# Informational Reports

## BOT Report(s)

03 2018 Grants and Donations

05 Update on Corporate Relationships

06 Redefining AMA's Position on ACA and Healthcare Reform

07 AMA Performance, Activities and Status in 2018

08 Annual Update on Activities and Progress in Tobacco Control: March 2018 Through February 2019

## CC&B Report(s)

02 Section Internal Operating Procedures and Council Rules: Roles of the House of Delegates, Board of Trustees and the Council on Constitution and Bylaws

## CEJA Opinion(s)

01 Amendment to E-2.2.1, "Pediatric Decision Making"

## CEJA Report(s)

04 Judicial Function of the Council on Ethical and Judicial Affairs - Annual Report

05 Discrimination Against Physicians by Patients

## CLRPD Report(s)

01 Demographic Characteristics of the House of Delegates and AMA Leadership

## CME Report(s)

05 Accelerating Change in Medical Education Consortium Outcomes

07 For-Profit Medical Schools or Colleges

## CSAPH Report(s)

02 Drug Shortages: 2019 Update

## Report of the Speakers

01 Recommendations for Policy Reconciliation

REPORT OF THE BOARD TRUSTEES

B of T Report 3-A-19

Subject: 2018 Grants and Donations

Presented by: Jack Resneck, Jr., MD, Chair

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This informational financial report details all grants or donations received by the American Medical Association during 2018.

**American Medical Association**
**Grants & Donations Received by the AMA**
**For the Year Ended December 31, 2018**
**Amounts in thousands**

| Funding Institution | Project | Amount Received |
|---|---|---|
| Agency for Healthcare Research and Quality (subcontracted through Northwestern University) | Midwest Small Practice Care Transformation Research Alliance | $ 141 |
| Agency for Healthcare Research and Quality (subcontracted through RAND Corporation) | Health Insurance Expansion and Physician Distribution | 67 |
| Centers for Disease Control and Prevention (subcontracted through National Association of Chronic Disease Directors) | Diabetes Technical Assistance and Support | 156 |
| Centers for Disease Control and Prevention (subcontracted through YMCA) | Diabetes Prevention Program | 71 |
| Centers for Medicare & Medicaid Services | Transforming Clinical Practices Initiative — Support and Alignment Networks | 549 |
| National Institutes of Health (subcontracted through HCM Strategist, LLC) | All of Us Research Program | 64 |
| Substance Abuse and Mental Health Services Administration (subcontracted through American Academy of Addiction Psychiatry) | Providers Clinical Support System for Opioid Therapies | 69 |
| **Government Funding** | | **1,117** |
| American Association of Colleges of Osteopathic Medicine | Accelerating Change in Medical Education Initiative | 13 |
| American Heart Association, Inc. | Target: Blood Pressure Initiative | 94 |
| American College of Emergency Physicians | Accelerating Change in Medical Education Initiative | 13 |
| **Nonprofit Contributors** | | **120** |
| Contributions less than $5,000 | International Medical Graduates Section Reception | 5 |
| **Other Contributors** | | **5** |
| **Total Grants and Donations** | | **$ 1,242** |

REPORT OF THE BOARD OF TRUSTEES

B of T Report 5-A-19

Subject: Update on Corporate Relationships

Presented by: Jack Resneck, Jr., MD, Chair

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PURPOSE

The purpose of this informational report is to update the House of Delegates (HOD) on the results of the Corporate Review process from January 1 through December 31, 2018. Corporate activities that associate the American Medical Association (AMA) name or logo with a company, non-Federation association or foundation, or include commercial support, currently undergo review and recommendations by the Corporate Review Team (CRT) (Appendix A).

BACKGROUND

At the 2002 Annual Meeting, the HOD approved revised principles to govern the American Medical Association's (AMA) corporate relationships, HOD Policy G-630.040 "Principles on Corporate Relationships." These "Guidelines for American Medical Association Corporate Relationships" were incorporated into the corporate review process, are reviewed regularly, and were reaffirmed at the 2012 Annual Meeting. AMA managers are responsible for reviewing AMA projects to ensure they fit within these guidelines.

YEAR 2018 RESULTS

In 2018, eighty new activities were considered and approved through the Corporate Review process. Of the 80 projects recommended for approval, 33 were conferences or events, nine were education, content or grants, 24 were collaborations or affiliations, 12 were member service provider programs, one was an American Medical Association (AMA) Alliance activity and one was an American Medical Association Foundation (AMAF) program. (Appendix B).

CONCLUSION

The Board of Trustees (BOT) continues to evaluate the CRT review process to balance risk assessment with the need for external collaborations that advance the AMA's strategic focus.

Appendix A

CORPORATE REVIEW PROCESS OVERVIEW

The Corporate Review Team (CRT) includes senior managers from the following areas: Strategy, Finance, Health Solutions Group (HSG), Advocacy, Federation Relations, Office of the General Counsel, Medical Education, Publishing, Ethics, Enterprise Communications (EC), Physician Engagement (PE), and Health and Science.

The CRT evaluates each project with the following criteria:

- Type, purpose and duration of the activity;
- Audience;
- Company, association, foundation, or academic institution involved (due diligence reviewed);
- Source of external funding;
- Use of the AMA logo;
- Fit or conflict with AMA Corporate Guidelines;
- Editorial control/copyright;
- Exclusive or non-exclusive nature of the arrangement;
- Status of single and multiple supporters; and
- Risk assessment for AMA.

The CRT reviews and makes recommendations regarding the following types of activities that utilize AMA name and logo:

- Industry-supported web, print, or conference projects directed to physicians or patients that do not adhere to Accreditation Council for Continuing Medical Education (ACCME) Standards and Essentials.

- AMA sponsorship of external events.

- Independent and company-sponsored foundation supported projects.

- AMA licensing and publishing programs. (These corporate arrangements involve licensing AMA products or information to corporate or non-profit entities in exchange for a royalty and involve the use of AMA's name, logo, and trademarks. This does not include database or CPT licensing.)

- Member service provider programs such as new affinity or insurance programs and member benefits.

- Third-party relationships such as joint ventures, business partnerships, or co-branding programs directed to members.

