these specialty organizations as well as establish criteria and, if needed, construct an evaluation tool that can be used to evaluate alternative methods for board recertification.

UPDATE ON OSTEOPATHIC CONTINUOUS CERTIFICATION

The requirements for OCC, which were implemented on January 1, 2013 by all 18 specialty certifying member boards of the AOA-BOS, are noted above. The AOA-BOS is currently reviewing the entire OCC process with an eye towards ensuring the effectiveness of the OCC process while making it less onerous for diplomates. The AOA-BOS continues to discuss the ACGME's single GME accreditation system for allopathic and osteopathic residency programs as it relates to AOA board certification, including possible policy changes that may be necessitated by the new system.

SUMMARY AND RECOMMENDATIONS

During the last year, the AMA Council on Medical Education has continued to monitor the development of MOC and OCC and work with the ABMS, AOA, and ABMS member boards to identify and suggest improvements to the MOC and OCC programs. The Council on Medical Education is committed to ensuring that MOC and OCC support physicians' ongoing learning and practice improvement as well as to assure the public that physicians are providing high-quality patient care in their practice settings. The AMA will continue to advocate for a certification process that

is evidence-based and relevant to clinical practice as well as cost-effective and inclusive to reduce duplication of work.

The Council on Medical Education therefore recommends that the following recommendations be adopted in lieu of Resolutions 309-A-15, 318-A-15, 903-I-15, 924-I-15 and 925-I-15 and the remainder of the report be filed.

1.   That our American Medical Association (AMA) 1) examine the activities that medical specialty organizations have underway to review alternative pathways for board recertification, and 2) determine if there is a need to establish criteria and construct a tool to evaluate if alternative methods for board recertification are equivalent to established pathways.

2.   That our AMA reaffirm Policy D-275.954 (9), Maintenance of Certification and Osteopathic Continuous Certification, which asks the American Board of Medical Specialties (ABMS) to ensure that all ABMS member boards provide full transparency related to the costs of preparing, administering, scoring and reporting maintenance of certification (MOC) and certifying examinations.

3.   That our AMA reaffirm Policy D-275.954 (4), which encourages the ABMS and its member boards to continue to explore other ways to measure the ability of physicians to access and apply knowledge to care for patients, and to continue to examine the evidence supporting the value of specialty board certification and MOC.

4.   That our AMA ask the ABMS to encourage its member boards to review their MOC policies regarding the requirements for maintaining underlying primary or initial specialty board certification in addition to subspecialty board certification, if they have not yet done so, to allow physicians the option to focus on MOC activities relevant to their practice.

APPENDIX

H-275.924, Maintenance of Certification
AMA Principles on Maintenance of Certification (MOC)
1. Changes in specialty-board certification requirements for MOC programs should be longitudinally stable in structure, although flexible in content. 2. Implementation of changes in MOC must be reasonable and take into consideration the time needed to develop the proper MOC structures as well as to educate physician diplomates about the requirements for participation. 3. Any changes to the MOC process for a given medical specialty board should occur no more frequently than the intervals used by that specialty board for MOC. 4. Any changes in the MOC process should not result in significantly increased cost or burden to physician participants (such as systems that mandate continuous documentation or require annual milestones). 5. MOC requirements should not reduce the capacity of the overall physician workforce. It is important to retain a structure of MOC programs that permits physicians to complete modules with temporal flexibility, compatible with their practice responsibilities. 6. Patient satisfaction programs such as The Consumer Assessment of Healthcare Providers and Systems (CAHPS) patient survey are neither appropriate nor effective survey tools to assess physician competence in many specialties. 7. Careful consideration should be given to the importance of retaining flexibility in pathways for MOC for physicians with careers that combine clinical patient care with significant leadership, administrative, research and teaching responsibilities. 8. Legal ramifications must be examined, and conflicts resolved, prior to data collection and/or displaying any information collected in the process of MOC. Specifically, careful consideration must be given to the types and format of physician-specific data to be publicly released in conjunction with MOC participation. 9. Our AMA affirms the current language regarding continuing medical education (CME): "Each Member Board will document that diplomates are meeting the CME and Self-Assessment requirements for MOC Part II. The content of CME and self-assessment programs receiving credit for MOC will be relevant to advances within the diplomate's scope of practice, and free of commercial bias and direct support from pharmaceutical and device industries. Each diplomate will be required to complete CME credits (AMA PRA Category 1 Credit™, American Academy of Family Physicians Prescribed, American College of Obstetricians and Gynecologists, and/or American Osteopathic Association Category 1A)." 10. In relation to MOC Part II, our AMA continues to support and promote the AMA Physician's Recognition Award (PRA) Credit system as one of the three major credit systems that comprise the foundation for continuing medical education in the U.S., including the Performance Improvement CME (PICME) format; and continues to develop relationships and agreements that may lead to standards accepted by all U.S. licensing boards, specialty boards, hospital credentialing bodies and other entities requiring evidence of physician CME. 11. MOC is but one component to promote patient safety and quality. Health care is a team effort, and changes to MOC should not create an unrealistic expectation that lapses in patient safety are primarily failures of individual physicians. 12. MOC should be based on evidence and designed to identify performance gaps and unmet needs, providing direction and guidance for improvement in physician performance and delivery of care. 13. The MOC process should be evaluated periodically to measure physician satisfaction, knowledge uptake and intent to maintain or change practice. 14. MOC should be used as a tool for continuous improvement. 15. The MOC program should not be a mandated requirement for licensure, credentialing, reimbursement, network participation or employment. 16. Actively practicing physicians should be well-represented on specialty boards developing MOC. 17. Our AMA will include early career physicians when nominating

individuals to the Boards of Directors for ABMS member boards. 18. MOC activities and measurement should be relevant to clinical practice. 19. The MOC process should not be cost prohibitive or present barriers to patient care. 20. Any assessment should be used to guide physicians' self-directed study. 21. Specific content-based feedback after any assessment tests should be provided to physicians in a timely manner. 22. There should be multiple options for how an assessment could be structured to accommodate different learning styles. 23. Physicians with lifetime board certification should not be required to seek recertification. 24. No qualifiers or restrictions should be placed on diplomates with lifetime board certification recognized by the ABMS related to their participation in MOC. 25. Members of our House of Delegates are encouraged to increase their awareness of and participation in the proposed changes to physician self-regulation through their specialty organizations and other professional membership groups. (CME Rep. 16, A-09 Reaffirmed: CME Rep. 11, A-12 Reaffirmed: CME Rep. 10, A-12 Reaffirmed in lieu of Res. 313, A-12 Reaffirmed: CME Rep. 4, A-13 Reaffirmed in lieu of Res. 919, I-13 Appended: Sub. Res. 920, I-14 Reaffirmed: CME Rep. 2, A-15 Appended: Res. 314, A-15 Modified: CME Rep. 2, I-15)

D-275.954, Maintenance of Certification and Osteopathic Continuous Certification
Our AMA will:
1. Continue to monitor the evolution of Maintenance of Certification (MOC) and Osteopathic Continuous Certification (OCC), continue its active engagement in discussions regarding their implementation, encourage specialty boards to investigate and/or establish alternative approaches for MOC, and prepare a yearly report to the House of Delegates regarding the MOC and OCC process. 2. Continue to review, through its Council on Medical Education, published literature and emerging data as part of the Council's ongoing efforts to critically review MOC and OCC issues. 3. Continue to monitor the progress by the American Board of Medical Specialties (ABMS) and its member boards on implementation of MOC, and encourage the ABMS to report its research findings on the issues surrounding certification and MOC on a periodic basis. 4. Encourage the ABMS and its member boards to continue to explore other ways to measure the ability of physicians to access and apply knowledge to care for patients, and to continue to examine the evidence supporting the value of specialty board certification and MOC. 5. Work with the ABMS to streamline and improve the Cognitive Expertise (Part III) component of MOC, including the exploration of alternative formats, in ways that effectively evaluate acquisition of new knowledge while reducing or eliminating the burden of a high-stakes examination. 6. Work with interested parties to ensure that MOC uses more than one pathway to assess accurately the competence of practicing physicians, to monitor for exam relevance and to ensure that MOC does not lead to unintended economic hardship such as hospital de-credentialing of practicing physicians. 7. Recommend that the ABMS not introduce additional assessment modalities that have not been validated to show improvement in physician performance and/or patient safety. 8. Work with the ABMS to eliminate practice performance assessment modules, as currently written, from MOC requirements. 9. Encourage the ABMS to ensure that all ABMS member boards provide full transparency related to the costs of preparing, administering, scoring and reporting MOC and certifying examinations. 10. Encourage the ABMS to ensure that MOC and certifying examinations do not result in substantial financial gain to ABMS member boards, and advocate that the ABMS develop fiduciary standards for its member boards that are consistent with this principle. 11. Work with the ABMS to lessen the burden of MOC on physicians with multiple board certifications, particularly to ensure that MOC is specifically relevant to the physician's current practice. 12. Work with key stakeholders to (a) support ongoing ABMS member board efforts to allow multiple and diverse physician educational and quality improvement activities to qualify for MOC; (b) support ABMS member board activities in facilitating the use of MOC quality improvement activities to count for other accountability requirements or programs, such as pay for quality/performance or PQRS reimbursement; (c) encourage ABMS member boards to enhance the consistency of quality improvement programs across all boards; and (d) work with specialty societies and ABMS member boards to develop tools and services that help physicians meet MOC requirements. 13. Work with the ABMS and its member boards to collect data on why physicians choose to maintain or discontinue their board certification. 14. Work with the ABMS to study whether MOC is an important factor in a physician's decision to retire and to determine its impact on the US physician workforce. 15. Encourage the ABMS to use data from MOC to track whether physicians are maintaining certification and share this data with the AMA. 16. Encourage AMA members to be proactive in shaping MOC and OCC by seeking leadership positions on the ABMS member boards, American Osteopathic Association (AOA) specialty certifying boards, and MOC Committees. 17. Continue to monitor the actions of professional societies regarding recommendations for modification of MOC. 18. Encourage medical specialty societies' leadership to work with the ABMS, and its member boards, to identify those specialty organizations that have developed an appropriate and relevant MOC process for its members. 19. Continue to work with the ABMS to ensure that physicians are clearly informed of the MOC requirements for their specific board and the timelines for accomplishing those requirements. 20. Encourage the ABMS and its member boards to develop a system to actively alert physicians of the due dates of the multi-stage requirements of continuous professional development and performance in practice, thereby assisting them with maintaining their board certification. 21. Recommend to the ABMS that all physician members of those boards governing the MOC process be required to participate in MOC. 22. Continue to participate in the National Alliance for Physician Competence forums. 23. Encourage the PCPI® Foundation, the ABMS, and the Council of Medical Specialty Societies to work together toward utilizing Consortium performance measures in Part IV of MOC. 24. Continue to assist physicians in practice performance improvement. 25. Encourage all specialty societies to grant certified CME credit for activities that they offer to fulfill requirements of their respective specialty board's MOC and associated processes. 26. Support the American College of Physicians as well as other professional societies in their efforts to work with the American Board of Internal Medicine (ABIM) to improve the MOC program. 27. Oppose those maintenance of certification programs administered by the specialty boards of the ABMS, or of any other similar physician certifying organization, which do not appropriately adhere to the principles codified as AMA Policy on Maintenance of Certification. (CME Rep. 2, I-15 Appended: Res. 911, I-15)

H-275.926, Medical Specialty Board Certification Standards
Our AMA:
1. Opposes any action, regardless of intent, that appears likely to confuse the public about the unique credentials of American Board of Medical Specialties (ABMS) or American Osteopathic Association Bureau of Osteopathic Specialists (AOA-BOS) board certified physicians in any medical specialty, or take advantage of the prestige of any medical specialty for purposes contrary to the public good and safety. 2. Continues to work with other medical organizations to educate the profession and the public about the ABMS and AOA-BOS board certification process. It is AMA policy that when the equivalency of board certification must be determined, accepted standards, such as those adopted by state medical boards or the Essentials for Approval of Examining Boards in Medical Specialties, be utilized for that determination. 3. Opposes discrimination against physicians based solely on lack of ABMS or equivalent AOA-BOS board certification, or where board certification is one of the criteria considered for purposes of measuring quality of care, determining eligibility to contract with managed care entities, eligibility to receive hospital staff or other clinical privileges, ascertaining competence to practice medicine, or for other purposes. Our AMA also opposes discrimination that may occur against physicians involved in the board certification process, including those who are in a clinical practice period for the specified minimum period of time that must be completed prior to taking the board certifying examination. 4. Advocates for nomenclature to better distinguish those physicians who are in the board certification pathway from those who are not. 5. Encourages member boards of the ABMS to adopt measures aimed at mitigating the financial burden on residents related to specialty board fees and fee procedures, including shorter preregistration periods, lower fees and easier payment terms. (Res. 318, A-07 Reaffirmation A-11 Modified: CME Rep. 2, I-15)

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3. ADDRESSING THE INCREASING NUMBER OF UNMATCHED MEDICAL STUDENTS

Reference committee hearing: see report of Reference Committee C.

HOUSE ACTION: RECOMMENDATIONS ADOPTED AS FOLLOWS
**   REMAINDER OF REPORT FILED**
                              See Policies H-200.954, D-305.967 and D-310.977

Policy D-310.977, National Resident Matching Program Reform, directs our American Medical Association (AMA) to "study, in collaboration with the Association of American Medical Colleges, the National Resident Matching Program, and the American Osteopathic Association, the common reasons for failures to match." This report is in response to that directive.

This policy was adopted at the 2015 Annual Meeting of the AMA House of Delegates. Testimony at A-15 before Reference Committee C noted that the problem of unmatched medical students was becoming more dire with the continued growth in enrollments in medical schools. Indeed, this was the topic of an educational session at A-15 hosted by the Academic Physicians Section (APS), with the goal of ensuring that medical students obtain needed guidance and counseling pre-Match and assistance with any post-Match problems, including advice on alternative career options, as needed. The AMA is committed to continued study and close monitoring of this issue—through the efforts of the Council on Medical Education and APS, among others—to ensure the highest possible return on the nation's investment in our future medical workforce.

This report focuses on those Match participants who are US medical school seniors at allopathic, MD-granting programs accredited by the Liaison Committee on Medical Education. Graduates of osteopathic medical schools (DOs) have the opportunity to participate in both the osteopathic Match as well as the NRMP Match, and as such the data available on match rates of DOs versus MDs are not comparable. In addition, match rates of International Medical Graduates (IMGs), whether US citizens or foreign nationals, are not included in this report in correspondence to the scope of Policy D-310.977.

BACKGROUND AND DATA

Historical Stability in Match Rates for US Allopathic Medical School Seniors

Research by Sondheimer et al. in the December 8, 2015 issue of *JAMA*[1] may provide some reassurance to those who fear a rapid increase in the number of unmatched US medical students. The authors note, "The percentage of US MD graduates entering GME the year of graduation has remained stable during the past decade despite an increase in the number of graduates."

These conclusions were emphasized in an interview with the lead author, Henry Sondheimer, MD.[2] "[I]n spite of the growth in US MD graduates, the percent of graduates not beginning their GME the year they graduated has remained very stable around 3%." He adds that, after following the graduates for eight to 10 years after graduation, "more than 99% enter GME or begin practice in some other way"—for example, those with a joint medical/dental degree may obtain a dental residency slot versus a similar position in a medical residency.

