HOD ACTION: Council on Medical Education Report 2 adopted, in lieu of Resolutions 307-A-18 and 307-I-19, and the remainder of the report filed.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION

CME Report 2-I-19

Subject: Healthcare Finance in the Medical School Curriculum (Resolution 307-A-18)

Presented by: Jacqueline A. Bello, MD, Chair

Referred to: Reference Committee C
(tbd, MD, Chair)

INTRODUCTION

Resolution 307-A-18, "Healthcare Finance in the Medical School Curriculum," introduced by the Missouri Delegation and referred by the American Medical Association (AMA) House of Delegates (HOD), asks that the AMA "study the extent to which medical schools and residency programs are teaching topics of healthcare finance and medical economics" and "make a formal suggestion to the Liaison Committee on Medical Education encouraging the addition of a new Element, 7.10, under Standard 7, 'Curricular Content,' that would specifically address the role of healthcare finance and medical economics in undergraduate medical education."

During the 2018 Annual Meeting, Reference Committee C heard mixed testimony on this item. It was noted that health care finance is already being taught in some medical schools, but an overall understanding of the breadth, depth, and frequency of these offerings is unknown. Furthermore, concern was expressed that the second Resolve implied a curricular mandate in an already distended medical education curriculum. The reference committee believed that additional study was warranted; the HOD agreed, and this item was referred. This report addresses that referral.

BACKGROUND AND DATA

The United States spends more on health care than any other nation in the world, with health care expenditures at 17.9 percent of gross domestic product in 2017, and national health care spending is projected to increase at a rate of 5.5 percent per year for the next 10 years under current law. Multiple factors contribute to the high cost of health care in the United States, including costs for labor and goods, pharmaceutical costs, administrative costs.[1,2,3] Numerous studies have found that while cost of care in the U.S. is often double that of other industrialized countries, outcome measures are essentially the same. In recognition of this concern, reducing cost of care is one of the Triple Aims of the Institute for Health Care Improvement and one of the three core aims of health care reform.[4]

The medical education system has been shown to favorably impact cost of care by medical school graduates who have had cost, financing, and medical economics topics integrated into their respective program curricula. Chen et al.[5] found that the spending pattern of the training location was positively associated with care expenditures when the residents entered practice, implying that interventions in training may have the potential to reduce health care spending after completion of training. Phillips et al.[6] similarly found that family physician and general internist spending was influenced by location of training in low, average, or high-cost locations, and concluded, "The

© 2019 American Medical Association. All rights reserved.

'imprint' of training spending patterns on physicians is strong and enduring, without discernible quality effects…" Stammen et al.[7] in a published systematic review on the effectiveness of medical education on high-value, cost-conscious care, reached the following conclusion:

> … learning by practicing physicians, resident physicians, and medical students is promoted by combining specific knowledge transmission, reflective practice, and a supportive environment. These factors should be considered when educational interventions are being developed.

Curriculum content in health care financing is currently required by the accrediting body for allopathic medical schools in the United States, the Liaison Committee on Medical Education (LCME). The LCME's accreditation *Standard 7: Curricular Content* requires that "the medical school curriculum provides content of sufficient breadth and depth to prepare medical students for entry into any residency program and for the subsequent contemporary practice of medicine." This requirement is expressed through *Element 7.1: Biomedical, Behavioral, and Social Sciences* by ensuring that "the medical curriculum includes content from biomedical, behavioral, and socioeconomic sciences to support medical students' mastery of contemporary scientific knowledge and concepts and the methods fundamental to applying them to the health of individuals and populations."[8] As part of their accreditation documents, schools are asked to document where in the curriculum health care financing is taught (preclinical or clinical phases), but schools are not asked to comment on the content or quantity of the subject matter. The quality of instruction and educational materials is not evaluated. No inquiries are made regarding medical economics.[9]

Unrelated to the accreditation process, each year the LCME requests that schools complete a voluntary survey, the LCME Annual Medical School Questionnaire Part II. The questionnaire includes queries on where in the curriculum certain topics are taught. Data relevant to this report from academic years 2013-14 through 2017-18 are provided in the tables below.