- Non-profit association collaborations outside the Federation. The CRT reviews all non-profit association projects (Federation or non-Federation) that involve corporate sponsorship.

- Collaboration with academic institutions only if there is corporate sponsorship.

For the above specified activities, if the CRT recommends approval, the project proceeds.

In addition to CRT review, the Executive Committee of the Board must review and approve CRT recommendations for the following AMA activities:

- Any activity directed to the public with external funding.
- Single-sponsor activities that do not meet ACCME Standards and Essentials.
- Activities involving risk of substantial financial penalties for cancellation.
- Upon request of a dissenting member of the CRT.
- Any other activity upon request of the CRT.

All Corporate Review recommendations are summarized annually for information to the Board of Trustees. The BOT informs the HOD of all corporate arrangements at the Annual Meeting.

Appendix B

SUMMARY OF CORPORATE REVIEW
RECOMMENDATIONS FOR 2018

| Project No. | Project Description | Corporations | Approval Date |
|---|---|---|---|
| **CONFERENCES/EVENTS** | | | |
| **22738** | **TEDMED 2018** – Continue TEDMED conference sponsorship with name and logo | TEDMED, LLC | 6/5/2018 |
| **23524** | **HIMSS18 Annual Conference –** Sponsorship with AMA name and logo. | Health Information and Management Systems Society (HIMSS) | 1/9/2018 |
| **27797** | **Sandy Hook Gala Event 2018 –** Continue sponsorship with AMA name and logo. | Sandy Hook Promise<br>Akin Gump Straus Hauer & Feld, LLP<br>Amalgamated Bank<br>Anthem, Inc.<br>Blue Cross Blue Shield Association<br>Genentech, Inc.<br>Heather McHugh<br>Liberty Partners Group, LLC<br>Managed Funds Association<br>Mehlman Castagnetti Rosen & Thomas<br>National Association of Broadcasters (NAB)<br>National Multifamily Housing Council<br>Pacific Gas & Electric Company (PG&E)<br>The Sorenson Family<br>Diageo, PLC<br>Wine and Spirits Wholesalers of America, Inc.<br>Aetna Inc.<br>Air Line Pilots Association (ALPA)<br>American Health Care Association (AHCA)<br>AT&T Inc. (American Telephone and Telegraph)<br>The Bank of America Corporation<br>Boehringer-Ingelheim, GmbH<br>CVS Health (Consumer Value Store)<br>Deloitte Touche Tohmatsu Limited<br>Discovery Communications, Inc.<br>Lockheed Martin Corporation<br>Lumina Foundation | 4/6/2018 |

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| | | Merck & Co., Inc.<br>Verizon Wireless<br>Charter Communications, Inc.<br>S&P Global Inc. (Standard & Poor)<br>PepsiCo, Inc.<br>Comcast Corporation<br>Centene Corporation<br>Pharmaceutical Research and Manufacturers of America (PhRMA) Alexion Pharmaceuticals, Inc.<br>General Dynamics Corporation<br>Association for Accessible Medicine | |
| **27981** | **Alliance for Health Policy –** Continue sponsorship of event dinner with AMA name and logo. | Pharmaceutical Research and Manufacturers of America (PhRMA)<br>Health Is Primary (Family Medicine for America's Health)<br>Aetna, Inc.<br>Anthem Insurance Companies, Inc.<br>Ascension Health<br>Blue Cross Blue Shield Association<br>Cambia Health Foundation<br>GSK (GlaxoSmithKline)<br>Welsh Carson Anderson & Stowe (WCAS)<br>Bristol-Myers Squibb Company (BMS)<br>Amgen, Inc. (Applied Molecular Genetics)<br>Association of Community Affiliated Plans (ACAP)<br>Novartis International, A.G.<br>Biotechnology Innovation Organization (BIO)<br>Blue Shield of California<br>DaVita, Inc.<br>UCB, Inc. (Union Chimique Belge)<br>Vertex Pharmaceuticals, Inc. | 5/11/2018 |
| **29472** | **Sling Health 2018 Demo Day** – Sponsorship with AMA name and logo. | Sling Health National Network<br>Pharmaceutical Research and Manufacturers of America (PhRMA)<br>Husch Blackwell, LLP<br>The Boston Consulting Group, Inc. (BCG)<br>Cortex Innovation Community<br>St. Louis Metropolitan Medical Society<br>St. Louis Regional Chamber | 4/10/2018 |

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| | | Barnes-Jewish Christian HealthCare (BJC)<br>Inventr<br>InSite<br>Washington University in St. Louis<br>St. Louis Development Partnership<br>Penn HealthX<br>University of Michigan Medical School<br>EVNTUR<br>Cambridge Innovation Center (CIC)<br>Louisiana State University Health (LSU Health) Foundation<br>Brown Smith Wallace, LLP | |
| **29760** | **8th Annual Diversity Inclusion and Health Equity Symposium** – Sponsorship with AMA name and logo. | Center for Healthcare Innovation (CHI)<br>Genentech, Inc.<br>Abbott Laboratories<br>Edelman Digital<br>AbbVie, Inc.<br>Salesforce, Inc.<br>West Monroe Partners, LLC.<br>The University of Chicago Medicine<br>Gilead Sciences, Inc.<br>Northwestern University<br>Upsher-Smith Laboratories, LLC<br>Drinker Biddle & Reath LLP<br>Aurora Health Care<br>Sanofi, S.A.<br>SoPE (Society of Physician Entrepreneurs)<br>Chiltern International Limited | 5/9/2019 |
| **29938** | **2018 Personal Connected Health (PCH) Alliance Conference –** Continue sponsorship with AMA name and logo. | Connected Health Conference<br>Personal Connected Health (PCH) Alliance | 6/25/2018 |
| **31205** | **2018 25th Annual Princeton Conference –** Sponsorship with AMA name and logo. | Princeton University | 1/22/2018 |
| **31322** | **AMA Global Health Challenge** – AMA to rebrand Timmy Global Health Challenge as AMA Global Health Challenge. | Timmy Global Health<br>Med Plus Advantage<br>International Medical Group (IMG) | 2/8/2018 |
| **31368** | **AMA Sponsored Journalist Training on Opioid/Addiction Epidemic** – AMA sponsorship of training program for journalists. | American Society of Addiction (ASAM)<br>National Press Foundation (NPF) | 2/19/2018 |