The noteworthy long-term stability of Match rates for US medical school seniors is corroborated with data presented by Geoffrey Young, PhD, at the APS meeting in June 2015 in Chicago.[3] Dr. Young, senior director, student affairs and programs, Association of American Medical Colleges (AAMC), noted that historical Match rates over the previous five years, 10 years and 30 years are 94.2%, 93.8%, and 93.4%.

As with any numbers, however, Match data can be misinterpreted and may lead to false conclusions and perpetuate misperceptions if not analyzed in the proper context. A recent Associated Press article, for example, titled "More Doctors Fail to Land Residency Positions After School," states that "Most doctors who apply to participate in residency programs are matched with particular hospitals or health care providers, but the percentage remaining unmatched has risen faster over the past decade than the percentage placed in residency programs."[4] The article fails to note, however, that the 75.2% overall Match rate [in 2015] is the highest since 2006, according to NRMP data, and that US seniors generally match at 94%, as noted above. The majority of the 25% not matching are IMGs. In short, the article implies one quarter of US medical school graduates cannot find a position, even though the Match rate for this segment is essentially stable and very high.

Further data that mitigate concerns of a GME squeeze come from a 2015 perspective piece in the *New England Journal of Medicine* authored by Mullan et al. of the George Washington University Health Workforce Institute.[5] Their analysis suggests that a continued surplus of GME positions versus US medical school graduates—a total of 4,500 positions—is likely through 2023-2024. The authors note, "Although that figure represents a decrease in the gap between GME positions and graduates from 21.7% in 2014–2015 to 13.5% in 2023–2024, the number of GME positions available will continue to substantially exceed the number of US medical graduates seeking them. This enduring gap suggests that any current or foreseeable failure of US graduates to obtain residency positions is not attributable to a lack of positions." They go on to state, "The primary goal of public GME support . . . is to produce trained physicians to meet the country's health care needs and not to fulfill the personal preferences of individual graduates for the specialties of their choice. Although the GME gap will narrow slowly, it appears likely that there will be ample positions for all US graduates over the next decade, assuming that this group will be given priority in residency selection. It would seem difficult to argue that Congress should fund more GME positions in order to create a larger margin for US graduates." The authors also note, "Greater competition for residency opportunities may challenge US medical students' traditional assumptions about specialty selection and give new importance to the advice about appropriate specialties provided by medical school faculty and advisors."

Future Shock? The Complexity of Health Care Workforce Needs

In spite of these data, it is important to remember that past (or current) performance does not predict future results. This is particularly true in light of continued growth in the number of US medical schools (both allopathic and osteopathic) and increased enrollments in existing schools. An additional factor is limited growth in GME due to caps in federal funding. Accordingly, the AMA and other organizations, such as the Association of American Medical Colleges, support legislation to increase federal funding of GME. A list of current proposed legislation to increase the number of federally funded residency slots is available via the AAMC website at aamc.org/advocacy/campaigns_and_coalitions/355904/gmebills.html.

Despite the cap, financial support of GME has continued over the last two decades from a number of sources, writes Edward Salsberg in a recent *Health Affairs* blog, "including funding from the Health Resources and Services Administration for primary care programs, new teaching hospitals eligible for Medicare GME, expanded funding for GME through the Veterans Health Administration, state funding, and hospital self-funded positions." He notes that "this growth has included entry positions into pipeline programs that lead to initial board certification. However, by percentage most of the growth in GME positions has been in hospital-based specialty and subspecialty continuing programs, where teaching hospitals have self-funded additional GME positions 'over the cap.'"[6]

Other factors to note include the significant and growing number of US citizen international medical graduates (IMGs) who graduate from non-LCME-accredited medical schools and seek to enter residency programs in the United States—along with foreign national IMGs (although, as noted in the introduction, this report does not address this issue). Further, changes in medical practice may affect future health care workforce needs. In addition, changes to government funding/reimbursement of medical training may occur, with calls for more transparency and accountability for public funding of GME on the rise.[7] An increased number of non-physician clinicians (physician assistants, nurse practitioners[8]) are providing health care and other services, and the pace of medical practices hiring such clinicians has increased recently.[9] In short, workforce prediction is an inexact science (or art), due to the complexity and number of moving parts. Any of a myriad of factors could lead to an increase or decrease in the need for GME positions, and help to catalyze calls for increased or decreased funding.

Why Students do not Match

Data from the Liaison Committee on Medical Education (LCME) provide insight into the reasons provided by medical schools as to why their students did not match into a residency program. The LCME Part II Annual Medical School Questionnaire from 2014-2015 (with responses from 141 schools) shows that academic shortcomings and inadequate Match preparation are two key reasons for failure to match.

8c. For each student identified in Q8b who sought but did not find a residency position, select the main reason. (Select one reason for each student.)

Students who did not find a residency position

#	%	Reason
174	51.3%	The student's academic performance (eg, clinical grades) and/or USMLE scores were below the norm
77	22.7%	The applications were limited to one specialty and did not include backup plans ("plan B" specialty)
66	19.5%	Reason unknown by school
22	6.5%	The number of applications was (relatively) limited

Not having a backup plan ("plan B" specialty) may result from candidates' failure to fully and realistically evaluate their chances for matching into a given specialty field and/or residency program. Certain specialty fields of medicine offer attractive compensation and "controllable lifestyle," and as such are valued by medical school graduates as inviting career options. These fields also may have a limited number of positions, making them more competitive. The large and increasingly burdensome debt load many medical graduates face may also play a role in students' decisions. Competition for placement into such fields is intense. Students who have not achieved high United States Medical Licensing Examination (USMLE) scores or class ranking may not be competitive applicants for such programs, and are likely to remain unmatched if their rank order lists include only highly competitive specialties.

In response to student concerns about the availability of positions, the number of residency programs that the average student applies to has risen precipitously over the last few years, notes Fitzhugh Mullan, MD, in a post in the *Medical Education Futures Study* newsletter. "The idea that we are running out of residency positions has become a popular and fear-invoking belief in medical schools with the result that senior medical students are applying to more and more residencies in the hope of not becoming losers in the perceived game of GME musical chairs." He adds that the average US senior "applied to 47 (forty-seven!) residencies in 2015, up 20% in the last five years."[10]

Student fears of not matching and desire for a residency in a remunerative and/or lifestyle-friendly field are two causes of this applications approach—despite research that this practice is not effective.[11] This in turn forces program directors to resort even more to using USMLE scores, grades and other quantitative criteria as a numeric cutpoint—rather than perform an in-depth review of every application, even though the USMLE score alone is not predictive of success in residency.[12] Students then react by submitting even more applications, and the situation continues to spiral.

Another key source of data on unmatched medical students is the National Resident Matching Program (NRMP). A 2015 NRMP survey of Match applicants, presented at the 2015 AAMC Annual Meeting,[13] notes the following behaviors by unmatched US MD seniors as compared to those who matched; these data show how unmatched students were less likely to engage in recommended strategies for matching and more likely to engage in counterproductive strategies when developing their rank order lists of programs:

Matched	Unmatched	Behavior
92%	81%	Ranked programs in order of preference
68%	77%	Ranked all programs where they interviewed
77%	64%	Ranked all programs willing to attend
65%	43%	Ranked a mix of programs
48%	24%	Ranked "safety-net" programs
2%	8%	Ranked programs where they did not interview

A third data source is the 2015 Match/SOAP (Supplemental Offer and Acceptance Program) Survey administered by the AAMC to 141 student affairs deans after the 2015 National Resident Matching Program (NRMP) Match. A total of 97 of 141 schools (69%) completed the survey, which collected data on the following three groups who participated in the 2015 Match and SOAP:

1. 2015 US MD seniors;
2. 2014 US MD seniors who did not match in 2014 and delayed graduation until 2015; and
3. US MDs who graduated between 2009 and 2014.

For the first group (2015 US MD seniors), student affairs deans reported that 527 of 10,515 (7%) were unmatched to first-year GME positions by noon on March 16, 2015, and 254 of these remained without a position by March 27. Of the 254, 110 (46%) were previously discussed in a promotions committee during their time in medical school. Indeed, for those students, medical schools "may need to re-examine their promotions standards, which may be a tough discussion," as described in an *AMA Wire* article.[14] "'At some point, you need to help a student make an exit plan [from medical school]'," said Dr. Young during his APS presentation, as quoted in the *AMA Wire* article.

Additional survey data from the AAMC, as presented by Dr. Young, show the following reasons for failure to match:

1. Low scores on a USMLE exam;
2. Not competitive for first choice specialty;
3. Did not have an appropriate backup/alternate plan;
4. Did not follow guidance from faculty advisor or dean's office;
5. Poor interviewing/interpersonal skills;
6. Did not rank enough programs; and/or
7. Failed a USMLE exam

Plans of Students Who Do Not Match

As to the plans of students who are initially unmatched, the LCME Questionnaire of medical schools provides additional insight:

8d. For each student identified in Q8c who did not find a residency position, select the options that meet their future plans. (Select all that apply for each student.)

Students who did not match

#	%	Future Plans
245	39.2%	Will search for a residency position for entry in 2016
157	25.1%	Will continue searching for a residency position in 2015
133	21.3%	Will seek employment, such as a research position
47	7.5%	Plans unknown by school
33	5.3%	Will seek an additional degree
10	1.6%	Will seek a career outside of medicine

These data are reflected in the 2015 AAMC survey of student affairs deans, which describes the following strategies for unmatched 2015 seniors:

- Re-enter the Match next year
- Continue to seek a residency position for 2015
- Re-enter the Match next year applying to a different specialty
- Pursue a research year

The AAMC survey also analyzed the experiences of a second group of 2015 Match participants—the 203 US MD seniors of 2014 who did not match in 2014 and delayed graduation until 2015. Of these, 12 (6%) were unmatched to first year positions by March 16, 2015, and eight remained without a position by March 27. Meanwhile, for a third group of 2015 Match participants—the 108 US MDs who graduated between 2009 and 2014—a total of 67 (63%) were matched into a first-year position while 40 (37%) remained without a position. For this group, the leading strategies for those who successfully matched included research (25%), re-entering the Match and applying in a different specialty (14%), and clinical work experience (13%).

The Role of Medical Schools in Improving Match Rates

Medical schools should continue to explore institutional strategies to enhance students' ability to match, offer options for students who do not match, and seek to better advise and counsel students. At the University of Illinois College of Medicine, for example, students, faculty, and staff collaborated to develop the Residency Preparedness Initiative, consisting of a longitudinal career development course and loan interest assistance program.[15] The objectives of the course are that students: 1) demonstrate knowledge of various medical specialty/career options; 2) develop a strategic plan for the Match or an alternative career path; 3) complete the Electronic Residency Application System documents (ERAS) and submit them in a timely manner (if applicable), and 4) match into a residency training program or secure alternative career plans upon graduation.

Another institutional strategy can be implemented earlier in the pipeline—i.e., during the medical school admissions process. In her presentation to the APS, Betty Drees, MD, former APS liaison to the Council on Medical Education, described how holistic medical school admissions may ultimately help improve Match rates.[16] This perspective is mirrored in a presentation by William McDade, MD, former chair of the Council on Medical Education, to the AMA Commission to End Health Care Disparities at its fall 2015 meeting. Dr. McDade also described the merits of a holistic residency candidate interview process, to deemphasize scores on standardized tests and give greater attention to other important qualities, "such as clinical reasoning, patient care, professionalism, and ability to function as a member of a health care team."[17]

Concerns About Students Who Are Partially Matched

Even those individuals who are matched into a residency program may be on a short-term "road to nowhere" if the position is only a preliminary or first graduate year (GY1) slot. The majority of specialty programs encompass the first-year preliminary training as "categorical," in that the resident matches into the specialty program, not the preliminary position. However, some of these one-year positions remain as a prerequisite to enter another specialty program that requires one year of GME prior to entry (there also are some transitional year positions—although they do not guarantee further training in a specialty). In 2015, 2,573 US seniors matched into preliminary or transitional year positions. At the end of SOAP, 605 additional preliminary or transitional year positions had been filled, although published data did not distinguish the type of applicant; i.e., we do not know how many of those positions

were filled by US seniors. US seniors, however, comprised the majority of unmatched applicants who found positions in the SOAP (599, or 56.5%).

Some physicians who complete a preliminary year of residency training do not find a GY2 position. If these physicians are US medical school graduates, one option is to obtain a license to practice medicine, without completing additional GME. In 35 of the 55 jurisdictions that issue licenses for medical practice (the 50 states, plus the District of Columbia, Guam, the Northern Mariana Islands, Puerto Rico and the US Virgin Islands), US medical school graduates may obtain a license to practice medicine with one year of GME (these requirements differ for international medical graduates).[18] Physicians who choose this option are not eligible for certification by a member board of the American Board of Medical Specialties, as they have not completed the required years of residency training. Obtaining hospital admitting privileges may also be challenging for this group, if not impossible, and receiving payments from insurers may be difficult as well. Finally, from a patient safety perspective, legitimate concerns may be raised about the quality of care provided by such physicians.

Bypassing the Match: The Assistant Physician Route

Three US states (Arkansas, Kansas, and Missouri) have passed legislation to allow medical school graduates to practice as "assistant physicians" or "graduate registered physicians" under the supervision of a licensed physician in the state, without having completed any GME. Legislatures in Washington and Virginia considered but did not pass similar bills in 2016. While the laws in Arkansas and Missouri created new license categories for these individuals, Kansas' law established a process through which an individual can obtain a special permit to practice under physician supervision for a limited time.

The stated rationale for these legislative efforts is both the need for primary care services in underserved areas and concerns about difficulty in matching into GME programs. The AMA and other medical organizations are in opposition to such legislation, on the basis of patient safety and quality concerns about the inadequate preparation of new physicians who lack any exposure to GME but yet would be engaged in the practice of medicine.[19]

RELEVANT AMA POLICY

At the AMA's 2015 Interim Meeting, the House of Delegates approved new policy that calls for the AMA to pursue a national public advocacy campaign to "educate the public on the definition and importance of graduate medical education, student debt and the state of the medical profession today and in the future." Such work is aligned with other AMA efforts, such as the SaveGME.org website, which is focused on advocacy to Congress.

Currently, the AMA has a significant number of policies that address both Match policies and GME funding, as shown in the appendix to this report.

Of particular note is D-310.977, National Resident Matching Program Reform. This policy states that our AMA will:

- Work with the NRMP to better inform applicants about the NRMP matching process;
- Evaluate and comment on all proposals to modify the Match;
- Request that the NRMP explore the possibility of including the Osteopathic Match in the NRMP Match;
- Work with the NRMP and others to develop mechanisms that limit disparities within the residency application process and allow both flexibility and standard rules for applicants; and
- Encourage the NRMP to study the effects of the Supplemental Offer and Acceptance Program on the number of residency spots not filled through the Main Residency Match and include stratified analysis by specialty and other relevant areas.