Health Care Financing*/Cost of Care#					
Survey year	Total number of schools surveyed	Location in curriculum			
		Required Course	Elective	Pre-clerkship	Clerkships
2017-18*	147	131	63	120	89
2016-17#	145	140	72	128	97
2015-16#	142	137	67	120	125
2014-15*	141	140	61	127	112
2014-15#	141	139	84	120	112
2013-14*	140	133	64	120	108
2013-14#	140	129	53	112	103

* Survey item was "health care financing"
# Survey question was "cost of care"
2013-14 and 2014-15 surveys included both terms

Medical Socioeconomics*/Medical Economics#					
Survey year	Total number of schools surveyed	Location in curriculum			
		Required Course	Elective	Pre-clerkship	Clerkships
2017-18*	147	143	79	141	117
2017-18#	147	135	85	132	105
2016-17*	145	136	84	129	105
2016-17#	145	141	77	136	112

2015-16#	142	132	71	123	107
2015-16*	142	138	72	131	110
2014-15*	141	137	96	128	116
2013-14*	140	133	60	125	106

* Survey item was “medical socioeconomics”
# Survey question was “medical economics”
2015-16, 2016-17, and 2017-18 surveys included both terms

For 2016-17 and 2017-18, schools were also asked where in the curriculum the specific topics were covered to prepare students for entry into residency training.

Health system content (e.g., health care financing, billing, coding)					
Survey year	Total number of schools surveyed	Location in curriculum			
		4th year transition to residency course	Required sub-internship	Required 3rd year clinical clerkship	Intersession
2017-18	147	67	42	80	42
2016-17	145	82	51	93	52

The accreditation standards of the Commission on Accreditation of Osteopathic Colleges (COCA) do not explicitly state a requirement for curriculum related to medical economics or health care financing.[10]

The Accreditation Council for Graduate Medical Education common program requirements IV.B.1.f).(1).(f) and (g) require residents to demonstrate competence in “incorporating considerations of value, cost awareness, delivery and payment…” and “understanding health care finances and its impact on individual patients’ health decisions.” [11] A limited review of specialty-specific milestones, the mechanism by which residents are assessed for achievement of competency, revealed that family medicine, internal medicine, emergency medicine, and diagnostic radiology have milestones that assess residents’ competency in delivering cost-conscious care, cost-effective care, or consideration of health care costs.[12]

CURRENT INITIATIVES

Despite the UME and GME requirements noted above, there has been a growing realization of the need for additional training in health systems, including health care financing and medical economics during UME. To address this concern, the concept of health systems science (HSS) has recently taken hold as a “third pillar” of medical education[13] (basic science and clinical science being the traditional two pillars). In recognition of the need to change the medical education system to train physicians in HSS, the AMA funded the Accelerating Change in Medical Education initiative, with the goal of enhancing medical school curricula to better train future physicians in the competencies needed to provide high quality care in health systems. HSS curriculum, which includes medical economics content, is a focus of the initiative. A tangible outcome from the consortium was the publication of the first HSS textbook.[14] The initial 11-school consortium has grown to 37 schools. The AMA also supports a learning module, “Health Care Delivery Systems - AMA Health Systems Science Learning Series,” through the AMA Ed Hub.[15] In addition, through its GME Competency Education Program (GCEP), the AMA offers a series of online educational modules designed to complement teachings in residency and fellowship programs, with a library of more than 30 individualized courses designed for self-paced learning. One content area of the

module is how payment models affect patient care and costs. A study of consortium schools found that health care economics and value-based care are core domains of their HSS curricula.[16]

The inclusion of UME curricular content on HSS in general, and health care financing specifically, has been advanced by the inclusion of these topics on standardized examinations. The United States Medical Licensing Examination (USMLE) Content Outline website lists health care economics, health care financing, high value/cost-conscious care, and relevant subtopics as content areas across all USMLE examinations.[17] A case-based review book on HSS has been developed by the ACE consortium as a review tool on HSS topics covered on the USMLE examinations.[18] The review book includes a chapter of cases and questions on health care economics.[19] To further support HSS assessment at the UME level, a pilot subject examination in HSS has been developed by a consortium of medical schools in collaboration with the National Board of Medical Examiners.[20]

RELEVANT AMA POLICY

H-295.924, "Future Directions for Socioeconomic Education" (Modified and reaffirmed 2017)

> The AMA: (1) asks medical schools and residencies to encourage that basic content related to the structure and financing of the current health care system, including the organization of health care delivery, modes of practice, practice settings, cost effective use of diagnostic and treatment services, practice management, risk management, and utilization review/quality assurance, is included in the curriculum; (2) asks medical schools to ensure that content related to the environment and economics of medical practice in fee-for-service, managed care and other financing systems is presented in didactic sessions and reinforced during clinical experiences, in both inpatient and ambulatory care settings, at educationally appropriate times during undergraduate and graduate medical education; and (3) will encourage representatives to the Liaison Committee on Medical Education (LCME) to ensure that survey teams pay close attention during the accreditation process to the degree to which "socioeconomic" subjects are covered in the medical curriculum.

D-295.321, "Health Care Economics Education" (Modified and reaffirmed 2015)

> Our AMA, along with the Association of American Medical Colleges, Accreditation Council for Graduate Medical Education, and other entities, will work to encourage education in health care economics during the continuum of a physician's professional life, starting in undergraduate medical education, graduate medical education and continuing medical education.