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| **31391** | **2018 Women Business Leaders in Healthcare (WBL) Summit –** Sponsorship with AMA name and logo. | Women Business Leaders in Healthcare (WBL)<br>Tivity Health, Inc.<br>MCG Health, LLC, part of the Health Network<br>UnitedHealth Group, Inc.<br>Medecision, Inc.<br>American Mobile Nurses (AMN) Healthcare<br>McKesson Corporation<br>Tabula Rasa Healthcare<br>Catholic Health Initiatives<br>Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.<br>Amgen, Inc.<br>Highmark, Inc.<br>Trustmark National Bank<br>Healthcare Leadership Council (HLC)<br>Navigant Consulting, Inc.<br>Dobson DaVanzo & Associates, LLC | 2/13/2018 |
| **32602** | **Northern Connecticut and Western Massachusetts Juvenile Diabetes Research Foundation (JDRF) Annual Promise Ball –** AMA sponsorship with name and logo. | Northern Connecticut and Western Massachusetts Juvenile Diabetes Research Foundation (JDRF)<br>Optum, Inc.<br>Travelers (The Travelers Indemnity Company)<br>Aetna, Inc.<br>Aspen RE (Reinsurance)<br>Cigna (Global Health Service Company)<br>HealthPlan Services, Inc.<br>Mandell Family Foundation (Foundation Center)<br>Accenture, Inc.<br>Convey Health Solutions<br>Pratt & Whitney (United Technologies Corporation)<br>Travelers Championship (The Greater Hartford Community Foundation)<br>Bartlett, Brainard, Eacott (BBE) Inc.<br>Covington & Burling, LLP<br>Prudential Financial, Inc.<br>The Hartford Financial Services Group, Inc.<br>Klynveld Peat Marwick Goerdeler (KPMG) International Cooperative<br>Barnes Group, Inc.<br>Concentrix Corporation<br>Hartford Yard Dogs (Minor League Baseball Team) | |

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| | | Lilly Diabetes (Lilly USA, LLC)<br>Marcum Accountants (Marcum LLP)<br>New Britain Bees (Atlantic League of Professional Baseball Team)<br>New England Development, Inc.<br>PRO Unlimited, Inc.<br>People's United Bank, N.A. | |
| **32603** | **National Minority Quality Forum Leadership Summit 2018 –** Sponsorship with AMA name and logo. | National Minority Quality Forum, Inc. | 4/2/2018 |
| **32761** | **AMA Physician Innovation Network (PIN)/Health:Further Conference Collaboration –** Speaking opportunity for AMA Physician Innovation Network (PIN) with AMA name and logo at Health: Further Conference. | Health:Further | 5/4/2018 |
| **32899** | **Big Data and Healthcare Analytics Forum –** Sponsorship with AMA name and logo. | Big Data and Healthcare Analytics Forum<br>Health Information and Management Systems Society (HIMSS) Media, LLC<br>Purestorage, Inc.<br>General Electric (GE)<br>Microsoft Corporation<br>DataRobot, Inc.<br>Sirius Healthcare (Sirius Computer Solutions, Inc.)<br>3M (Minnesota Mining and Manufacturing Company)<br>Qlik Healthcare (QlikTech International AB)<br>American Health Information Management Association (AHIMA)<br>HealthDataViz, LLC<br>Roche Diagnostics Information Solutions (F. Hoffmann-La Roche Ltd) | 5/21/2018 |
| **33070** | **American Health Information Management Association (AHIMA)/AMA Clinical Documentation Improvement (CDI) Summit –** AMA to co-brand and sponsor the summit with AHIMA. | Clinical Documentation Improvement (CDI) Summit<br>American Health Information Management Association (AHIMA) | 6/25/2018 |

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| **33195** | **2018 Connected Health Conference & Personal Connected Health (PCH) Alliance –** AMA to continue sponsorship with name and logo for 2018 event. | 2018 Connected Health Conference<br>Personal Connected Health (PCH) Alliance<br>Health Information and Management Systems Society (HIMSS) | 7/20/2018 |
| **33238** | **2018 Midwest LGBTQ Health Symposium Reception –** Sponsorship of reception with AMA name and logo. | 2018 Midwest LGBTQ Health Symposium<br>Howard Brown Health Center for Education, Research and Advocacy | 7/26/2018 |
| **33239** | **2018 Health 2.0 Annual Fall Conference –** AMA to continue sponsorship with name and logo for 2018 event. | Health 2.0, LLC<br>Health Information and Management Systems Society (HIMSS) | 7/26/2018 |
| **33422** | **National Association Medical Staff Services (NAMSS) Annual Meeting –** AMA name, logo and sponsorship of key (room) cards for meeting. | National Association Medical Staff Services (NAMSS) | 8/24/2018 |
| **33423** | **Systematized Nomenclature of Medicine – Clinical Terms (SNOMED CT) Expo 2018 –** AMA to continue sponsorship with name and logo for 2018 event. | Systematized Nomenclature of Medicine – Clinical Terms (SNOMED CT) | 8/24/2018 |
| **33424** | **Health Information and Management Systems Society (HIMSS) Saudi Arabia Conference & Exhibition 2018 –** Sponsorship with AMA name and logo. | Health Information and Management Systems Society (HIMSS) | 8/28/2018 |
| **33425** | **Health Information and Management Systems Society (HIMSS) Big Data and Healthcare Analytics Forum –** Sponsorship with AMA name and logo. | Health Information and Management Systems Society (HIMSS)<br>Initiate Government Solutions (IGS), LLC<br>Rapid Insight, Inc. | 8/24/2018 |
| **33428** | **American Health Information Management Association (AHIMA) World Congress 2018 –** Sponsorship with AMA name and logo to reinforce CPT brand awareness internationally. | American Health Information Management Association (AHIMA)<br>Cleveland Clinic Abu Dhabi<br>3M (Minnesota Mining and Manufacturing Company) Health Information Systems<br>DML (Data Manipulation Language) Consulting, Inc. | 8/28/2018 |
| **33479** | **American Health Information Management Association (AHIMA) Annual Clinical Coding Meeting –** Sponsorship with AMA name and logo. | American Health Information Management Association (AHIMA) | 9/4/2018 |