The policy also calls on the AMA to work with other key stakeholders to:

- Evaluate current data or propose new research on how many students graduating from US medical schools each year do not enter into a US residency program; how many never enter into a US residency program; whether there is disproportionate impact on individuals of minority racial and ethnic groups; and what careers are pursued by those with an MD or DO degree who do not enter residency programs;

- Study whether US medical school graduates and IMGs who do not enter residency programs may be able to serve unmet national health care needs; and
- Evaluate the feasibility of a national tracking system for US medical students who do not initially match into a categorical residency program.

SUMMARY AND RECOMMENDATIONS

A second Council on Medical Education report, planned for the 2017 AMA Annual Meeting, will address Policy D-310.977 (15): "Our AMA will discuss with the National Resident Matching Program, Association of American Medical Colleges, American Osteopathic Association, Liaison Committee on Medical Education, Accreditation Council for Graduate Medical Education, and other interested bodies potential pathways for reengagement in medicine following an unsuccessful match and report back on the results of those discussions." Aside from this work, one of the key areas to monitor will be the workforce distribution impact of the relatively static number of GME positions (barring any significant increase). Foreign national IMGs are more likely to practice in underserved urban and rural communities[20] despite state regulations that often serve to impede IMGs' licensure to practice medicine—e.g., through use of approved lists of foreign medical schools. If the increasing numbers of US graduates displace IMGs from the Match over the next 10 or more years, then, fewer IMGs may be able to practice in underserved areas. Therefore, current health workforce shortages affecting underserved populations could be exacerbated if US graduates do not fill that breach (although, from a global perspective, the "brain drain" would be reduced, which may result in improved access to care in less developed countries). The work of such organizations as ACGME-International is key in improving the standards of residency education and patient care in other countries.

Additional research may also be warranted into the impact of applicants' race/ethnicity on Match outcomes. Indeed, the research by Sondheimer et al., cited earlier in this report, was developed in response to concerns in this regard. That study found that "Unplaced black, Hispanic, and non–US citizen graduates increased over time. Racial/ethnic minority graduates were consistently less likely to begin GME the year they graduated than whites…." The authors also noted that, although nearly all graduates entered GME or began medical practice in the United States within six years after graduation, "The racial/ethnic differences seen at graduation diminished with time but remained statistically significant." Wider adoption of a holistic approach to both medical school admissions and the residency candidate interview process could help ameliorate this trend.

Additional studies could examine in further detail the impact of IMGs and their Match behaviors. One previous study, in the *Journal of Graduate Medical Education*, "looked at differences in interview and ranking behaviors between matched and unmatched IMGs participating in the 2013 Match and explored strategic errors made by unmatched IMGs when creating rank order lists."[21] The authors found that "Unmatched IMGs were more likely than matched IMGs to rank programs at which they did not interview and to rank programs based on their perceived likelihood of matching." They conclude, "The interview and ranking behaviors of IMGs can have far-reaching consequences on their Match experience and outcomes." This study reinforces the experiences of US medical school seniors, as outlined in this report.

Other research may focus on Match rates and helpful application (and reapplication) strategies for successful matching in a given field. For example, a recent study looked at the experiences of unmatched residency applicants in orthopedic surgery, one of the most competitive specialties to enter. The authors found that pursuing a preliminary internship or research fellowship in the year prior to reapplication to orthopedic surgery did not increase the success rate among such applicants. They conclude, "Success of reapplication into orthopaedic surgery may be less dependent on research or internship and more dependent on developing relationships with faculty at a local or regional institution."[22]

For prospective and newly matriculated medical students, up-front disclosures on Match potential and a realistic assessment of career possibilities are needed. Students should be provided accurate data about graduation and Match rates, as well as projected Match rates for the institution. In the legal field, for example, entering students are informed that graduation is no guarantee of a career in law. A more informed perspective on future career prospects can also affect student borrowing as well as lender practices. Although this is not currently an issue, the Department of Education is beginning to look closely at this metric as a medical school outcome. In short, what does a medical school degree prepare one to do? Further, can one do anything else (that is, a non-clinical career) that would make going to medical school worth the investment?

Finally, the potential impact on Match rates of the unification of the GME accreditation systems for allopathic and osteopathic medicine is another area for possible study.

The Council on Medical Education therefore recommends that the following recommendations be adopted and that the remainder of the report be filed.

1. That our AMA reaffirm D-305.967 (4) and (22), The Preservation, Stability and Expansion of Full Funding for Graduate Medical Education: "4. Our AMA will strenuously advocate for increasing the number of GME positions to address the future physician workforce needs of the nation" and "22. Our AMA will advocate for the appropriation of Congressional funding in support of the National Healthcare Workforce Commission, established under section 5101 of the Affordable Care Act, to provide data and healthcare workforce policy and advice to the nation and provide data that support the value of GME to the nation."

2. That our AMA reaffirm Policy H-200.954 (4) (5) (6) (7), US Physician Shortage: "Our AMA:… (4) encourages medical schools and residency programs to consider developing admissions policies and practices and targeted educational efforts aimed at attracting physicians to practice in underserved areas and to provide care to underserved populations; (5) encourages medical schools and residency programs to continue to provide courses, clerkships, and longitudinal experiences in rural and other underserved areas as a means to support educational program objectives and to influence choice of graduates' practice locations; (6) encourages medical schools to include criteria and processes in admission of medical students that are predictive of graduates' eventual practice in underserved areas and with underserved populations; (7) will continue to advocate for funding from public and private payers for educational programs that provide experiences for medical students in rural and other underserved areas."

3. That our AMA reaffirm D-310.977 (11), National Resident Matching Program Reform: "Our AMA:… (11) will work with the Association of American Medical Colleges (AAMC), American Osteopathic Association (AOA), American Association of Colleges of Osteopathic Medicine (AACOM), and National Resident Matching Program (NRMP) to evaluate the current available data or propose new studies that would help us learn how many students graduating from US medical schools each year do not enter into a US residency program; how many never enter into a US residency program; whether there is disproportionate impact on individuals of minority racial and ethnic groups; and what careers are pursued by those with an MD or DO degree who do not enter residency programs."

4. That our AMA encourage the Association of American Medical Colleges to work with US medical schools to identify best practices, including career counseling, used by medical schools to facilitate successful matches for medical school seniors, and reduce the number who do not match

APPENDIX: RELEVANT AMA POLICIES

D-310.977, National Resident Matching Program Reform
Our AMA:
(1) will work with the National Resident Matching Program to develop and distribute educational programs to better inform applicants about the NRMP matching process; (2) will actively participate in the evaluation of, and provide timely comments about, all proposals to modify the NRMP Match; (3) will request that the NRMP explore the possibility of including the Osteopathic Match in the NRMP Match; (4) will continue to review the NRMP's policies and procedures and make recommendations for improvements as the need arises; (6) does not support the current the "All-In" policy for the Main Residency Match to the extent that it eliminates flexibility within the match process; (7) will work with the NRMP, and other residency match programs, in revising Match policy, including the secondary match or scramble process to create more standardized rules for all candidates including application timelines and requirements; (8) will work with the NRMP and other external bodies to develop mechanisms that limit disparities within the residency application process and allow both flexibility and standard rules for applicant; (9) encourages the National Resident Matching Program to study and publish the effects of implementation of the Supplemental Offer and Acceptance Program on the number of residency spots not filled through the Main Residency Match and include stratified analysis by specialty and other relevant areas; (11) will work with the Association of American Medical Colleges (AAMC), American Osteopathic Association (AOA), American Association of Colleges of Osteopathic Medicine (AACOM), and National Resident Matching Program (NRMP) to evaluate the current available data or propose new studies that would help us learn how many students graduating from US medical schools each year do not enter into a US residency program; how many never enter into a US residency program; whether there is disproportionate impact on individuals of minority racial and ethnic groups; and what careers are pursued by those with an MD or DO degree who do not enter residency programs; (12) will work with the AAMC, AOA, AACOM and appropriate licensing boards to study whether US medical school graduates and international medical graduates who do not enter residency programs may be able to serve unmet

national health care needs; (13) will work with the AAMC, AOA, AACOM and the NRMP to evaluate the feasibility of a national tracking system for US medical students who do not initially match into a categorical residency program; (14) will study, in collaboration with the Association of American Medical Colleges, the National Resident Matching Program, and the American Osteopathic Association, the common reasons for failures to match; and (15) will discuss with the National Resident Matching Program, Association of American Medical Colleges, American Osteopathic Association, Liaison Committee on Medical Education, Accreditation Council for Graduate Medical Education, and other interested bodies potential pathways for reengagement in medicine following an unsuccessful match and report back on the results of those discussions.

H-200.955, Revisions to AMA Policy on the Physician Workforce
It is AMA policy that: (1) any workforce planning efforts, done by the AMA or others, should utilize data on all aspects of the health care system, including projected demographics of both providers and patients, the number and roles of other health professionals in providing care, and practice environment changes. Planning should have as a goal appropriate physician numbers, specialty mix, and geographic distribution. (2) Our AMA encourages and collaborates in the collection of the data needed for workforce planning and in the conduct of national and regional research on physician supply and distribution. The AMA will independently and in collaboration with state and specialty societies, national medical organizations, and other public and private sector groups, compile and disseminate the results of the research. (3) The medical profession must be integrally involved in any workforce planning efforts sponsored by federal or state governments, or by the private sector. (4) In order to enhance access to care, our AMA collaborates with the public and private sectors to ensure an adequate supply of physicians in all specialties and to develop strategies to mitigate the current geographic maldistribution of physicians. (5) There is a need to enhance underrepresented minority representation in medical schools and in the physician workforce, as a means to ultimately improve access to care for minority and underserved groups. (6) There should be no decrease in the number of funded graduate medical education (GME) positions. Any increase in the number of funded GME positions, overall or in a given specialty, and in the number of US medical students should be based on a demonstrated regional or national need. (7) Our AMA will collect and disseminate information on market demands and workforce needs, so as to assist medical students and resident physicians in selecting a specialty and choosing a career.

H-305.929 Proposed Revisions to AMA Policy on the Financing of Medical Education Programs
It is AMA policy that: (1) Since quality medical education directly benefits the American people, there should be public support for medical schools and graduate medical education programs and for the teaching institutions in which medical education occurs. Such support is required to ensure that there is a continuing supply of well-educated, competent physicians to care for the American public. (2) Planning to modify health system organization or financing should include consideration of the effects on medical education, with the goal of preserving and enhancing the quality of medical education and the quality of and access to care in teaching institutions are preserved. (3) Adequate and stable funding should be available to support quality undergraduate and graduate medical education programs. Our AMA and the federation should advocate for medical education funding. (4) Diversified sources of funding should be available to support medical schools' multiple missions, including education, research, and clinical service. Reliance on any particular revenue source should not jeopardize the balance among a medical school's missions. (5) All payers for health care, including the federal government, the states, and private payers, benefit from graduate medical education and should directly contribute to its funding. (6) Full Medicare direct medical education funding should be available for the number of years required for initial board certification. For combined residency programs, funding should be available for the longest of the individual programs plus one additional year. There should be opportunities to extend the period of full funding for specialties or subspecialties where there is a documented need, including a physician shortage. (7) Medical schools should develop systems to explicitly document and reimburse faculty teaching activity, so as to facilitate faculty participation in medical student and resident physician education and training. (8) Funding for graduate medical education should support the training of resident physicians in both hospital and non-hospital (ambulatory) settings. Federal and state funding formulas must take into account the resources, including volunteer faculty time and practice expenses, needed for training residents in all specialties in non-hospital, ambulatory settings. Funding for GME should be allocated to the sites where teaching occurs. (9) New funding should be available to support increases in the number of medical school and residency training positions, preferably in or adjacent to physician shortage/underserved areas and in undersupplied specialties.

D-305.967, The Preservation, Stability and Expansion of Full Funding for Graduate Medical Education
… 3. Our AMA will actively seek congressional action to remove the caps on Medicare funding of GME positions for resident physicians that were imposed by the Balanced Budget Amendment of 1997 (BBA-1997). ... 11. Our AMA: (A) recognizes that funding for and distribution of positions for GME are in crisis in the United States and that meaningful and comprehensive reform is urgently needed; (B) will immediately work with Congress to expand medical residencies in a balanced fashion based on expected specialty needs throughout our nation to produce a geographically distributed and appropriately sized physician workforce; and to make increasing support and funding for GME programs and residencies a top priority of the AMA in its national political agenda; and (C) will continue to work closely with the Accreditation Council for Graduate Medical Education, Association of American Medical Colleges, American Osteopathic Association, and other key stakeholders to raise awareness among policymakers and the public about the importance of expanded GME funding to meet the nation's current and anticipated medical workforce needs. ... 13. Our AMA will continue to strongly advocate that Congress fund additional graduate medical education (GME) positions for the most critical workforce needs, especially considering the current and worsening maldistribution of physicians. ... 19. Our AMA will continue to work with stakeholders such as Association of American Medical Colleges (AAMC), ACGME, AOA, American Academy of Family Physicians, American College of Physicians, and other specialty organizations to analyze the changing landscape of future physician workforce needs as well as the number and variety

of GME positions necessary to provide that workforce. … 22. Our AMA will advocate for the appropriation of Congressional funding in support of the National Healthcare Workforce Commission, established under section 5101 of the Affordable Care Act, to provide data and healthcare workforce policy and advice to the nation and provide data that support the value of GME to the nation.

D-305.992, Accounting for GME Funding
Our AMA will encourage: (1) department chairs and residency program directors to learn effective use of the information that is currently available on Medicare funding accounting of GME at the level of individual hospitals to assure appropriate support for their training programs, and publicize sources for this information, including placing links on our AMA web site; and (2) hospital administrators to share with residency program directors and department chairs, accounting and budgeting information on the disbursement of Medicare education funding within the hospital to ensure the appropriate use of those funds for Graduate Medical Education.

D-305.958, Increasing Graduate Medical Education Positions as a Component to any Federal Health Care Reform Policy
2. Our AMA will work with the Centers for Medicare and Medicaid Services to explore ways to increase graduate medical education slots to accommodate the need for more physicians in the US.

H-310.917, Securing Funding for Graduate Medical Education
Our American Medical Association will: (1) continue to be vigilant while monitoring pending legislation that may change the financing of medical services (health system reform) and advocate for expanded and broad-based funding for graduate medical education (from federal, state, and commercial entities); and (2) continue to advocate for graduate medical education funding that reflects the physician workforce needs of the nation.

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4. RESIDENT AND FELLOW COMPENSATION AND HEALTH CARE SYSTEM VALUE (RESOLUTIONS 321-A-15 AND 328-A-15)

Reference committee hearing: see report of Reference Committee C.

HOUSE ACTION: **RECOMMENDATIONS ADOPTED AS FOLLOWS**
                              REMAINDER OF REPORT FILED
                              See Policies H-305.988, H-310.912, H-310.922, D-295.317 and D-305.967

Resolution 328-A-15, introduced by the Resident and Fellow Section, asked that our American Medical Association (AMA) develop recommendations for appropriate protections and increases to resident and fellow compensation and benefits with input from residents, fellows, and other involved parties including residency and fellowship programs. Both Resolution 328-A-15 and Resolution 321-A-15, introduced by the Texas Delegation, asked that the AMA evaluate and work to establish consensus regarding the appropriate value of resident and fellow services (economic or otherwise), and address this in upcoming reports regarding graduate medical education financing.