H-295.977, "Socioeconomic Education for Medical Students" (Modified 2010)

> 1. The AMA favors (a) continued monitoring of U.S. medical school curricula and (b) providing encouragement and assistance to medical school administrators to include or maintain material on health care economics in medical school curricula.
> 2. Our AMA will advocate that the medical school curriculum include an optional course on coding and billing structure, RBRVS, RUC, CPT and ICD-9.

H-295.864, "Systems-Based Practice Education for Medical Students and Resident/Fellow Physicians" (Modified and reaffirmed 2017)

> Our AMA: (1) supports the availability of educational resources and elective rotations for medical students and resident/fellow physicians on all aspects of systems-based practice, to improve awareness of and responsiveness to the larger context and system of health care and to aid in developing our next generation of physician leaders; (2) encourages development of model guidelines and curricular goals for elective courses and rotations and fellowships in systems-based practice, to be used by state and specialty societies, and explore developing an educational module on this topic as part of its Introduction to the Practice of Medicine (IPM) product; and (3) will request that undergraduate and graduate medical education accrediting bodies consider incorporation into their requirements for systems-based practice education such topics as health care policy and patient care advocacy; insurance, especially pertaining to policy coverage, claim processes, reimbursement, basic private insurance packages, Medicare, and Medicaid; the physician's role in obtaining affordable care for patients; cost awareness and risk benefit analysis in patient care; inter-professional teamwork in a physician-led team to enhance patient safety and improve patient care quality; and identification of system errors and implementation of potential systems solutions for enhanced patient safety and improved patient outcomes.

SUMMARY AND RECOMMENDATIONS

The academic literature suggests that education and role-modeling have an effect on the cost-effectiveness of care provided by graduates of programs that emphasize cost considerations in education of physicians. Curriculum content on health care financing/medical economics is required by the accrediting bodies for allopathic medical schools and GME programs. With few exceptions, allopathic medical schools report the inclusion of the topics of health care financing, health care costs, medical socioeconomics, and medical economics in their respective curricula. Several of the larger GME specialty milestones require cost considerations in the training curricula. The exact content and amount of curricular time devoted to these topics at individual schools and GME programs is unknown. The AMA provides online educational resources on HSS topics, including the effect of payment models on health outcomes and cost of care, and the AMA-supported Accelerating Change in Medical Education initiative includes medical economics in the focus area of HSS. USMLE Step exams include questions on health care economics, and a subject exam focusing on HSS has been developed. The AMA has existing policy encouraging medical schools and residency programs to include health care finance and medical economics in their respective curricula while avoiding curricular mandates.

Related to Resolution 307-A-18, its first directive (that the AMA "study the extent to which medical schools and residency programs are teaching topics of healthcare finance and medical economics") has been addressed through this report.

The resolution also asks that the AMA "make a formal suggestion to the Liaison Committee on Medical Education encouraging the addition of a new Element, 7.10, under Standard 7, 'Curricular Content,' that would specifically address the role of healthcare finance and medical economics in undergraduate medical education." To address this aspect, amendments to Policy H-295.924, "Future Directions for Socioeconomic Education," are proposed below. The rationale for each edit is as follows:

- GME programs, not medical schools, are responsible for graduate medical education. Most GME programs are not under the direct authority of medical schools. Adding "and

residencies” to item 2 of this policy clarifies the responsibility and authority for oversight of graduate medical education and curricular content.

- Historically, the AMA has refrained from curricular mandates, especially mandates with this degree of specificity. Similarly, the LCME has been disinclined to accept recommendations with curricular mandates. Eliminating the phrase “in didactic sessions and reinforced during clinical experiences, in both inpatient and ambulatory care settings” allows for more flexibility to medical schools and residency programs in implementation of this curricular content.

- The AMA does not have “representatives” on the LCME. Some LCME members are nominated by the AMA for consideration as professional members of the LCME, but, if elected by the LCME, they do not represent the AMA. Their fiduciary responsibility while serving as a member of the LCME is to the LCME. DOE regulations require separation of the accrediting agency from direct sponsor influence.

The Council on Medical Education therefore recommends that the following recommendation be adopted in lieu of Resolution 307-A-18 and the remainder of the report be filed.