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| **33494** | **Predictive Analytics Innovation Summit –**Speaking engagement including sponsorship with AMA name and logo. | The Predictive Analytics Innovation Summit (The Innovation Enterprise Ltd)<br>Visier, Inc.<br>Women Who Code<br>Decideo<br>CrowdReviews, LLC<br>Datafloq, B.V.<br>Visibility Magazine | 9/21/2018 |
| **33568** | **2018 Chicago United –** Sponsorship with AMA name and logo for "Leaders for Change" 2018 gala event. | Chicago United | 9/24/2018 |
| **33654** | **HIMSS 2019 Agreement –** Collaboration for HIMSS Global Conference, with use of AMA name and logo. | Health Information and Management Systems Society (HIMSS) | 10/5/2018 |
| **33672** | **PCPI Fall Conference 2018 –** AMA IHMI sponsorship with AMA name and logo. | PCPI<br>National Quality Registry Network (NQRN) | 10/8/2018 |
| **33830** | **Arab Health 2019 Conference –** Sponsorship with the AMA name and logo to establish CPT in Middle East healthcare market. | Arab Health (Informa Exhibitions, LLC) | 10/31/2018 |
| **33859** | **2019 National Rx Drug Abuse & Heroin Summit –** Sponsorship with AMA name and logo. | The National Rx Drug Abuse & Heroin Summit | 11/2/2018 |
| **34034** | **E-Health Conference 2019 –** Speaking engagement, booth and sponsorship with AMA name and logo to establish CPT in Canadian healthcare market. | Digital Health Canada<br>Canada Health Infoway<br>Canadian Institute for Health Information (CIHI) | 11/13/2018 |
| **34269** | **2019 National Quality Forum (NQF) Annual Conference –** Sponsorship with AMA name and logo. | National Quality Forum (NQF) | 12/6/2018 |
| **EDUCATION, CONTENT OR GRANTS** | | | |
| **30540** | **Gaples Institute for Integrative Cardiology Collaboration –** Gaples nutrition curriculum to be featured on the AMA Education Center. | Gaples Institute for Integrative Cardiology | 12/6/2018 |
| **31526** | **Validated Blood Pressure Device Criteria and Listing (VDL)** – Guidance to physicians on AMA/AHA Target:BP website regarding a | American Heart Association (AHA)<br>National Opinion Research Center | 4/23/2018 |

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| | list of devices demonstrating validation for clinical accuracy (VDL). | | |
| **31533** | **"Distributed by" branding for American Medical Association / American Heart Association Target:BP Materials** – Listing of "distributed by Telligen" on AMA and AHA co-branded Target:BP materials. | American Heart Association (AHA)<br>Telligen, Inc. | 3/28/2018 |
| **32931** | **American Hospital Association's Health Research and Educational Trust (HRET) –** AMA Improving Health Outcomes (IHO) royalty free license for diabetes prevention white paper development and dissemination. | Health Research and Educational Trust (HRET)<br>American Hospital Association (AHA) | 6/5/2018 |
| **33836** | **American Hospital Association (AHA) and AMA "Blood Pressure Measure Accurately" Module –** AMA to co-create and co-brand education program to train primary care team members. | American Hospital Association (AHA) | 10/31/2018 |
| **33885** | **MedStar/AMA EHR Usability Comparison Research Microsite –** AMA name and logo use on EHR visibility website featuring videos. | Cerner Corporation<br>Allscripts<br>MEDITECH<br>NextGen<br>Epic (Electronic Privacy Information Center)<br>Modernizing Medicine, Inc.<br>CureMD Healthcare<br>eClinicalworks<br>Athenahealth, Inc.<br>Kareo, Inc.<br>General Electric (GE) Healthcare (Centricity) | 11/5/2018 |
| **33896** | **Physician Burnout Assessment Crosswalk Research -** AMA to distribute a physician burnout survey with incentive to physician population. | Amazon.com, Inc.<br>The American Red Cross | 11/2/2018 |
| **34154** | **Target: BP Initiative Data Platform** – AMA/American Heart Association logo use on select pages of a chronic | American Heart Association (AHA)<br>IQVIA, Inc | 12/12/2018 |

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| | disease ambulatory platform with the vendor IQVIA. | | |
| | **2019 Historically Black Colleges and Universities (HBCU) Calendar and Resource Guide –** Participation in calendar and resource guide. | Historically Black Colleges and Universities (HBCU) | 7/12/2018 |
| **COLLABORATIONS/AFFILIATIONS** | | | |
| **25493** | **Heka Health Collaboration –** Updated AMA collaboration on a self-measured blood pressure (SMBP) phone app pilot. | AllScripts Healthcare Solutions, Inc.<br>Heka Health, Inc.<br>eClinicalWorks | 8/8/2018 |
| **30260** | **AMA Physician Innovation Network (PIN) Collaborators –**AMA Physician Innovation Network (PIN) collaboration agreements with limited AMA name and logo use. | AngelMD, Inc.<br>Physician Entrepreneur Summit<br>Redox, Inc.<br>Tincture.io<br>Center for Digital Innovation (CDI-NEGEV)<br>Further Fund<br>Springboard Enterprises | 9/13/2018 |
| **30327** | **AMA IHMI Collaborators** – IHMI collaboration agreements with limited AMA name and logo use. | ACT - The App Association<br>Elimu<br>Medstro<br>Association Forum<br>Ingenious Med, Inc. | 4/24/2018 |
| **31531** | **AMA IHMI Google Innovation Challenge with Medstro –** Collaboration with Google and Medstro on the IHMI Google Innovation Challenge to enhance IHMI common data model. | Google, LLC<br>Medstro | 9/10/2018 |
| **32591** | **AMA Physician Innovation Network (PIN)/Massachusetts Institute of Technology (MIT) Hacking Medicine Collaboration –** AMA Physician Innovation Network (PIN) to create a sub-community for Massachusetts Institute of Technology (MIT) Hacking Medicine events and workshops. | Massachusetts Institute of Technology (MIT) Hacking Medicine | 4/2/2018 |
| **32732** | **"All of Us" Precision Medicine Digital Physician Engagement Campaign –** AMA name and logo use to announce collaboration. | National Institute of Health (NIH)<br>Figure 1 | 4/30/2018 |