Due to the complexity of the issue and concerns of potential unintended consequences shifting the discussion from the educational focus of graduate medical education (GME) to one of service and financial considerations, both resolutions were referred to the Council on Medical Education by the AMA Board of Trustees for a report back to the House of Delegates. Accordingly, this report: 1) describes the "public good" of training physicians; 2) provides data on compensation for residents and fellows; 3) presents perceptions of adequacy of current compensation; 4) presents information on the relative costs to institutions to train residents and fellows, and what revenue to institutions may be attributed to the work of residents and fellows; and 5) describes proposals for alternatives for compensating residents and fellows.

DEFINING THE VALUE OF RESIDENT and FELLOW SERVICES

As the United States attempts to constrain health care spending, costs associated with training physicians have come under scrutiny. Spending on GME amounts to approximately $16 billion annually.[1] This cost has been justified with the supposition that GME is a public good, as put forward by the House of Representatives' Committee on Ways and Means in 1965: " … [E]ducational activities enhance the quality of care in an institution, and it is intended, until the community undertakes to bear such educational costs in some other way, that part of the net cost of such activities (including stipends of trainees, and compensation of teachers and other costs) should be borne to an appropriate extent by the hospital insurance program."[2]

Recently, this idea has been challenged by economists. They define public goods as resources that are nonrival and nonexcludable, which means one does not have to compete to use them and one cannot be excluded from using them. Classic examples include parks, libraries, and national defense. Economists argue that medical training does not meet these prerequisites. Training creates human intellectual capital owned by the resident that can be used in a variety of ways, including non-patient care activities. For example, a physician may take his or her training into the financial or pharmaceutical industry. Or, once trained, a physician may choose not to see Medicare patients, even though Medicare financially supported the physician's training.[3]

It can also be argued, however, that GME does indeed provide an important public good. Accessing patient care provided by a resident does not prevent another patient from accessing care from that resident, which is a nonrival feature. Further, trainees have little say regarding whom they treat, meaning resident services are nonexcludable. Patients at teaching hospitals are not denied access to care, and in fact, academic medical centers frequently take patients no one else will, specifically those who cannot pay.[4] Proponents of government-funded GME affirm that regardless of actions after residency, during training resident physicians provide a service that indeed meets the definition of a public good.

Data on resident and fellow compensation

On average, a first-year (GY1) resident earns $51,586 per year, with variation between regions of the country and less so by hospital ownership. For example, the average GY1 resident income in the Northeast is around $54,000, while in the South the average income is $49,475, the presumption being that the difference in incomes is based on cost of living.[5] The table below, from the Association of American Medical Colleges (AAMC), outlines average resident income by year in 2014.

	Year of Training	Institution count	Mean actual stipend	25th Percentile	Median	75th Percentile
Current Year Stipends	1st Post-MD Year	184	$51,586	$49,396	$51,250	$53,273
	2nd Post-MD Year	184	$53,500	$51,156	$52,949	$55,338
	3rd Post-MD Year	184	$55,502	$52,818	$55,029	$57,135
	4th Post-MD Year	182	$57,682	$54,677	$57,201	$59,723
	5th Post-MD Year	175	$60,023	$56,771	$59,542	$62,306
	6th Post-MD Year	165	$62,379	$58,911	$61,755	$64,684
	7th Post-MD Year	150	$64,775	$60,827	$63,809	$67,737
	8th Post-MD Year	89	$67,236	$62,380	$67,167	$70,597

The adequacy of resident and fellow compensation

Although 62% of residents surveyed believe they are well compensated,[6] some feel they should be able to negotiate their salaries.[7] In 2002 three resident physicians filed a class action lawsuit stating that the residency match program, which uses an algorithm to place graduating medical students into training programs, fosters a system that prevents competition for students and thus depresses resident salaries, and therefore violates antitrust laws.[8] This prompted legislation in 2004 that protected the residency match programs from antitrust litigation (Pub. L. 108–218). Even now, medical residents are attempting to form collective bargaining units to improve their annual income. Residents at the University of Washington recently unionized, and negotiations between the union and the institution focus on resident pay and benefits.[9]

Interestingly, a recent study suggests that perhaps it is residents' choices rather than the match that depresses salaries. An economic model of the residency market demonstrated that when residents value a program's quality (or reputation), salaries become lower than a benchmark standard. The markdown is due to an "implicit tuition" arising from residents' willingness to pay for training at a program and a limited number of available positions at the most prestigious programs.[10]

Perhaps more important than surveys of satisfaction, data suggest resident salaries have not kept pace with medical school loan debt or inflation. As one medical student recently wrote, "My spouse is also in medicine…in a year and a half we will begin life making a combined ~100K with ~500K in debt" from educational debt alone.[11] An AAMC

analysis demonstrates that, when adjusted for the Consumer Price Index, 2014 GY1 salaries were the lowest since 2008.[5]

In 2015, the average debt of indebted graduating medical students (81% have educational debt) was over $180,000.[12] The trend of increasing educational costs for students shows no signs of slowing. According to a 2010 study, the three-year inflation rate of medical school tuition and fees was more than 21%, far outpacing the national inflation rate of 3.4% during the same period of time.[13] Aside from debt accrued, medical students also lose out on potential earnings. It has been estimated that during their time in training, often close to a decade after completion of an undergraduate degree, medical students lose at least a half-million dollars of potential earned income that could have been generated by choosing a different profession.[14] Combine with this the increasing cost of medical education and it is evident why some are now calling medical school a bad financial decision.

Many residents, and in particular fellows, supplement their salary by moonlighting. The ACGME requires that all moonlighting hours be included in the 80-hour work week. Some programs have restrictions regarding moonlighting (depending upon year of training, the host institution, and the number of hours), but enforcement is dependent upon the reporting of such hours (especially moonlighting at an external institution).[15] Trainees may benefit from the additional clinical experiences and financial gain. Some research has found that residents who moonlight may experience improved well-being, possibly from enhanced personal achievement and reduced financial concerns.[16] However, concerns about fatigue, stress and burnout among trainees, possibly resulting in depression, risk of patient harm, and compromised care, require careful balance of moonlighting activities with clinical duties and personal well-being.

The costs and economic value to institutions of training residents and fellows

The cost of training a resident is variable, based on specialty, length of training, and many other unaccountable components. The average GME cost reported to the Centers for Medicare & Medicaid Services in 2008, per full time resident, was $141,240, with a range that varies based on number of residents within the program, type of hospital ownership, and other factors.[17] The weighted average per-resident amount paid by Medicare in 2008 was $98,846, which has been estimated as approximately 76% of the direct GME cost. However, many of these calculated costs are based on direct expenses, i.e., cost of resident salary and benefits, attending physician compensation, and direct teaching expenses. These figures do not account for less tangible costs, such as reduction in physician productivity[18,19] or costs associated with purchase and maintenance of education materials.[20]

Residents who are unhappy with their salary identify several reasons they believe their compensation to be low. First and foremost these residents cite data demonstrating that they make money for hospitals that is not reflected in their take home pay.[21] It is possible to test this hypothesis: When hospitals lose a residency program, it creates a natural experiment to determine the costs associated with covering those positions. A hospital that sponsored a surgical residency program had to hire approximately two and a half physician assistants (PAs) to match the services provided by one surgical resident when the program closed in 1998. Although surgeries went faster without a trainee, the PAs were not equipped to manage complex surgical patients pre- and postoperatively. Further, the hospital found that the loss of the program's 10 residents equated to a $2 million loss, due to cost of replacement staff and reduced Medicare reimbursements.[22]

More recent studies have also suggested that significant costs are accrued when ancillary staff are hired to replace resident physicians.[23] In one study, mid-level providers were teamed with hospitalists on one service, which was then compared to a service of residents teamed with hospitalists. Mid-level providers tend to receive higher salaries than residents while typically working fewer hours per week. Costs were calculated to include non-compensation expenses, i.e., support of the GME infrastructure. The resident/hospitalist teams had total lower patient care costs and shorter length-of-stay than mid-level provider/hospitalist teams, with no difference in mortality and readmission rates. Patient satisfaction was reported as higher with the resident/hospitalist teams as well. The study concluded that the institution could save $5 million annually by replacing all its mid-level provider teams with residents.[24] Replacing internal medicine residents at one institution with attending physicians, which would result in higher salaries, hiring additional physicians, and loss of Medicare GME funding, was projected to cost the institution $2.1 million.[25] Excluding GY1 residents, surgical residents at a single institution were estimated to generate over $94,000 of billable services in a study in which their activities were hypothetically billed as "junior associates."[26]

Institutional costs of training residents and fellows could be addressed in innovative ways, shifting administrative thinking from an expenditure mindset to a more budget-neutral paradigm. A planned statewide demonstration project in Nebraska, based on a proposal for national funding of undergraduate and graduate medical education,[27] has secured all GME providers in the state, and most private payers, in an all-payer partnership model that would relieve some of the pressure on traditional payers. In this model, a Medical Education Workforce trust fund would fund GME institutions according "to their ability to meet predetermined institutional, program, faculty, and learner benchmarks."

Alternatives to current compensation practices

Average resident salaries vary by region and year of training, not productivity. For example, a 4th year surgical resident makes essentially as much as a 4th year psychiatry resident at the same institution, regardless of hours worked and number of patients seen. Various suggestions have been made, including paying residents by a program year adjusted hourly rate for each hour worked (up to the 80-hour work limit). However, not only would this further exacerbate the "on the clock" mentality that some program directors have identified with respect to their residents, it would change the employment class of residents to a category not exempt from overtime law, meaning hours worked over 40 would be paid at 1.5 times the regular rate.[28] Refining this model would entail creating regional benchmarks for typical hours worked per week by program year in different specialties to create weekly salaries, perhaps in three tiers. For example, a salary could be set for residents in programs in which the average work hours per week were less than 50, another for greater than 50 but less than 65, and a final tier for greater than 65. Stepwise increases would be introduced for program year level.[28] Although it is unlikely that students would select a specialty based solely on the value of the salary during residency, any variation in resident stipends could potentially exacerbate the problem of students being influenced by a specialty's monetary value.

Another proposal would not alter resident/fellow salaries but rather shorten the education/training period (undergraduate as well as graduate), thereby reducing the opportunity costs of medicine's prolonged educational pipeline (versus most other professions).[29] Although residents and fellows would continue to receive a salary that is likely to be well below their peers in, for example, the business community, they would realize their full income potential earlier than what is possible currently. Theoretically, this would create a younger physician workforce, thereby increasing years of productivity. Another possible benefit would be the creation of more first-year positions: Reducing a three-year program to two years, but maintaining the same number of total positions, would increase the GY1 class size. This would reduce the current increased competition among students for first year positions, which should in turn reduce the application costs and interview expenses involved in the Match.

Moves to create a competency-based system of evaluation, assessment and advancement (versus the current time-based paradigm) in both undergraduate and graduate medical education may shorten the overall time before a physician may realize a full salary. Wholesale reduction in training by entire years would require consensus among many specialties and subspecialties, and based on concerns regarding the educational effects of reduced duty hours would be difficult to achieve.[30] Most important, a reduced training period would not address anxieties that compensation during training is inadequate.

EXISTING AMA POLICY

Current AMA policy relevant to this report includes the following:

H-305.930, Residents' Salaries
Our AMA supports appropriate increases in resident salaries.

H-305.988, Cost and Financing of Medical Education and Availability of First-Year Residency Positions
Our AMA (10) supports AMA monitoring of trends that may lead to a reduction in stipends paid to resident physicians; (12) will advocate that resident and fellow trainees should not be financially responsible for their training.

H-310.912, Residents and Fellows' Bill of Rights
E. Adequate compensation and benefits that provide for resident well-being and health. (2) With regard to compensation, residents and fellows should receive: b. Salaries commensurate with their level of training and experience, and that reflect cost of living differences based on geographical differences.

H-310.922, Determining Residents' Salaries
Our AMA encourages that residents' level of training, cost of living, and other factors relevant to appropriate compensation be considered by graduate training programs when establishing salaries for residents.

H-310.929, Principles for Graduate Medical Education
(7) Compensation of Resident Physicians. All residents should be compensated.

SUMMARY AND RECOMMENDATIONS

Although most of the public would likely agree that a well-trained physician workforce is a public good—however defined—financing for GME is currently under scrutiny, with some calling for a reduction in the Medicare contribution. Proposals to raise the salaries of residents and fellows would likely need to include suggestions on how that money could be carved out of the already tight budgets of most training institutions. Compensation comparisons to other health care providers, be they physicians or non-physicians, may lead some institutions to reconsider the entire GME enterprise. Providing financial planning advice to residents and fellows, and detailing their future ability to repay educational loans without substantial sacrifice,[31] may not allay the worries and frustrations of current trainees who may feel their earnings are comparable to minimum wage. Developing a consensus as to the economic value of a resident or fellow will require information that has been proven to be difficult to attain, namely, what are the ultimate costs to an institution to train a physician. A fundamental philosophical consideration is that, while the resident or fellow obviously provides an important source of labor to the institution, and is recognized as an employee by the Internal Revenue Service,[32] the trainee is there as a learner as well. Any examination of how we measure the value of residents and fellows to our health system must bear in mind that the ultimate goal is to prepare a new generation of well-skilled physicians.

The Council on Medical Education therefore recommends that the following recommendations be adopted in lieu of Resolution 328-A-15 and Resolution 321-A-15 and that the remainder of the report be filed.

1. That American Medical Association (AMA) Policy H-305.988 be amended by addition and deletion to read as follows: … (10) supports AMA monitoring of trends that may lead to a reduction in ~~stipends paid~~ compensation and benefits provided to resident physicians.

2. That our AMA modify Policy H-310.922 by addition and deletion to read as follows: "~~Our AMA encourages that residents' level of training, cost of living, and other factors relevant to appropriate compensation be considered by graduate training programs when establishing salaries for residents.~~ Our AMA encourages teaching institutions to base residents' salaries on the resident's level of training as well as local economic factors, such as housing, transportation, and energy costs, that affect the purchasing power of wages, with appropriate adjustments for changes in cost of living."

3. That our AMA encourage teaching institutions to explore benefits to residents and fellows that will reduce personal cost of living expenditures, such as allowances for housing, childcare and transportation.

4. That our AMA collaborate with other stakeholder organizations to evaluate and work to establish consensus regarding the appropriate economic value of resident and fellow services.

5. That our AMA monitor ongoing pilots and demonstration projects, and explore the feasibility of broader implementation of proposals that show promise as alternative means for funding physician education and training while providing appropriate compensation for residents and fellows.

6. That our AMA continue to explore, with the Accelerating Change in Medical Education initiative and with other stakeholder organizations, the implications of shifting from time-based to competency-based medical education on residents' compensation and lifetime earnings.

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**5. ACCOUNTABILITY AND TRANSPARENCY IN GRADUATE MEDICAL EDUCATION FUNDING
(RESOLUTIONS 327-A-15 AND 329-A-15)**

Reference committee hearing: see report of Reference Committee C.