1. That our American Medical Association (AMA) amend Policy H-295.924, “Future Directions for Socioeconomic Education,” by addition and deletion to read as follows:

“The AMA: (1) asks medical schools and residencies to encourage that basic content related to the structure and financing of the current health care system, including the organization of health care delivery, modes of practice, practice settings, cost effective use of diagnostic and treatment services, practice management, risk management, and utilization review/quality assurance, is included in the curriculum; (2) asks medical schools and residencies to ensure that content related to the environment and economics of medical practice in fee-for-service, managed care and other financing systems is presented ~~in didactic sessions and reinforced during clinical experiences, in both inpatient and ambulatory care settings,~~ at educationally appropriate times during undergraduate and graduate medical education; and (3) will encourage ~~representatives to~~ the Liaison Committee on Medical Education (LCME) to ensure that survey teams pay close attention during the accreditation process to the degree to which ‘socioeconomic’ subjects are covered in the medical curriculum.” (Modify Current HOD Policy)

Fiscal note: $500.

REFERENCES

1. Garber AM, Skinner J. Is American Health Care Uniquely Inefficient? J. Econ Perspect 2008 Sept 1, 22(4) 27-50.

2. CMS.gov NHE Fact Sheet. https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nhe-fact-sheet.html (Accessed May 29, 2019)

3. Papanicolas I, Woske LR, Jha AK. Health Care Spending in the United States and Other High-Income Countries. JAMA. 2018 Mar 13;319(10):1024-1039. doi: 10.1001/jama.2018.1150.

4. Davis MM, Tobin-Tyler E, Schwartz MD. Health Care Policy and Economics. In Skochelak SE, Hawkins RE, Lawson LE, Starr SR, Borkan JM, and Gonzalo JD, eds. *Health System Science*. Elsevier Philadelphia 2017.

5. Chen C, Petterson S, Phillips R, Bazemore A, Mullan F. Spending patterns in region of residency training and subsequent expenditures for care provided by practicing physicians for Medicare beneficiaries. JAMA. 2014 Dec 10;312(22):2385-93. doi: 10.1001/jama.2014.15973.

6. Phillips RL Jr, Petterson SM, Bazemore AW, Wingrove P, Puffer JC. The Effects of Training Institution Practice Costs, Quality, and Other Characteristics on Future Practice. Ann Fam Med. 2017 Mar;15(2):140-148. doi: 10.1370/afm.2044.

7. Stammen LA, Stalmeijer RE, Paternotte E, et al. 2015. Training Physicians to Provide High-Value, Cost-Conscious Care: A Systematic Review. JAMA. 2015 Dec 8;314(22):2384-400. doi: 10.1001/jama.2015.16353.

8. Functions and Structure of a Medical School. March 2018 ed. Published by the Liaison Committee on Medical Education. Available at www.LCME.org.

9. Guide to the Institutional Self-study for Full Accreditation. April 2019 ed. Published by the Liaison Committee on Medical Education. Available at http://lcme.org/publications/.

10. Commission on Osteopathic College Accreditation Standards. July 2019 ed. Published by the Commission on Osteopathic College Accreditation. Available at https://osteopathic.org/accreditation/standards/.

11. ACGME Common Program Requirements (Residency). 2018 ed. Available at https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/CPRResidency2019.pdf.

12. Accreditation Council for Graduate Medical Education: Milestones. Available at https://www.acgme.org/Specialties/Milestones/pfcatid/16Julie/Specialties

13. Gonzalo JD, Skochelak SE. Wolpaw DR. Health Systems Science in Medical Education. In Skochelak SE, Hawkins RE, Lawson LE, Starr SR, Borkan JM, and Gonzalo JD, eds. *Health System Science*. Elsevier Philadelphia, 2017.

14. Skochelak SE, Hawkins RE, Lawson LE, Starr SR, Borkan JM, and Gonzalo JD, eds. *Health Systems Science,* Elsevier; Philadelphia 2017.

15. Health Care Delivery Systems - AMA Health Systems Science Learning Series https://edhub.ama-assn.org/health-systems-science/interactive/17498797.

16. Gonzalo JD, Dekhtyar M, Starr SR, Borkan J, Brunett P *et al*. Health systems science curricula in undergraduate medical education: identifying and defining a potential curricular framework. Academic Medicine 2017; 92(1): 123-31.

17. USMLE Content Outline. https://www.usmle.org/pdfs/usmlecontentoutline.pdf. (Accessed June 5, 2019).

18. Ehrenfeld JM, Gonzalo JD eds. *Health Systems Science Review*. Elsevier; Philadelphia, 2020.

19. Okanlawon T, Shah TR. Health care policy and economics. In Ehrenfeld JM, Gonzalo JD, eds. Health Systems Science Review. Elsevier; Philadelphia, 2020.

20. Dekhtyar M, Ross LP, D'Angelo J, Guernsey J, Hauer KE, et al. Validity of the health systems science examination: relationship between examinee performance and the time of training. Medical Quality. Accepted for publication 2019.