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| **32807** | **American Foundation for Firearm Injury Reduction in Medicine (AFFIRM) –** AMA support, name and logo for AFFIRM's steering committee. AMA not involved in fundraising. | American Foundation for Firearm Injury Reduction in Medicine (AFFIRM) | 5/15/2018 |
| **32975** | **AMA Physician Innovation Network (PIN)/Georgetown StartupHoyas Collaboration–** AMA Physician Innovation Network (PIN) to create a sub-community for Georgetown StartupHoyas. | Georgetown University School of Business | 6/8/2018 |
| **33354** | **FitGate Health Collaboration Agreement with IHMI –** IHMI collaboration agreement with limited AMA name and logo use. | FitGate, Inc. | 8/13/2018 |
| **33355** | **Knowledge-Action-Change (KAC) Health Collaboration Agreement with IHMI** – IHMI collaboration agreement with limited AMA name and logo use. | Knowledge-Action-Change (KAC) Health, LLC | 8/22/2018 |
| **33421** | **AMA Digital Health Implementation Playbook –** AMA branded website with links to collaborator websites and newsletters. | Egg Strategy, Inc.<br>Advocate Health Care, Inc.<br>Avia, Inc.<br>Baylor Scott & White Health<br>Boston Medical Center (BMC)<br>CareMore Health System (a subsidiary of Anthem, Inc.)<br>Columbia University Medical Center<br>Eccles School of Business<br>Enlightening Results, LLC<br>Epharmix, Inc.<br>Inception Health, LLC<br>Harvard Medical School<br>Partners Healthcare<br>Brigham and Women's Hospital<br>Health2047, Inc.<br>Healthbox, LLC<br>HealthPartners<br>Henry Ford Health System (HFHS)<br>Illinois Gastroenterology Group/SonarMD, LLC<br>Intermountain Healthcare<br>IQVIA, Inc.<br>John Hopkins Medicine (JHM) | 8/30/2018 |

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| | | Kaiser Permanente (Kaiser Foundation Health Plan, Inc.)<br>Lucro Global, LLC<br>Marshfield Clinic<br>MassChallenge, Inc.<br>Matter Health<br>Mount Sinai Health System<br>National Association of Community Health Centers<br>NODE (Network of Digital Evidence) Health<br>New York University (NYU) Langone Health<br>Ochsner Health System<br>OSF (Order of Saint Francis) Healthcare<br>Partners Connected Health<br>Partners HealthCare (Connected Health)<br>Pharos Innovations, LLC<br>Philips (Koninklijke Philips, N.V.)<br>Privia Medical Group<br>Providence Health & Services<br>Rock Health<br>Rx Health (Responsive Health)<br>Samsung<br>SLUCare Physician Group<br>Stanford Health Care (SHC)<br>The Dartmouth Institute<br>The Research And Development (RAND) Corporation<br>University of California San Francisco<br>University of Colorado Health<br>University of Mississippi Medical Center<br>Penn Medicine (University of Pennsylvania Health System)<br>University of Pittsburgh Medical Center<br>Vivify Health, Inc. | |
| **33446** | **Propeller Health Collaboration Agreement with IHMI –** IHMI collaboration agreement with limited AMA name and logo use. | Propeller Health | 8/30/2018 |

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| **33555** | **Medfusion Collaboration Agreement with IHMI –** IHMI collaboration agreement with limited AMA name and logo use. | Medfusion, Inc. | 9/19/2018 |
| **33557** | **PharmaSmart Collaboration Agreement with IHMI** - IHMI collaboration agreement with limited AMA name and logo use. | PharmaSmart International, Inc. | 9/19/2018 |
| **33600** | **PatientPoint Collaboration Agreement with IHMI –** IHMI collaboration agreement with limited AMA name and logo use. | PatientPoint, LLC | 9/27/2018 |
| **33627** | **Prevention Strategy Collaboration with Health Care Organizations (HCOs) –** AMA name and logo will appear alongside these HCOs for national diabetes prevention program. | Marshfield Clinic<br>Hattiesburg Clinic<br>North Mississippi Health System<br>Trinity Health<br>Ascension Health, Inc.<br>University of Florida Health<br>Greenville Health System (GHS)<br>Family Christian Health Center<br>Loyola University Medical Center<br>Matthew Walker Comprehensive Health Center, Inc.<br>Mercy Community Health Care<br>Riverbend Medical Group, Inc.<br>University of Pittsburgh, PA (UPMC)<br>Midwest Health's Midwest Heart & Vascular Specialists<br>Aledade, Inc.<br>Banner University Medical Center<br>Harris Health System<br>Health Management Services Organization<br>Holy Cross Health<br>Kelsey-Seybold Clinic<br>Mercy Physician Network (Mercy Health System)<br>Nashville University<br>Priority Health Care<br>South Illinois University<br>Vanderbilt University Medical Center<br>Wisconsin Women's Health Foundation<br>Regents of the University of California<br>University of Connecticut<br>University of Michigan<br>University of North Dakota | 1/8/2018 |