**HOUSE ACTION: RECOMMENDATIONS ADOPTED AS FOLLOWS
REMAINDER OF REPORT FILED**
See Policies H-305.929, H-305.988 and D-305.967

Resolution 327-A-15, introduced by the Medical Student Section and referred by the American Medical Association (AMA) House of Delegates (HOD), asked: 1) that the AMA support combining Indirect Graduate Medical Education with Direct Graduate Medical Education payments into a single, transparent funding stream; 2) that Medicare's graduate medical education (GME) funding be a per-resident federal allocation, adjusted according to solely geographic measures (e.g., cost-of-living); and 3) that the payment of GME funding directed to the designated residency GME office, in lieu of the hospital system, be allocated across the department(s), sites and other specialties to provide comprehensive training.

Resolution 329-A-15, introduced by the Resident and Fellow Section and referred by the AMA HOD, asked the AMA to support: 1) that federal funding for GME be based on all costs to train and educate a resident/fellow (e.g., salary, benefits, and other institutional support for training and education) including yearly adjustments for geographic and inflation-based cost-of-living; 2) that the allocation of GME funds within an institution be transparent and accountable to all stakeholders; 3) that federal funding for GME strive to meet the health needs of the public including but not limited to size of the training program, geographic distribution, and specialty mix; 4) that federal funding for GME from the Centers for Medicare & Medicaid Services or any federal successors be disbursed through a single transparent funding stream while maintaining opportunities for a multi-payer system; and 5) additional federal funding for GME that provides flexibility for innovation in training and education above and beyond current levels of funding.

These two resolutions, in general, support several recommendations of the 2014 report, Graduate Medical Education That Meets the Nation's Health Needs, prepared by the Institute of Medicine's (IOM) Committee on Governance and Financing of Graduate Medical Education.[1] The IOM's report, as well as other recent inquiries into Medicare's role in GME funding—i.e., a letter sent from the Health Subcommittee of the House Committee on Ways and Means to the Government Accountability Office (GAO) requesting a study,[2] and the House Committee on Energy and Commerce's letter to the medical education community requesting information on GME[3]—point to rising concerns with the abstruse and entrenched methods of current GME funding. Policymakers and the public want to ensure that tax dollars designated for financing the residency/fellowship training of tomorrow's physicians provide a good return on investment in terms of current and future health care workforce needs, particularly among underserved populations. Due to the complexity of these issues, both resolutions were referred for further study and a report back to the HOD.

This report will: 1) briefly summarize the current funding structure for GME; 2) describe recent proposals to encourage increased accountability and transparency in GME funding; 3) explain potential benefits of and barriers to increased accountability and transparency; and 4) describe different efforts to measure accountability and transparency.

CURRENT FEDERAL FUNDING FOR GRADUATE MEDICAL EDUCATION

Although the federal government is not the sole contributor to GME funding, it is by far the largest single source, mostly through Medicare funding. Medicare funding to support GME programs comes from direct GME funding and indirect GME funding. Direct GME (DGME) funding represents approximately one-third of all Medicare support for GME. It supports the direct costs of running a residency program and covers salaries for residents and faculty as well as educational support. Indirect GME payments (IME), which represent the majority of Medicare GME funding, are calculated based on the size of a hospital, the number of residents supported, and the number of Medicare inpatients treated. IME payments are in addition to payments an institution receives from Medicare reimbursement and are meant to offset the costs of maintaining an educational program that are not captured by Medicare reimbursement. Both IME and DGME payments are derived by complex formulas, and are not designed to

account for differences in costs resulting from training residents of different specialties. There is little understanding of the costs and funding of GME, often described as a "black box."[1]

The Department of Veterans Affairs, Medicaid, and the Children's Health Insurance Program are other federal sources of GME funding, of varying levels. Additionally, the Army, Navy, and Air Force support their own in-house residencies and fellowships to provide for the future physician workforce needs of those services.

RECENT CALLS FOR INCREASED ACCOUNTABILITY AND TRANSPARENCY IN GME FUNDING

Most discussions of accountability and transparency in GME funding have included either carrots or sticks (or both) to effect change. The recent IOM report prominently called for increased transparency in GME funding, and includes both types of motivational techniques. Concerned that the current funding mechanism does not produce a workforce that meets national workforce needs, the IOM called for redirecting federal funding from DGME and IME into two new streams—an "operational" fund and a "transformational" fund. The operational fund allows for continued funding of the direct costs of GME. The transformational fund is intended to fund initiatives to: 1) develop and evaluate innovative GME programs; 2) develop and validate GME performance measures; 3) pilot alternative GME payment methods; and 4) award new GME funding to underserved disciplines and geographic areas. Although the IOM did not recommend any reductions in the current level of Medicare GME funding, funding for the proposed transformational fund would come from overall GME funding, thus reducing the total amount of funds available for the operational fund. The AMA, in its comment letter to the House Energy and Commerce Committee, asked that existing funds not be diverted from directly supporting training opportunities to create these new programs, and has suggested that existing entities, such as the Centers for Medicare & Medicaid Innovation, test new models.[4]

Following the release of the IOM's report, the House Energy and Commerce committee requested input from the GME community on issues raised by the report. In addition to the AMA,[4] many other organizations responded; a review of these responses reveals a significant amount of agreement among stakeholder organizations.[5] Areas of high-level agreement included the need for increased accountability and transparency in GME funding; expansion of teaching sites for GME, specifically into teaching health centers and rural areas, as well as expansion of the National Health Service Corps; reform of GME funding to diversify clinical training experiences; and elimination of the current caps on Medicare-funded slots. Subsequently, in August 2015 a number of members of the House of Representatives authored a letter to the GAO requesting that the GAO investigate federal GME funding to determine: 1) how much money is being spent on GME; 2) how many residents and fellows are funded through these dollars; 3) the potential need for increased GME oversight through the Council on Graduate Medical Education or the Accreditation Council for Graduate Medical Education (ACGME), or others; 4) any "inefficiencies or duplications" in current GME programs (and suggestions for improving these); and 5) the level of geographic disparities by specialty and region, and possible recommendations to reduce these disparities.[2]

THE BENEFITS OF INCREASED ACCOUNTABILITY AND TRANSPARENCY

Sustainable funding for and governance of GME must include accountability and transparency both for current operations as well as for any proposed innovations in oversight, distribution of funds, or new funding sources. Implementing accountability in the context of GME first requires defining its scope—specifically, who should be accountable, for what, and to whom. Most importantly, accountability is owed to the general public as well as to individual patients. In addition, our GME system must be accountable to its trainees, not only for medical knowledge content and skills training, but for their learning experience, including sites of training, work conditions and fair compensation.[6,7] The scope of accountability goes beyond ensuring quality training in medical knowledge and skill sets to incorporating practical aspects of quality care and medical practice, including patient safety; equitable, timely, efficient and effective delivery of care; and appropriate stewardship of resources.[8] The system needs to be accountable for training an adequate and diverse workforce in terms of numbers, an appropriate balance between primary care and specialty practice, geographic distribution, and in providing service to the community and the public.[1,9] Refining the performance metrics to achieve accountability in this context requires a shift from structure and process measures to outcome and experience measures.[6] Responsibility for oversight depends upon the particular issue, resting with either the individual GME program, sponsoring organizations, training site, or national authority.[6]

POTENTIAL BARRIERS TO INCREASED ACCOUNTABILITY AND TRANSPARENCY

Currently, Medicare funding of GME is dependent upon program accreditation, a process through which professional standards for training within a given program are monitored, with respect to trainees' knowledge, experience and skills (rather than measuring outcomes). Although the ACGME is shifting toward outcomes and competency-based accreditation through its Next Accreditation System and Clinical Learning Environment Review program, the transition has been gradual. Furthermore, the accreditation process does not address the areas of specialty practice and/or geographic distribution of the physician workforce, due to antitrust and fair trade regulations.[1] A lack of accountability and transparency to taxpayers in states that provide a contribution to GME funding can, in part, be attributed to the difficulty in tracking non-salary-related residency costs, which is necessary to comply with reporting requirements.

Barriers to transparency also include the disincentive inherent in the ill-defined and uncertain extent to which GME funding contributes to hospitals maintaining positive margins at the local level[10,11] and the lack of oversight over public spending at the federal level. [1, 11]

Barriers to social accountability have also been identified, including training time constraints, financial limitations and institutional resistance. The complexity of current GME funding is likely a barrier to meaningful change and presents significant difficulties in measuring certain desirable training outcomes, such as professionalism and cultural sensitivity.[9]

DIFFERING MEASURES OF ACCOUNTABILITY AND TRANSPARENCY

Proposed measures of transparency and accountability vary widely, and some are more accepted than others. Although a high level of concordance was seen for increased GME funding accountability and transparency among 27 organizations that publicly responded to the House Energy and Commerce committee request[3] for information on GME, how that actually could be achieved is apt to create dissension. For example, one-third of the organizations proposed ideas for GME funding reform to improve geographic distribution of residency programs,[5] which could be a measure of increased accountability to the US public, as graduating residents often stay in the general location of their training. A similar number of organizations proposed linking residency funding to workforce projections, which theoretically would increase training of physicians in the specialties of greatest need. Many organizations, including the AMA, recommended that measures of residency program quality should be created and maintained by accrediting organizations (namely, the ACGME and the American Osteopathic Association), and that performance-based penalties are inappropriate in an educational setting.[4]

The authors of a recent GME stakeholder study on defining and measuring social accountability in GME identified several calls for GME accountability, including Canada's mandate that medical school education, research and activities address the priority concerns of the community, region and nation.[12] Another appeal, MedPAC's 2010 proposal of financial incentives to improve accountability for both the quality of care and training and the value of the health care delivery system, was subsequently echoed in budget recommendations for 2013.[13,14] In addition, the GME stakeholder study highlighted successful past efforts toward achieving accountability, such as the Health Resources and Services Administration (HRSA) Title VII program, which funded efforts to provide for increases in primary care, care in underserved areas, underrepresented minorities/ disadvantaged students entering health professions, and faculty development in health care education.[15,16] Evidence from HRSA's Title VII funding experience could be applicable in creating new models for accountable GME funding that meet the health care needs of the public.[17,18]

Defining transparency for GME funding may prove challenging. Some institutions may fear that a thorough exploration of the "black box" of GME costs could result in a reduction of IME payments, even though those savings could then be reallocated into the IOM's proposed transformational fund.[19] Further, such scrutiny within a particular institution may provide reason for an institution to review its "return on investment" value of maintaining particular programs.[20] A broad generalization could be made that the level of enthusiasm for suggested transparency reforms is lower among organizations that are direct recipients of funding, e.g., teaching hospitals and medical schools, and higher among organizations that include among their missions improved geographic and specialty distribution.[21,22,23]

EXISTING AMA POLICY

Current AMA policy relevant to this report includes the following:

D-305.967, The Preservation, Stability and Expansion of Full Funding for Graduate Medical Education
(22) Our AMA will advocate for the appropriation of Congressional funding in support of the National Healthcare Workforce Commission, established under section 5101 of the Affordable Care Act, to provide data and healthcare workforce policy and advice to the nation and provide data that support the value of GME to the nation; (23) Our AMA supports recommendations to increase the accountability for and transparency of GME funding and continue to monitor data and peer-reviewed studies that contribute to further assess the value of GME.

H-305.929, Proposed Revisions to AMA Policy on the Financing of Medical Education Programs (8) Funding for graduate medical education should support the training of resident physicians in both hospital and non-hospital (ambulatory) settings. Federal and state funding formulas must take into account the resources, including volunteer faculty time and practice expenses, needed for training residents in all specialties in non-hospital, ambulatory settings. Funding for GME should be allocated to the sites where teaching occurs.

D-305.973, Proposed Revisions to AMA Policy on the Financing of Medical Education Programs Our AMA will work with: (1) the federal government, including the Centers for Medicare and Medicaid Services, and the states, along with other interested parties, to bring about the following outcomes: … (c). make the Medicare direct medical education per-resident cost figure more equitable across teaching hospitals while assuring adequate funding of all residency positions.

H-310.917, Securing Funding for Graduate Medical Education
Our American Medical Association will: (1) continue to be vigilant while monitoring pending legislation that may change the financing of medical services (health system reform) and advocate for expanded and broad-based funding for graduate medical education (from federal, state, and commercial entities); and (2) continue to advocate for graduate medical education funding that reflects the physician workforce needs of the nation.

D-305.969, Payment for Graduate Medical Education by the Centers for Medicare and Medicaid Services
Our AMA will work with the Association of American Medical Colleges and other interested groups to prevent reduction in Medicare graduate medical education payments by disallowing reimbursement for the time residents spend in didactic learning.

H-200.954, US Physician Shortage
Our AMA (3) supports current programs to alleviate the shortages in many specialties and the maldistribution of physicians in the US; … (9) will work with other groups to explore additional innovative strategies for funding graduate medical education positions, including positions tied to geographic or specialty need.

SUMMARY AND RECOMMENDATIONS

Achieving GME accountability and transparency entails partnering with and reporting to the public, defining specific aims and requirements, and establishing appropriate, feasible performance and outcome measures that can be agreed upon by a majority of GME stakeholders, if not a consensus. Transparent oversight of GME funding is critical, as is the optimal coordination of components, with built-in flexibility to address the changing health care needs of the public at local, regional and national levels. [1, 6]

The Council on Medical Education therefore recommends that the following recommendations be adopted in lieu of Resolution 327-A-15 and Resolution 329-A-15 and that the remainder of the report be filed.

1. That our American Medical Association (AMA) endorse the following principles of social accountability and promote their application to GME funding:

    a. Adequate and diverse workforce development;
    b. Primary care and specialty practice workforce distribution;
    c. Geographic workforce distribution; and
    d. Service to the local community and the public at large.

2. That our AMA encourage transparency of GME funding through models that are both feasible and fair for training sites, affiliated medical schools and trainees.

3. That our AMA believes that financial transparency is essential to the sustainable future of GME funding and therefore, regardless of the method or source of payment for GME or the number of funding streams, institutions should publically report the aggregate value of GME payments received as well as what these payments are used for, including:

    a. Resident salary and benefits;
    b. Administrative support for graduate medical education;
    c. Salary reimbursement for teaching staff;
    d. Direct educational costs for residents and fellows; and
    e. Institutional overhead.

4. That our AMA reaffirm Policy D-305.967 (8), Our AMA will vigorously advocate for the continued and expanded contribution by all payers for health care (including the federal government, the states, and local and private sources) to fund both the direct and indirect costs of GME. (22), Our AMA will advocate for the appropriation of Congressional funding in support of the National Healthcare Workforce Commission, established under section 5101 of the Affordable Care Act, to provide data and healthcare workforce policy and advice to the nation and provide data that support the value of GME to the nation; and (23) Our AMA supports recommendations to increase the accountability for and transparency of GME funding and continue to monitor data and peer-reviewed studies that contribute to further assess the value of GME.

5. That our AMA reaffirm Policy H-305.988 (12), Our AMA will advocate that resident and fellow trainees should not be financially responsible for their training.

6. That our AMA monitor the status of the House Energy and Commerce Committee's response to public comments solicited regarding the 2014 IOM report, Graduate Medical Education That Meets the Nation's Health Needs, as well as results of ongoing studies, including that requested of the GAO, in order to formulate new advocacy strategy for GME funding, and that our AMA report back to the House of Delegates regularly on important changes in the landscape of GME funding.