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| | | University of Pittsburgh Medical Center (UPMC) Community Medicine, Inc. | |
| **33671** | **Fitbit, Higi Collaboration Agreement with IHMI –** IHMI collaboration agreement with limited AMA name and logo use. | Fitbit, Inc.<br>Higi, SH, LLC | 10/8/2018 |
| **33794** | **NAM Opioid Action Collaborative –** AMA name, logo and sponsorship of public-private partnership to disseminate evidence based solutions to reduce opioid abuse. | National Academy of Medicine Action Collaborative (NAM Opioid Collaborative) | 10/24/2018 |
| **33835** | **Core Quality Measure Collaborative –** AMA participation and logo use in coalition to identify core sets of quality measures that payers will commit to use for reporting. | Core Quality Measure Collaborative (CQMC)<br>National Quality Forum (NQF)<br>The Centers for Medicare & Medicaid Services (CMS)<br>AHIP (America's Health Insurance Plans) | 10/25/2018 |
| **33884** | **AMA Physician Innovation Network (PIN)/EHR Sub-Community –** AMA to display logos of organizations that agree to collaborate in an online community that connects physicians, vendors, healthcare and IT leaders on EHR best practices. | Cerner Corporation<br>Allscripts Healthcare Solutions, Inc.<br>MEDITECH (Medical Information Technology, Incorporated)<br>NextGen Healthcare Information<br>Epic<br>Modernizing Medicine<br>CureMD<br>eClinicalworks<br>Athenahealth<br>Kareo<br>General Electric (GE) Healthcare (Centricity)<br>Cerner Corporation<br>Allscripts | 11/5/2018 |
| **33936** | **TechSpring Collaboration Agreement with IHMI –** IHMI collaboration agreement with limited AMA name and logo use. | TechSpring Health | 11/7/2018 |
| **33988** | **Persona Informatics Collaboration Agreement with IHMI –** IHMI collaboration agreement with limited AMA name and logo use. | Persona Informatics, Inc. | 11/21/2018 |

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| **34069** | **The Collaborative for Healing and Renewal in Medicine (CHARM)** - The AMA logo will be associated with the Charter and the "CHARM" friends" on AMA and Arnold P. Gold Foundation websites. | The Collaborative for Healing and Renewal in Medicine (CHARM)<br>Association of American Medical Colleges (AAMC)<br>Society for Hospital Medicine<br>Council of Residency Directors in Emergency Medicine<br>Accreditation Council of CME (Continuing Medical Education)<br>American College of Osteopathic Internists<br>American Psychiatric Association<br>National Hispanic Medical Association<br>Institute for Healthcare Improvement<br>Society for General Internal Medicine<br>American College of Physicians<br>ACLGIM (Association of Chief and Leaders of General Internal Medicine)<br>National Medical Association<br>AAIM (Alliance for Academic Internal Medicine)<br>ABIM (American Board of Internal Medicine)<br>American Society of Anesthesiology<br>Arnold P. Gold Foundation | 11/21/2018 |
| | **Partnership for America's Future Website logo request** – AMA name and logo use to announce collaboration. | America's Health Insurance Plans (AHIP)<br>Pharmaceutical Research and Manufacturer's Association (PhRMA)<br>Biotechnology Innovation Organization (BIO)<br>Blue Cross, Blue Shield Association (BCBS)<br>Association of Accessible Medicines (AAM)<br>Federation of American Hospitals | 5/31/2018 |
| **MEMBER SERVICE PROVIDER PROGRAMS** | | | |
| **31423** | **Mirador Financial Inc.** – AMA Affinity program for small practice lending services. | Mirador Financial, Inc.<br>Core Innovation Capital<br>Cuna Mutual Group<br>Epic Ventures<br>Collaborative Fund<br>Jump Capital<br>Crosslink Capital<br>NYCA (New York Court of Appeals) Partners | 2/27/2018 |

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| **31459** | **Relish Labs, LLC** – AMA Affinity program for home meal kits. | Relish Labs, LLC d/b/a Home Chef<br>The Kroger Co. | 6/13/2018 |
| **32694** | **Laurel Road Bank–** AMA Affinity program for student loan refinance. | Laurel Road Bank (f/k/a Darien Rowayton Bank "DRB")<br>Credible Labs, Inc. | 4/25/2018 |
| **32786** | **SimpliSafe, Inc. –**AMA Affinity program for security monitoring offices and homes. | SimpliSafe, Inc. | 5/14/2018 |
| **33256** | **Headspace, Inc. –** AMA Affinity program for discounted subscription to meditation and mindfulness mobile application. | Headspace, Inc. | 8/14/2018 |
| **33257** | **Gympass U.S., LLC –** AMA Affinity program for discounted fitness memberships. | Gympass U.S., LLC | 8/6/2018 |
| **33258** | **Intersections, Inc.** – AMA Affinity program for discounted identity theft protection and data breach readiness subscriptions. | Intersections, Inc. d/b/a Identity Guard | 8/14/2018 |
| **33615** | **GE Appliances** – AMA Affinity program for discounted home appliances. | General Electric (GE) Appliances<br>Meridian One Corporation | 10/3/2018 |
| **33615** | **Meridian One Acquisition by Arthur J. Gallagher–** Arthur J. Gallagher purchases Meridian One, an AMA Affinity program partner for GE home appliances. | Meridian One Corporation<br>Arthur J. Gallagher & Co.<br>Gallagher Affinity | 12/12/2018 |
| **33619** | **Dell Marketing L.P. -** AMA Affinity program for discounted computer technology. | Dell Marketing L.P. | 5/7/2018 |
| **33734** | **AMA Affinity Hotel Program –** AMA Affinity program for international hotels. | Choice Hotels International, Inc. | 10/3/2018 |
| | **AMA-sponsored Med Plus Advantage (MPA) with Employee Assistance Program –** AMA Insurance Agency program for employee mental health counselling services through AMA-sponsored Med Plus Advantage (MPA) program. | Standard Insurance Company<br>Morneau Shepell, Ltd. | 9/24/2018 |

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| **AMA ALLIANCE** | | | |
| | **AMA Alliance Video Program: "Community Approaches to Combat the Opioid Epidemic" –** AMA Alliance and Independent Television News (ITN) Productions Industry News to co-brand and collaborate on an AMA Alliance promotional video, with AMA Alliance name and logo use. | AMA Alliance<br>Independent Television News (ITN) Productions Industry News | 5/7/2018 |
| **AMA FOUNDATION** | | | |
| | **AMA Foundation (AMAF) Corporate Roundtable Fundraising – Phase One** – Phase one corporate fundraising campaign to increase AMA Foundation Corporate Roundtable members. | AbbVie, Inc.<br>Actelion Pharmaceuticals US (J&J/Janssen Co.)<br>Alexion Pharmaceuticals, Inc.<br>America's Health Insurance Plans (AHIP)<br>Amneal Pharmaceuticals, Inc.<br>Argus Health Systems, Inc.<br>AstraZeneca, PLC<br>Biogen, Inc.<br>BioMarin Pharmaceutical, Inc.<br>Biotechnology Innovation Organization (BIO)<br>Blue Cross Blue Shield<br>Boehringer-Ingelheim, GmbH<br>Bracco Diagnostics, Inc.<br>Bristol-Myers Squibb Company<br>Centene Corporation<br>Cerner Corporation<br>Change Healthcare Corporation<br>Cigna Corp.<br>Cigna Pharmacy Benefit Management<br>Cipla USA, Inc.<br>Citizens Rx, LLC<br>CVS (Consumer Value Store) Caremark<br>Daiichi Sankyo Company, Limited<br>Eli Lilly and Company<br>EnvisionRx Options (Envision Pharmaceuticals, LLC)<br>Express Scripts Holding Company<br>GE Foundation (General Electric)<br>Genentech, Inc.<br>Gilead Sciences, Inc.<br>GlaxoSmithKline, PLC<br>Henry Schein, Inc. | 10/25/2018 |