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6. TELEMEDICINE IN MEDICAL EDUCATION
(RESOLUTION 330-A-15)

Reference committee hearing: see report of Reference Committee C.

HOUSE ACTION: RECOMMENDATIONS ADOPTED AS FOLLOWS
**   WITH CHANGE IN TITLE**
**   REMAINDER OF REPORT FILED**
See Policies H-160.937, H-480.946, H-480.968, H-480.974, D-295.313 and D-480.970

Resolution 330-A-15, Telemedicine in Graduate Medical Education, introduced by the Resident and Fellow Section and referred by the American Medical Association (AMA) House of Delegates (HOD), asks that our AMA: 1) advocate for educating resident and fellow physicians during their training on the use of telehealth technology in their future practices; and 2) study the barriers to optimizing the use of telehealth technology for the purposes of tele-education and specifically tele-precepting in Graduate Medical Education and the solutions to overcoming these barriers.

Testimony heard by Reference Committee C was largely in favor of studying the barriers to optimizing the use of telehealth technology for the purposes of tele-education and, especially, tele-precepting in graduate medical education (GME). Some testimony opposed the creation of a curricular mandate in GME on the subject. Also, some felt that aspects of this topic fell outside the purview of the AMA, such that collaboration with an outside stakeholder(s) might be appropriate.

BACKGROUND

What Is Telemedicine?

The terms telemedicine, telehealth, and telehealth technology have been defined variously. Telehealth technology is often described as a broader category that encompasses these other, related terms. Despite these literal differentiations, however, the terms are often used interchangeably, and telemedicine is the term employed most frequently. Therefore, for the purposes of this report, the term telemedicine—as defined by the American Telemedicine Association—will be used: "The use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status."[1] Telemedicine uses existing communication

networks to deliver health care services and medical education across geographic areas.[2] The American Telemedicine Association notes that a wide variety of modalities fall under the umbrella of telemedicine services, including wireless technologies, smart phones, chat, video, email, and other developing platforms that enable both synchronous and asynchronous communication between health care providers, systems, and patients.

Telemedicine aims to seamlessly blend remotely delivered patient care and physician education into the established protocols of hospitals, physicians, home health providers, and patient-centered medical homes, as well as to patients where they live and work. Patient encounters and educational opportunities can occur through video conferencing, digital image sharing, patient portals, remote transmission of vital signs, call centers, and patient health apps, all of which contribute to the growing world of telemedicine.

Services Delivered via Telemedicine

Telemedicine is effective in delivering a wide range of health-related services. Often, telemedicine is used to provide a patient or colleague with diagnostic or consultative assistance through interactive video, audio, or static images. The communication of vital signs or other patient data allows for real-time or delayed review in the context of clinical consultation and care. Telemedicine also allows for patient monitoring from a distance. Home devices can collect and transmit data, such as vital signs, blood glucose levels, and electrocardiograms, to another location for interpretation. Telemedicine can be used by patients and caregivers to obtain specific health information, participate in health-related virtual chat rooms, and provide support to other individuals with shared diagnoses or health concerns. Finally, telemedicine is widely used to provide lifelong learning to health care professionals.

Advantages of Telemedicine

Telemedicine can offer multiple benefits,[1] arguably the most important of which is improved access to care. For patients located outside of urban centers, or those in urban centers who lack adequate transportation, telemedicine can provide access to specialists in multiple fields.[2–9] Regardless of setting, telemedicine presents physicians with the opportunity to collaborate with specialist colleagues or interpreters. Telemedicine can also offer cost savings through enhanced management of chronic conditions and shortened patient travel times.[3, 10, 11] Younger physicians especially are very comfortable working with technology and have demonstrated enthusiasm to implement telemedicine in practice.[12, 13]

Multiple studies demonstrate that telemedicine can improve the quality of care,[14–17] and the quality of health care services delivered via telemedicine is often comparable to that provided in-person in terms of patient satisfaction, physician satisfaction, and health care outcomes. A final benefit of telemedicine relates to consumer demand. Telemedicine can be more convenient for patients, which may lead to better adherence to recommended treatment[18] and patient satisfaction.[19]

Limitations of Telemedicine

Important drawbacks must also be acknowledged. Not all patients and providers are inherently comfortable utilizing technology in this manner, and the digital divide between those who have access to technology and those who do not is real.[3] If inappropriately applied, telemedicine also has the potential to disrupt continuity of care.[20] Finally, licensing laws, payment policies, broadband capabilities, interoperability of health information technology, and the inability to finance necessary technological investments all contribute toward limiting the widespread implementation of telemedicine.

CURRENT STATE OF TELEMEDICINE IN PHYSICIAN TRAINING

Technology in Physician Training

Telehealth technologies applied in medical education generally fall into two categories:

1. Tele-education refers to the use of technology for teaching, learning, and supervising, particularly when the learner is located in a site remote to the teacher. This can be applied to all levels of physician medical education—undergraduate, graduate, and continuing—along with the education of other health professionals. Many specialty societies have policy regarding the application of telemedicine technologies to education. The

American Academy of Pediatrics (AAP) writes that "[p]roviders of educational programming should be encouraged to use telemedicine technologies to provide education to remote members of the health care team and clinical sites, such as Area Health Education Centers and Rural Health Clinics,"[3] while the American Academy of Family Physicians (AAFP) states that "[b]y creating ready access to information, telemedicine can provide physicians with current medical information that may not otherwise be available in a given setting."[21]

2. The second category, telemedicine, is the clinical application of patient care and consultation that students and trainees learn about and train in during their clinical training. The AAP also addresses this category in their policy recommendations, stating that "[t]opics related to telemedicine, including ongoing quality assurance and training in the uses of such technologies, should be expeditiously integrated into existing medical school and residency curricula, as well as CME programming."[3]

Examples of Telemedicine in GME

Residency and fellowship programs in a number of fields have current initiatives/curricula related to telemedicine that may serve as models for further dissemination of telemedicine technology in GME. In the field of psychiatry, for example, studies have demonstrated improved access to mental health services for rural and underserved populations across North America through telepsychiatry. In 2014, Sunderji and colleagues reviewed the status of telepsychiatry in GME and summarized current objectives utilized in training as well as barriers to further implementation of telepsychiatry.[22] They found that while psychiatry residents were generally very eager to be trained in telepsychiatry, few programs had incorporated it into their curricula. Even fewer had evaluated outcomes to determine the best method of instruction in telepsychiatry. In this arena, the University of Arkansas for Medical Sciences has been a frontrunner, via its Telemedicine Child Psychiatry Service rotation, which imparts skills to residents in the Child and Adolescent Psychiatry GME program.[23]

The intensive care unit (ICU) represents another area active in the instruction of the clinical applications of telemedicine. Lilly and colleagues reviewed the current state of ICU telemedicine and its impact on trainees.[24] Overall, they found that the availability of such technology enhanced learning and provided important supervision for patient management questions. Residents to whom ICU telemedicine was available felt it also improved the patient care they were able to give.

Many current GME trainees favor asynchronous learning (education that is not delivered in real time or in person), often utilizing technology. In a 2014 survey of emergency medicine residents in twelve training programs regarding their extracurricular studying, respondents reported on average one to four hours a week learning asynchronously. They favored podcasts (35%), followed by textbooks (33%) and Google searches (21%). Podcasts were rated the most beneficial (70%).[25]

Tele-Precepting

In rural areas, barriers to accessing specialty care and retaining supervisors to train learners how to provide that specialty care are challenging and important issues. Telemedicine technology can overcome many barriers presented by a rural setting. Cameron and colleagues[26] assessed an Australian program of supervising junior medical officers (comparable to fellows) in oncology as they provided care to patients in satellite rural clinics. Their faculty supervisors (senior medical officers) were able to observe the interactions via teleconferencing and provide input on patient care and feedback to the learners. Both the junior and senior medical officers were positive about the interactions and learning when surveyed. They felt similar experiences would be beneficial for other specialties. Challenges identified included training in the technology and the inability of the supervisor to confirm physical findings on the patients. Despite these limitations, participants felt it was worthwhile continuing to develop such technology because it benefited both trainees and patients.

Program Requirements Applicable to Telemedicine

Section VI.D of the Accreditation Council for Graduate Medical Education (ACGME) Common Program Requirements, which apply to all ACGME-accredited programs, outlines the requirement for supervision of residents and fellows. The language of the requirement follows:

> The program must demonstrate that the appropriate level of supervision is in place for all residents who care for patients… Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member… Other portions of care provided by the resident can be adequately supervised by the immediate availability of the supervising faculty member or resident physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of resident-delivered care with feedback as to the appropriateness of that care.[27]

Thus, the current requirements do allow for supervision by "means of telephonic and/or electronic modalities," which could potentially include tele-precepting if it were appropriate for learning and safe for patients.[27]

Recently, DeJong and colleagues proposed explicit core competencies for telemedicine to be added to the existing ACGME core competencies.[28] The table in Appendix A, reproduced from their article, includes competencies for all six domains defined by the ACGME. Regardless of whether these competencies are added officially to ACGME program requirements, support from the medical education community for their review and potential enhancement could guide more programs to embrace the opportunities presented by this growing field.

The US Department of Veterans Affairs provides training to more than 30,000 residents annually.[29] A 2012 update of the Veterans Administration (VA) policy for resident supervision was undertaken in part to "reflect new standards for supervision and documentation of supervision for telemedicine or telehealth patient encounters."[30] While the policy authorizes residents to provide telehealth care to remote patients when VA standards allow such care, it specifies that supervising faculty must be in the general vicinity and available to provide direct supervision when required. It does not allow a resident to provide care at a remote site without faculty being present at that site. Thus, the VA currently does not allow tele-precepting as defined in the previously described study by Cameron et al.,[26] in which the supervising physician was not in the same physical location as the trainee.

Point of Reference: Telemedicine in Undergraduate Medical Education

While Liaison Committee on Medical Education (LCME) standards do not explicitly address the use of telemedicine in undergraduate medical education (UME), several do govern its use. Standard 7.8, "Communication Skills," requires that "faculty of a medical school ensure that the medical curriculum includes specific instruction in communication skills as they relate to communication with patients and their families, colleagues, and other health professionals."[31] Thus, any medical school with learning objectives for the use of telemedicine communication must ensure that it is taught effectively and used properly.

The annual Association of American Medical Colleges (AAMC) graduation questionnaire is completed by a large portion of students graduating from allopathic medical schools in the United States; several items on the questionnaire relate to technology. In previous years, one item specifically focused on telemedicine. From 2009 through 2014, 43% to 46% of students agreed or strongly agreed with the statement "I am confident I have the knowledge and skills to use telemedicine."[32, 33] However, when asked about "use of computer-based clinical record keeping" or "point-of-care technologies," respondents agreeing or strongly agreeing were 94% and 73%, respectively.[32, 33] Thus, while a surprisingly high portion of students agree about their ability to use telemedicine (without further definition), it is still much lower than with other more commonly used technologies.

One example of the manner in which telemedicine has been used at the UME level can be found at the Oregon Health & Science University (OHSU) School of Medicine, one of the medical schools involved in the AMA's Accelerating Change in Medical Education initiative. OHSU faculty have identified competencies in clinical informatics for medical education.[34] They address informatics competencies quite broadly and do specifically include telemedicine. Suggested competencies in this domain include the ability to:

1. Provide clinical care via telemedicine, and refer those for whom it is necessary;
2. Function clinically in telemedicine/telehealth environments; and
3. Learn and understand the appropriate use of telemedicine and telehealth (such as e-visits), both for remote locations and as a convenient option locally in patients' homes and other settings.

Faculty suggest that, at present, these competencies might best be achieved on community and rural rotations and assessed with an objective structured clinical exam simulation of a telemedicine encounter.

Point of Reference: Telemedicine in CME and CPD

Many of the telehealth technologies used for learning in the GME environment are also applicable to continuing medical education/continuing professional development (CME/CPD). Telehealth technologies in CME/CPD have been used in a variety of ways, including access to online journal articles, webinars, podcasts, etc., and this type of learning has increased in recent years. However, the education of practicing physicians is also found in the instruction of physicians and other health care clinicians by physician specialists in other locations. Physicians located in areas distant from specialized services can benefit from having the specialist available via telehealth technology during a patient visit to participate in care delivery. A number of academic health centers and VA facilities have teleconference access to remote sites, enabling specialists to consult and subsequently provide recommended care.[16, 35] Such applications are likely to expand as the technology becomes more widely available and as payment policies evolve.

BARRIERS TO THE USE OF TELEMEDICINE IN PHYSICIAN TRAINING

From the data published on the use of telemedicine in physician training, it is clear that trainees in many specialties have high interest in gaining telemedicine skills. However, as evidenced in this report, curricula and resources for training residents and students in telemedicine are available in limited numbers of institutions and programs. Barriers to broader availability that have been identified include:

1. Physician and health system payment for provision of clinical services via telemedicine is lacking in many locations;
2. Onsite investment in technology is needed;
3. Regulatory and legislative issues related to licensing and credentialing differ from agency to agency and state to state;
4. Technological issues, such as the availability of broadband networks and the interoperability of electronic health records, impact adoption; and
5. Professional issues, such as the ethics regarding the physician-patient relationship in telemedicine encounters, are still being fully explored.

QUALITY AND EFFECTIVENESS OF TELEMEDICINE IN TRAINING

Overall, there is a paucity of data on the outcomes of utilizing telehealth technologies in medical education. This is an area in which additional research is acutely needed to assess learning outcomes, including clinical skills and impact on patient care.

The data that does exist is largely favorable. Tomlinson and colleagues[36] reviewed the literature comparing outcomes of tele-education with other methods of education delivery for health professions students, many of whom were medical students and residents. Most of the studies substituted teleconferencing for face-to-face lectures over a variety of topics. They found that, overall, knowledge increased and other important learning outcomes were as good or better in the groups that utilized tele-education. While some learners still preferred face-to-face learning, tele-education was highly acceptable.

Faculty at a medical school in rural Australia have studied the use of tele-education for medical students distributed to several rural sites.[37] The tele-education sessions were for small groups of students and focused on clinical skills. Students and faculty were highly satisfied with the tele-education sessions and felt they were of equal quality to other methods of teaching. Aspects of the training that they felt contributed the most to learning were the high quality of the teleconference transmissions, the ability to interact with others in their small group, convenience at the rural site, and ease of use. Planned improvements included movable cameras and improved audio equipment to capture all of the interactions.

RELEVANT AMA POLICY

While our AMA has not specifically studied the use of telemedicine in GME, it has researched other aspects of telemedicine that may have bearing on this topic. Policy H-480.974, Evolving Impact of Telemedicine, compels our AMA to stay abreast of changes to telemedicine legislation, urges the federal government to fund demonstration projects to evaluate the effect of telemedical care, and requests the development of appropriate reimbursement

mechanisms for care delivered via telemedicine. Policy D-480.970, Access and Equity in Telemedicine Payments, asks our AMA to advocate that the Centers for Medicare & Medicaid Services pay for telemedicine services for patients who have problems accessing physician specialties that are in short supply in areas that are not federally determined shortage areas, if that area can show a shortage of those physician specialists. Policy H-480.961, Teleconsultations and Medicare Reimbursement, demands that CMS reimburse telemedicine services in a fashion similar to traditional payments for all other forms of consultation, which involves paying the various providers for their individual claims, and not by various "fee splitting" or "fee sharing" reimbursement schemes. Appendix B lists additional related policies.