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| | | Horizon Pharma, PLC<br>Humana, Inc.<br>IBM Watson Health (International Business Machines)<br>Incyte Corporation<br>Insulet Corporation<br>Ionis Pharmaceuticals<br>Livongo Health, Inc.<br>Lupin Pharmaceuticals, Inc.<br>Mallinckrodt, LLC<br>Masimo Corporation<br>MedImpact Healthcare Systems, Inc.<br>Merck and Company, Inc.<br>MeridianRx, LLC<br>Navitus Health Solutions<br>Novartis International, AG<br>Novo Nordisk A/S<br>Oak Street Health, LLC<br>Otsuka America Pharmaceutical, Inc.<br>PerformRx, LLC<br>Pernix Therapeutics Holdings<br>Pfizer, Inc.<br>Philips Healthcare Company<br>Phoenix Benefits Management, LLC<br>PhRMA (Pharmaceuticals Research and Manufactures)<br>Prime Therapeutics, LLC<br>ProCare RX<br>Regeneron Pharmaceuticals, Inc.<br>The Risk Authority – Stanford<br>Sanofi<br>Shionogi, Inc.<br>Shire U.S.<br>Solera Health (Solera Network)<br>Sun Pharmaceutical Industries, Inc.<br>Takeda Pharmaceuticals Company, LTD<br>Terumo Medical Corporation<br>Teva North America (Teva Pharmaceuticals, USA, Inc.)<br>UnitedHealth Group, Inc.<br>Vertex Pharmaceuticals, Inc.<br>Walgreens (Walgreen Company)<br>WellDyneRx, LLC<br>World Wide Technology, Inc. | |

REPORT OF THE BOARD OF TRUSTEES

B of T Report 6-A-19

Subject: Redefining AMA's Position on ACA and Healthcare Reform

Presented by: Jack Resneck, Jr., MD, Chair

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At the 2013 Annual Meeting of the House of Delegates (HOD), the HOD adopted Policy D-165.938, "Redefining AMA's Position on ACA and Healthcare Reform," which called on our American Medical Association (AMA) to "develop a policy statement clearly outlining this organization's policies" on a number of specific issues related to the Affordable Care Act (ACA) and health care reform. The adopted policy went on to call for our AMA to report back at each meeting of the HOD. BOT Report 6-I-13, "Redefining AMA's Position on ACA and Healthcare Reform," accomplished the original intent of the policy. This report serves as an update on the issues and related developments occurring since the most recent meeting of the HOD.

## IMPROVING THE AFFORDABLE CARE ACT, AND AN UPDATE ON MEDICARE EXPANSION EFFORTS

Efforts are currently underway on Capitol Hill to enact polices to support the ACA and address recent efforts to weaken the law. The termination of cost sharing payments, for example, has increased premiums for those not eligible for the ACA's premium subsidies, resulting in significant decreases in enrollment among that population. In March, the House Committee on Energy and Commerce began efforts to enact legislation to support state reinsurance programs or to provide financial assistance to reduce out-of-pocket costs for those enrolled in qualified plans. Separate legislation would reverse cuts to the ACA Navigator program and expand program duties as they relate to Medicaid and the Medicare, Medicaid, Children's Health Insurance Program (CHIP). The committee will also consider legislation to again make funding available for the establishment of state-based marketplaces. The AMA remains engaged on this and other efforts to preserve current coverage options and make improvements where necessary.

Following the mid-term Congressional elections in 2018, a great deal of attention has been paid to efforts to enact legislation creating a Medicare for All program. As proposed, this single-payer system would replace the Affordable Care Act (ACA), CHIP and all private health insurance options available through employers or the individual market.

Our AMA is currently engaged in efforts with other partners across the health care sector to raise the awareness of the shortcomings of single-payer systems and, consistent with AMA policy, to continue to promote improvements to the current system which provides quality coverage to more than 90 percent of Americans while working to expand options to cover those who remain uninsured. Though polling on the general topic shows strong public support, that support quickly erodes when the details of a such a system are explained and people begin to comprehend the significant disruptions that would occur to the coverage and access to care they currently enjoy.

MERIT-BASED INCENTIVE PAYMENT SYSTEM (MIPS) AND ALTERNATIVE PAYMENT MODELS

Our AMA continues to work to make refinements to the Merit-based Incentive Payment System (MIPS) that was established by the Medicare Access and CHIP Reauthorization Act (MACRA). Work has proceeded through workgroups comprised of policy staff from state and national medical specialty societies as well as a CEO Working Group. At this writing, several policy modifications have been discussed which would not require statutory changes, while others would require Congressional action. Among proposals which can be implemented without Congressional action are:

- Keeping cost weighted at 15 percent for at least one additional year while new episode-based measures are developed and tested and phase in new measures.
- Ultimate elimination of the Total Per Capita Cost (TPCC) and Medicare Spending Per Beneficiary (MSPB) measures which double count costs and will potentially triple count costs once the cost-based episode measures are in place.
- Improve the accountability of cost measures so that physicians can make informed decisions about their cost effectiveness without being inappropriately penalized for care outside of their control or for caring for medically and socially complex patients.
- Reduce the requirements for reporting quality measures and propose a reporting option based on clinical continuums of care.
- Revise the quality measure benchmark methodology.
- Modify policies to encourage reporting via Qualified Clinical Data Registries (QCDRs).
- Increase transparency in the Improvement Activities category.
- Accept activity modifications and new activities on an accelerated timeline to reflect the pace of change in medicine.
- Allow multi-category credit for activities and measures that overlap performance categories to simplify the scoring methodology and make the program more clinically relevant.
- Propose (as opposed to seeking comment on) alternative scoring methodologies for promoting interoperability.
- Further simplify and reduce physician reporting burden through a yes/no measure attestation and leverage health IT vendors' reporting on utilization of Certified EHR Technology – Centers for Medicare & Medicaid Services (CMS) functionality.