SUMMARY AND RECOMMENDATIONS

In summary, innovation in health care delivery and technology, in addition to important scientific advances, must be addressed in the education and training of future physicians. Indeed, rapid technological changes over the past half century have radically changed the way that medicine is taught, learned, and practiced. Telemedicine is no different; it is a technological care delivery advance that should be incorporated into physician education.

Telemedicine has demonstrated significant value in patient access to care, physician and patient satisfaction, health outcomes, and the reduction of health care costs, yet its full potential remains unexplored. An essential component of developing this potential will be exposure to and evidence-based instruction in telemedicine's capabilities and limitations at all levels of physician education. Additional research regarding the learning outcomes of utilizing telemedicine technologies in medical education, including clinical skills and impact on patient care, will be imperative to the accomplishment of this goal.

The Council on Medical Education therefore recommends that the following recommendations be adopted in lieu of Resolution 330-A-15 and that the remainder of the report be filed.

1. That our American Medical Association (AMA) support the appropriate use of telemedicine in the education of medical students, residents, fellows and practicing physicians.

2. That our AMA encourage appropriate stakeholders to study the most effective methods for the instruction of medical students, residents, fellows and practicing physicians in the use of telemedicine and its capabilities and limitations.

3. That our AMA collaborate with appropriate stakeholders to reduce barriers to the incorporation of telemedicine into the education of physicians and other health care professionals.

4. That our AMA encourage the Liaison Committee on Medical Education (LCME) and Accreditation Council for Graduate Medical Education (ACGME) to include core competencies in telemedicine in undergraduate medical education and graduate medical education training.

5. That our AMA reaffirm policies H-480.946, H-480.974, D-480.970, and H-480.968, which can reduce some of the barriers to telemedicine education, which have been identified.

APPENDIX A: Suggested Telemedicine-Related Enhancements to Accreditation Council for Graduate Medical
 Education Core Competencies[28]

Table. Suggested Telemedicine-Related Enhancements to Accreditation Council for Graduate Medical Education Core Competencies

Core Competency	Suggestions for Telemedicine-Related Additions to Subcompetencies	Illustrative Examples
Medical knowledge	Recognize the limits of safe telemedicine	Understand exclusion criteria by patient presentation and comorbidity; support designated referral networks
Patient care	Perform a virtual physical examination	Use evidence-based remote examination techniques, such as those taught at the Southern California Telemedicine Learning Center[6]
	Conduct virtual home assessments	Review a patient's medicine cabinet via videoconferencing, or assess his or her home for fall risks
	Assess and use telemedicine devices	Gather useful clinical information from home blood pressure cuffs and nurse-guided otoscopes or stethoscopes
Interpersonal and communication skills	Collaborate with remote clinical mediators	Guide a patient and his or her home health aide through basic physical examination maneuvers
	Recognize a patient's level of technological literacy and use telecommunication for rapport-building and evaluation	Use of standardized patients to simulate a rural telemedicine encounter, such as Oregon Health & Science University's TeleOSCE program
Practice-based learning and improvement	Identify gaps in personal performance in conducting telemedicine evaluations and seek evidence-based best practices to address them	Access free online educational tools at the American Telemedicine Association Learning Center[7]
Professionalism	Recognize the essential elements of a medical encounter	Health Insurance Portability and Accountability Act compliance; adequate appointment time, with physician discretion to extend the visit; protocols for testing and follow-up; electronic record exportable to primary care
	Hold partners to professional standards	Read disclaimers to ensure that partners take adequate legal responsibility for patient safety Solicit information about quality improvement processes
Systems-based practice	Understand reporting practices	Report unprofessional organizations to the American Telemedicine Association or Federal Trade Commission
	Support the appropriate use of telemedicine	Educate patient panels about the benefits and risks of telemedicine; contribute to public awareness through editorials or social media
	Ensure appropriate legal protections	Demonstrate understanding of multistate licensing and the legal limits of e-prescribing (eg, controlled substances)

APPENDIX B: Relevant AMA Policies

H-480.946: Coverage of and Payment for Telemedicine
... 7. Our AMA encourages national medical specialty societies to leverage and potentially collaborate in the work of national telemedicine organizations, such as the American Telemedicine Association, in the area of telemedicine technical standards, to the extent practicable, and to take the lead in the development of telemedicine clinical practice guidelines.

H-160.937: The Promotion of Quality Telemedicine
... (1) The AMA adopts the following principles for the supervision of nonphysician providers and technicians when telemedicine is used: (a) The physician is responsible for, and retains the authority for, the safety and quality of services provided to patients by nonphysician providers through telemedicine. (b) Physician supervision (e.g. regarding protocols, conferencing, and medical record review) is required.

H-480.974: Evolving Impact of Telemedicine
... Our AMA: (1) will evaluate relevant federal legislation related to telemedicine; (2) urges CMS, AHRQ, and other concerned entities involved in telemedicine to fund demonstration projects to evaluate the effect of care delivered by physicians using telemedicine-related technology on costs, quality, and the physician-patient relationship; (3) urges professional organizations that serve medical specialties involved in telemedicine.

H-480.969: The Promotion of Quality Telemedicine
... (1) It is the policy of the AMA that medical boards of states and territories should require a full and unrestricted license in that state for the practice of telemedicine, unless there are other appropriate state-based licensing methods, with no differentiation by specialty, for physicians who wish to practice telemedicine in that state or territory. This license category should adhere to the following principles:

H-225.962: Medical Staff Membership Category for Physicians Providing Telemedicine
...The AMA recommends that organized medical staffs, as part of their responsibility for the quality of professional services provided by individuals with clinical privileges, identify to the governing body of the hospital/medical care organization those clinical services that can be provided by telemedicine; and recommends that organized medical.

D-480.970: Access and Equity in Telemedicine Payments
...Our AMA will advocate that the Centers for Medicare & Medicaid Services pay for telemedicine services for patients who have problems accessing physician specialties that are in short supply in areas that are not federally determined "shortage" areas, if that area can show a shortage of those physician specialists.

D-480.974: Professionalism in Telemedicine and Telehealth
...The Council on Ethical and Judicial Affairs will review Opinions relating to telemedicine/telehealth and update the Code of Medical Ethics as appropriate.

H-480.968: Telemedicine
...The AMA: (1) encourages all national specialty societies to work with their state societies to develop comprehensive practice standards and guidelines to address both the clinical and technological aspects of telemedicine; (2) will assist the national specialty societies in their efforts to develop these guidelines and standards; and urges national private accreditation organizations (e.g., URAC and JCAHO) to require that medical care organizations which establish.

D-480.999: State Authority and Flexibility in Medical Licensure for Telemedicine
...Our AMA will continue its opposition to a single national federalized system of medical licensure

D-275.996: Creation of AMA Data Bank on Interstate Practice of Medicine
... (2) explore the provision of information on physician licensure, including telemedicine, to members and others through the World Wide Web and other media; and (3) continue to make information on state legal parameters on the practice of medicine, including telemedicine, available for members and others.

G-615.035: Technology and the Practice of Medicine
...Our AMA encourages the collaboration of existing AMA Councils and working groups on matters of new and developing technology, particularly electronic medical records (EMR) and telemedicine.

D-330.914: Face-to-Face Encounter Rule
...to monitor legislative and regulatory proposals to modify Medicare's face-to-face encounter policies and work to prevent any new unfunded mandatory administrative paperwork burdens for practicing physicians. 2, Our AMA will work with CMS to enable the use of HIPAA-compliant telemedicine and video monitoring services to satisfy the face-to-face requirement in certifying eligibility for Medicare home health services.

H-480.961: Teleconsultations and Medicare Reimbursement
...Our AMA demands that CMS reimburse telemedicine services in a fashion similar to traditional payments for all other forms of consultation, which involves paying the various providers for their individual claims, and not by various "fee splitting" or "fee sharing" reimbursement schemes.

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**7. THE IMPLICATIONS OF COMPETENCY-BASED MEDICAL EDUCATION
FOR UNDERGRADUATE MEDICAL EDUCATION**

Informational report; no reference committee hearing.

HOUSE ACTION: FILED

HISTORY OF THE MOVEMENT TOWARD COMPETENCY-BASED EDUCATION

Competency-based medical education (CBME) has been defined by the International CBME Collaborators as "an outcomes-based approach to the design, implementation, assessment, and evaluation of medical education programs using an organized framework of competencies."[1] As ten Cate[2] states, "Competence entails more than the possession of knowledge, skills, and attitudes; it requires the ability to apply these in the clinical environment to achieve optimal results." As medical educators have evaluated the perceived shortcomings of traditional medical education in producing competent practitioners, competency-based educational models are becoming widespread in the United States and Canada. Indeed, CBME pedagogy has been incorporated into medical education for more than 50 years, and it is firmly established in the framework of undergraduate medical education in the United States and Canada, despite weak empirical evidence of the effect of CBME on learning outcomes.[3] CBME has been proposed as a way to move learners through the education/training system into independent practice more effectively while assuring that each learner has developed a minimal level of competency. For some learners, this would decrease the total time required to become competent physicians. Thus CBME has been touted as a means to improve both the effectiveness and efficiency of undergraduate medical education (UME).

Medical school accreditation standards in the United States and Canada require schools to define the competencies to be achieved by medical students in terms that allow the assessment of students' achievement in developing the competencies. However, almost all competency-based UME programs utilize competencies as a basis for course structure and content within a time-based medical education (TBME) curricular structure, a basis for assessment of student achievement within a time-based structure, or both. With very few exceptions, noted below, almost all UME programs are still time-dependent. That is, students may not advance to the next levels of the curriculum until the time allotted for the coursework has elapsed, regardless of when competency threshold is achieved.

While in theory CBME at the UME level could offer the benefits noted above, widespread implementation could lead to problems within UME itself, and at the interfaces and within the institutions on either end of the educational continuum. The structures, forces, paradigms, and culture that support time-based programs within the medical education continuum are well entrenched. This informational report will delineate some of the barriers to implementation of a solely CBME system without the traditional temporal framework of TBME, and is based on several assumptions:

1. The barriers and challenges discussed here would occur because of a transition to a pure CBME, rather than a competency-based assessment system or curricular structure within a time-based curriculum (TBC). Potential hybrid models are not considered in this report.
2. Some students would achieve the minimally acceptable level of competency required for promotion or graduation faster than others, and this rate of progression may not be linear. For example, some students may move rapidly through basic science material, but progress at a slower rate in achieving competencies in some of the clinical domains. Assuming this does occur, programs would need to decide what to do with students when they achieve the minimal required competency in one segment of a curriculum, in one domain, or across all domains.
3. UME does not stand alone in the continuum of medical education. UME must continue to depend on a strong pipeline of applicants and matriculants from premedical education institutions, and a system to supply competent graduates to graduate medical education (GME) programs in a timely manner. Full implementation of CBME would undoubtedly lead to both intended and unintended consequences at the interfaces and systems on either side of UME and within CBME UME programs as well.
4. A switch to CBME would create complex, inter-related changes and problems, and would require solutions within each individual institution. Some of these will be briefly noted below.
5. The transition to CBME from TBME would occur at different times and rates for each program, and possibly not at all for some programs, rendering a continuum that would need to accommodate both systems for at least a finite time frame.

CURRENT CBME PROGRAMS IN UME

Oregon Health & Science University School of Medicine (OHSU) began offering a CBME curriculum in August 2014 that permits students to move through the curriculum based on achievement of competency, rather than time in the curriculum. OHSU's curriculum transformation to CBME is supported by grant funding from the AMA's Accelerating Change in Medical Education (ACE) initiative. Similarly, the Association of American Medical Colleges (AAMC) developed in 2013 the Education in Pediatrics Across the Continuum (EPAC) program, with grant support from the Josiah Macy Foundation, to explore the feasibility of moving from a traditional model of medical education in the clinical years to competency advancement across the continuum of UME and GME for students planning on a career in pediatrics. Four schools of medicine are participating in the pilot: the University of California, San Francisco; the University of Colorado; the University of Minnesota; and the University of Utah. These schools have identified a group of students who will focus on a career in pediatrics and agree to remain at their respective institutions for residency training. This pilot group of students will advance through the clinical portion of program as they master each competency, rather than through the traditional, "fixed-time" model, and enter GME upon meeting the competency requirements for transition.

CURRENT COMPETENCY-BASED GME PROGRAMS

The Accreditation Council for Graduate Medical Education (ACGME) requires approved GME programs to integrate specific ACGME competencies into the program curriculum and develop competency-based goals and objectives for each assignment at each educational level. However, with the exception of a few pilot programs, all US ACGME-approved programs remain time-based. The American Board of Internal Medicine (ABIM) has approved three competency-based pilot programs in gastroenterology/transplant hepatology, geriatrics/palliative medicine, and internal medicine/cardiology.

The orthopaedic surgery residency program at the University of Toronto is the only GME program in the US and Canada that is competency-based. Initially a pilot within the program, the entire program is now competency-based rather than time-based.

KNOWN AND ANTICIPATED BENEFITS THAT COULD RESULT FROM A SHIFT TO CBME

As noted by Hawkins,[4] CBME offers the perceived benefits of a focus on learner achievement, emphasis on formative assessment, time-independent trajectory, and increased accountability for learners and faculty. Hawkins also noted that CBME has been proven to improve outcomes in a number of domains, but has not been proven to improve knowledge acquisition in UME. The expected outcomes for CBME extend beyond the individual learner or the medical education system. Notes ten Cate, "the ultimate outcome of competency-based medical education extends beyond measureable attributes of the individual; rather, it is directly linked to better care of individuals and society."

As noted by Snell and Frank,[5] "The compelling promise of CBME lies in its focus on outcomes and on ensuring the competence of graduates." Aschenbrener[6] advocates for a competency framework in UME as a tool for leveraging a continuum of medical education across UME, GME, and continuing medical education (CME) as a means to serve the best interests of the profession and the public. Swing[7] notes that CBME has the potential to improve learner motivation, create a sense of autonomy for the learner, improve efficiency of learners' time in valued activities, increase sense of self-efficacy, and enhance self-directed learning. As noted by Frank[8], "Time is a resource to be tailored to the needs of teachers and learners," while advocating for a shift from time spent in defined activities toward an emphasis on developing learners' abilities. In summary, CBME offers considerable potential advantages for the individual learner, the UME system, the entire medical education continuum, and society as a whole.

CHALLENGES TO ADOPTION OF CBME

Financial

Almost all medical education programs depend on tuition revenues, to a greater or lesser degree, to support the funding needs of the program and institution. Currently, tuition is time-based (semester or year) for all programs in the United States. Conversion to a CBME model, where students progress at variable rates through the curriculum, would result in the need for new models to determine tuition revenues. Institutions could set a fixed tuition for the

degree regardless of time necessary for completion, or implement a time-modified degree-based tuition model, where tuition is set for degree completion, with modifiers for the actual length of time required for completion. Institutional budgeting and cash flow needs would likely require new structures in CBME tuition models. Budgeting and financial projections could prove difficult, at least initially.

New CBME tuition models could result in new challenges relative to student debt, student loan and student scholarship models. New models would need to be developed to determine student loan limits and loan distribution schedules. To ease the burden of costs and to satisfy lenders and scholarship providers, curriculum completion benchmarks would need to be set to determine when payments would be distributed and when repayment would be expected to commence.

Students' educational and personal finances and budgeting could become much more challenging. Models in which tuition is linked to time of completion could result in additional debt burden for students, and resultant pressure for advancement. At present, students can reasonably predict how much educational debt they will incur and cost of living support they will need within time-based models. Living arrangements can be predicted and leases set, for example. In a CBME system, where the timing of advancement is less predictable, budget forecasting could represent a significant challenge for students. Assuming a time modification scheme in which UME costs less if accomplished in less than the traditional four years, CBME will be financially attractive to students, but the reverse situation would result in greater debt for the individual student.

Admissions

Based on the assumption noted above, that some students will accelerate through the curriculum at different rates, it is likely that the total number of students engaged in any portion, segment, or course of the curriculum may vary considerably within and among entry cohorts. Depending on the magnitude of the variability, capacity of the program, and components of the program, schools might need to be flexible in admissions processes, timelines, and start dates. Contributing to the complexity are school finances (tuition revenues), internal scheduling, faculty scheduling, facilities and infrastructure capacity, and student support services capacity. This scenario and confounding factors raise the possibility of the need for programs to adopt multiple start dates for classes, and/or a time-based rolling admissions process for multiple start dates. Schools with multiple campuses would face added challenges of predicting campus enrollment and campus resources.

Recruitment could prove more difficult for some institutions in a CBME model. Prospective students might be less likely to consider or matriculate at schools where former and current students have historically taken longer to achieve the level of competency required for transition. This in turn could lead to additional competitive pressures on the schools to move students through their curricula as quickly as possible.

Progression, Student Advancement, and Scheduling

A CBME model that allows students to advance as they achieve competency would require dramatic changes in the way that students and faculty are scheduled. On a pragmatic, logistical level, academic schedules are established, in part, to maximize the efficiency of teaching and optimize faculty time commitments. In TBME, the transition of cohorts of students on set schedules allows faculty and administrators to plan courses and assessments on a schedule set far in advance. Advance planning would likely prove difficult in a CBME system, at least until patterns of progression are identified. Further, many TBME curricula are structured to provide sequencing and integration of courses and concepts in a logical progression. A CBME curriculum would require rethinking of pedagogy and structure to support individualized progression. Scheduling would likely require, in some cases, a "just in time" approach. Another consideration is the program accreditation requirement that the curriculum contain a minimum of 130 weeks of instructional time. CBME implementation might require reevaluation of this requirement by accrediting bodies.

Faculty decision-making on student advancement would likely require significant restructuring in a CBME model. Currently, the common practice for TBME programs is to convene promotion committees at set times following completion of courses, blocks, or segments of the curriculum. The assessments of individual students are considered by these committees, and students are allowed to advance, or not, based on school policies and the recommendations of those committees. In a CBME program, the timing and methods of assessment would likely differ from TBME, and possibly be unique to each student. The timing of reaching a threshold performance level would be less

important, but not unimportant, and less predictable. Standards for advancement would need to be based more on overall portfolio strength, and less on performance on set assessments in time-based courses. This would require a different, more holistic review of student competencies and would likely be more time-consuming and labor-intensive than the current procedures in TBME systems.

Clinical Teaching Resource Allocation

Resource allocation for clinical teaching in a centralized clinical teaching model may be less problematic in a CBME model, and may offer advantages to clinical education. In a traditional TBME clerkship system, learners enter clinical blocks throughout the clinical year. Faculty and support staff are accustomed to variability in learner preparedness and the need for more frequent orientation and assessment. Patient volume is typically not a critical factor in student scheduling. Clinical faculty and teaching team availability could be problematic in a CBME model if student progression were to occur in an unpredictable pattern. CBME in a distributive model could prove to be more problematic than in a centralized model. Geographically separate campuses typically have less flexibility in the number of learners that can be accommodated, and in the availability of student support. Student assignment to geographically distributed campuses is already complex; CBME would likely further complicate the assignment issues for programs and students.

Faculty Development Needs

A shift from TBME to CBME would likely be a marked paradigm shift for the faculty who teach and assess medical students. As noted by Dath,[9] "Arguably, the implementation of CBME requires teachers and evaluators to gain a new understanding of the theory and practice of education…" Significant resources would need to be committed to development of faculty knowledge and skills in competency-based assessment, assuring consistency in assessing students and making determinations for student advancement. Additional release time from other duties would be needed for faculty to learn and adjust during a transition period. Added stress would likely be placed on selected faculty due to committee work to support a transition. Adoption of CBME would also likely have an impact on educators' portfolios as they seek recognition for promotion and tenure. Traditional institutional promotion and tenure policies may not fit well with tracking faculty contributions to a UME CBME program.

Implications for Assessment

Many authors on this subject have noted the challenge of establishing valid and reliable assessment measures for competency. Some have posited that assessment of competency is accomplished by assessing the individual components of competency, yet most agree that the sum of the components does not result in a reliable measure of the whole. Snell and Frank state that "Competence does not equal a list of learning objectives or reductionist tasks. It is a broad objective that necessitates an integration of knowledge, skills, and tasks." Carraccio[10] posits that the success of the current CBME movement would depend, in part, upon educational programs' ability to develop meaningful measures of performance in an integrated, non-reductionist assessment system. Holmboe[11] has elaborated on the aspects of an assessment system for CBME. Among others, he notes that CBME assessment should be multifaceted and with multiple assessors, continuous and frequent, emphasize learner development, meet minimum standards of quality for assessment tools, and emphasize work-based observation of tasks and skills. Swing, by contrast, notes that the complex competencies necessary for medical practice are best learned by mastering lower level competencies, incorporating them into higher level competencies, and ultimately integrating them into daily performance. Harris[12] notes that CBME will require frequent formative assessments to identify learning needs along the progression to mastery of a competency. Collectively, these aspects of CBME assessment would result in markedly increased demands on faculty time, directly and indirectly, and increased need for central support and coordination of assessment in a CBME system. All would come at significant direct, indirect, and opportunity cost for educational programs and institutions.

Impacts on Students

While CBME could prove to offer many benefits to medical students (more time for self-directed learning, assurance of competency, self-paced learning, decompression, accelerated learning, etc.), CBME could also have detrimental effects on students. CBME requires students to self-monitor progress and identify learning needs. While this aspect of CBME is beneficial for development of self-directed learners, it does come at a potential cost. Not all students will be adept at accurately identifying their gaps and learning needs, potentially creating increased stress

and "misdirection" or inefficient use of time. Some students would likely feel additional pressure to accelerate through some stages of learning. "Keeping pace" with peers may create additional stress and self-doubt. CBME could create a culture that identifies slower learners as weaker students, creating additional pressure to keep pace rather than achieve competency. Failure to complete UME within a "normed" time frame could result in a student being viewed as less desirable by GME programs, creating additional stress for students. As noted previously, and depending on financial models, students who are progressing at a slower pace might face an additional financial commitment, further adding to stress and pressure to keep pace. Alternatively, some students may not be motivated to move through a CBME UME curriculum at an optimal pace, creating inefficiency by retaining a seat in the curriculum for an unnecessarily prolonged time frame.

Graduation and Transition to GME

Institutions of higher education typically have two or three dates for students to formally graduate from their programs and receive diplomas. TBME programs are generally structured to allow completion of the program at a time just before these institutionally determined dates. CBME may not fit well with this model. With students progressing through a CBME curriculum system based on achievement of competency, rather than time in class, traditional graduation programming may not be an effective way for students to transition to GME in a timely and efficient manner.

Historically, GME program calendars have been structured to accommodate institutional graduation dates for TBME programs. With a few exceptions, graduates of UME programs enter their respective GME programs around July 1. Students in a CBME program would likely achieve competency threshold at different rates. If this were to occur, these students would either have to wait until the next start date for their GME programs, or GME programs would need to adopt a new calendar for incoming resident start times. In the current structure, for students completing their programs early or late (compared to the traditional late spring graduation in TBME programs), the wait time for the next GME start date can be quite long. Newly learned skills and knowledge can erode quickly, in the absence of active application. Student loan repayment deferment could also be affected by delayed entry; lenders would need to adjust rules to accommodate students completing the programs at different times.

If CBME were to replace TBME for a substantial number of programs, the interface between UME and GME might need to be restructured to address staggered UME program completion. The residency matching process, now an annual event each March through the National Resident Matching Program (NRMP), might also need to be redesigned to accommodate a CBME-based UME system. Potential consequences of CBME on medical school admissions processes were noted previously. One potential solution would be for CBME programs to create alternative activities for "graduated" students awaiting the next GME cycle. Such activities would need not only to provide opportunity for graduates to practice their skills and apply knowledge, but also provide income. The legal and financial barriers to this potential solution may be prohibitive. Alternatively, the GME system might adopt a new structure and calendar for the intake of new first-year residents, with more than one start date. This would not occur without the potential for substantial impacts on GME programs, such as funding of positions, timing of in-service exams, number of allowable positions by the Centers for Medicare & Medicaid Services and ACGME review committees, and subsequent transition to fellowship and board certification examinations.

CURRENT AMA POLICY

Currently, the AMA has several policies or directives that address or relate to CBME, as shown in the appendix to this report. To summarize:

H-295.862, approved by the House of Delegates (HOD) in 2015, states that our AMA supports the adoption of a competency framework for medical education across the continuum and the use of "assessment instruments and tools that are valid and reliable," and directs our AMA to "study models of competency-based progression within the medical school."

D-295.317, approved by the HOD in 2014, calls for study "to identify challenges and opportunities….. in achieving a competency-based curriculum across the medical education continuum…."

D-295.318, approved by the HOD in 2014, calls for our AMA's Accelerating Change in Medical Education initiative to "study the impact of competency-based frameworks on student graduation, the residency match process and off-cycle entry into residency programs."

D-310.977, approved by the HOD in 2015, calls for our AMA to evaluate "b) the impact on the NRMP and entry into residency programs if medical education programs offer variable time lengths based on acquisition of competencies; c) the impact on financial aid for medical students with variable time lengths of medical education programs; … and e) the implications for residents and students who achieve milestones earlier or later than their peers."

CONCLUSIONS AND AREAS FOR FURTHER STUDY

While a UME CBME system that allows learners to progress as they achieve competency is theoretically attractive in many ways, the forces that have shaped and support the existing TBME system in UME present considerable challenges and barriers to change. CBME would likely require, at least initially, considerable additional resources and restructuring within UME programs. A shift to CBME in UME cannot occur in isolation. A CBME system at the level of UME would need to be accompanied by realignment of the systems and processes to place graduates into GME programs, including the residency match process. The AMA and other medical education organizations should continue to study and explore opportunities to support a medical education system that ensures competency of UME graduates while improving the efficiency of the medical educational continuum, towards the ultimate goal of ensuring an adequate number of highly qualified and practice-ready physicians to serve our nation's patients and meet their critical access to care needs.

APPENDIX - Relevant AMA Policy

Alignment of Accreditation Across the Medical Education Continuum, H-295.862
1. Our AMA supports the concept that accreditation standards for undergraduate and graduate medical education should adopt a common competency framework that is based in the Accreditation Council for Graduate Medical Education (ACGME) competency domains. 2. Our AMA recommends that the relevant associations, including the AMA, Association of American Medical Colleges (AAMC), American Osteopathic Association (AOA), and American Association of Colleges of Osteopathic Medicine (AACOM), along with the relevant accreditation bodies for undergraduate medical education (Liaison Committee on Medical Education, Commission on Osteopathic College Accreditation) and graduate medical education (ACGME, AOA) develop strategies to: a. Identify guidelines for the expected general levels of learners? competencies as they leave medical school and enter residency training. b. Create a standardized method for feedback from medical school to premedical institutions and from the residency training system to medical schools about their graduates? preparedness for entry. c. Identify areas where accreditation standards overlap between undergraduate and graduate medical education (e.g., standards related to the clinical learning environment) so as to facilitate coordination of data gathering and decision-making related to compliance. All of these activities should be codified in the standards or processes of accrediting bodies. 3. Our AMA encourages development and implementation of accreditation standards or processes that support utilization of tools (e.g., longitudinal learner portfolios) to track learners? progress in achieving the defined competencies across the continuum. 4. Our AMA supports the concept that evaluation of physicians as they progress along the medical education continuum should include the following: (a) assessments of each of the six competency domains of patient care, medical knowledge, interpersonal and communication skills, professionalism, practice-based learning and improvement, and systems-based practice; and (b) use of assessment instruments and tools that are valid and reliable and appropriate for each competency domain and stage of the medical education continuum. 5. Our AMA encourages study of competency-based progression within and between medical school and residency. a. Through its Accelerating Change in Medical Education initiative, our AMA should study models of competency-based progression within the medical school. b. Our AMA should work with the Accreditation Council for Graduate Medical Education (ACGME) to study how the Milestones of the Next Accreditation System support competency-based progression in residency. 6. Our AMA encourages research on innovative methods of assessment related to the six competency domains of the ACGME/American Board of Medical Specialties that would allow monitoring of performance across the stages of the educational continuum. 7. Our AMA encourages ongoing research to identify best practices for workplace-based assessment that allow performance data related to each of the six competency domains to be aggregated and to serve as feedback to physicians in training and in practice.

Competency Based Medical Education Across the Continuum of Education and Practice, D-295.317
1. Our AMA Council on Medical Education will continue to study and identify challenges and opportunities and critical stakeholders in achieving a competency-based curriculum across the medical education continuum and other health professions that provides significant value to those participating in these curricula and their patients. 2. Our AMA Council on Medical Education will work to establish a framework of consistent vocabulary and definitions across the continuum of health sciences education that will facilitate competency-based curriculum, andragogy and assessment implementation.

Competency-Based Portfolio Assessment of Medical Students, D-295.318
1. Our AMA will work with the Association of American Medical Colleges, the American Osteopathic Association and the Accreditation Council for Graduate Medical Education, and other organizations to examine new and emerging approaches to medical student evaluation, including competency-based portfolio assessment. 2. Our AMA will work with the NRMP, ACGME and the 11 schools in the AMA?s Accelerating Change in Medical Education consortium to develop pilot projects to study the impact of competency-based frameworks on student graduation, the residency match process and off-cycle entry into residency programs.

National Resident Matching Program Reform, D-310.977
(10) will work with the National Resident Matching Program (NRMP) and Accreditation Council for Graduate Medical Education (ACGME) to evaluate the challenges in moving from a time-based education framework toward a competency-based system, including: a) analysis of time-based implications of the ACGME milestones for residency programs; b) the impact on the NRMP and entry into residency programs if medical education programs offer variable time lengths based on acquisition of competencies; c) the impact on financial aid for medical students with variable time lengths of medical education programs; d) the implications for interprofessional education and rewarding teamwork; and e) the implications for residents and students who achieve milestones earlier or later than their peers….

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