Proposals which would likely require statutory changes by Congress include:

- Implement positive updates for physician payment rates for 2020-2025.
- Extend CMS' flexibility to set the performance threshold lower than the mean or median beyond 2021 performance year or permanently remove the "mean or median" requirement.
- Update the Promoting Interoperability category by including language that explicitly allows vendors as well as eligible professionals to submit the data necessary for eligible professionals to be considered a "meaningful user" and decouple the Promoting Interoperability performance category from the old EHR Meaningful Use program.
- Adopt a provision granting CMS explicit flexibility to base scoring on multi-category measures to reduce silos between each of the four MIPS categories and create a more unified program.
- Aid smaller practices by adding provisions that allow more flexibility for the development of virtual groups if CMS sees low numbers of physicians joining virtual groups in the first two years of the program.
- Remove the requirement that episode-based cost measures account for half of all expenditures under Parts A and B.

- Align benchmark/reporting language for the Quality performance category in MIPS and physician compare.

On March 1, 2019, the AMA wrote to Health and Human Services Secretary Alex Azar and CMS Deputy Administrator for Quality and Innovation Adam Boehler to put forth policy recommendations for HHS and CMS to consider as a means of generating more successful alternative payment models (APMs) that will achieve better outcomes for patients and more savings for Medicare. The recommendations fell into six policy areas:

- Limiting accountability to costs and outcomes that physicians can control;
- Making payment models simple but flexible;
- Providing physicians with the data needed to deliver high-value care;
- Encouraging the implementation of APMs developed by practicing clinicians;
- Trying multiple approaches to delivery and payment reform; and
- Extending MACRA APM incentives for a longer period.

Our AMA will continue to work with the Administration and Congress as appropriate to implement these and other steps that can improve the environment surrounding payment and delivery system reform efforts for physicians.

STEPS TO LOWER HEALTH CARE COSTS

As a follow up to multiple hearings over the summer of 2018, the Chairman of the Senate Committee on Health, Education, Labor and Pensions, Sen. Lamar Alexander of Tennessee, requested information from a broad range of stakeholders on specific steps that could be taken to reduce the cost of health care. In a March 1 response to the Chairman, the AMA put forth several recommendations.

One area in which the AMA made recommendations was the high administrative costs in the health care system, particularly related to burdensome prior authorization requirements and the enormous amount of physician and staff time spent in these tasks that add little to patient care and in many cases, delay medically necessary care. Other areas addressed to the committee were:

- Increased price and data transparency to empower patients;
- Prescription drug price and cost transparency;
- Value-Based Insurance Design;
- Alternative Payment Models; and
- Lowering health care costs with an increased focus on prevention, particularly the AMA's work on preventing diabetes and controlling hypertension.

CONCLUSION

Our AMA will remain engaged in efforts to improve the health care system through policies outlined in Policy D-165.938 and other directives of the House of Delegates.

REPORT 7 OF THE BOARD OF TRUSTEES (A-19)
AMA Performance, Activities and Status in 2018

## EXECUTIVE SUMMARY

Solving the most urgent challenges in health care today - from the opioid epidemic to widespread system dysfunction - requires a bold vision, a creative approach and strategic partnerships across medicine, business and technology. The informational report "AMA Performance, Activities and Status in 2018" demonstrates the work of the American Medical Association in 2018 to be not only a strong unifying voice for the profession but an active and powerful ally for physicians and their patients across generations.

On an array of complex issues and challenges - from fighting abusive insurer practices and taking a stand on gun violence to advocating for greater drug pricing transparency and working to reform prior authorization burdens that often delay care - the AMA demonstrated its unsurpassed commitment to patients and physicians.

The AMA's groundbreaking efforts to reinvent medical education for the digital age took a sizable step forward in 2018 as we welcomed the first graduating classes from the AMA's "Accelerating Change in Medical Education" initiative. In addition, we introduced the next phase of our celebrated work with a "Reimagining Residency" initiative that promises to better train young physicians to meet the evolving needs of patients, communities and our dynamic health care system.

For the physician workforce of today, the AMA expanded its world-leading research journal with the launch of JAMA Network Open, a fully accessible online clinical research journal covering more than 40 key topics in medicine. It has quickly become an indispensable source for research and commentary on clinical care, health care innovation and global health.

This work was made possible thanks to another strong financial performance in 2018, which included increased membership for the eighth year in a row. Our membership growth is fueled by an innovative and award-winning campaign, "Membership Moves Medicine™," which grew membership by 3.4 percent in 2018, double the growth rate of the previous year.

REPORT OF THE BOARD OF TRUSTEES

B of T Report 7-A-19

Subject: AMA Performance, Activities and Status in 2018

Presented by: Jack Resneck, Jr., MD, Chair

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Policy G-605.050, "Annual Reporting Responsibilities of the AMA Board of Trustees," calls for the Board of Trustees to submit a report at the American Medical Association (AMA) Annual Meeting each year summarizing AMA performance, activities, and status for the prior year.

INTRODUCTION

The AMA's mission is to promote the art and science of medicine and the betterment of public health. As the physician organization whose reach and depth extends across all physicians, as well as policymakers, medical schools, and health care leaders, the AMA is uniquely positioned to deliver results-focused initiatives that enable physicians to answer a national imperative to measurably improve the health of the nation.

*Attacking the dysfunction in health care*

Insurer Practices

Abusive insurer practices continue to plague patients and physicians, but the AMA convinced Anthem to reverse course when Anthem announced a change in its modifier 25 policy that could have cost physician practices an estimated $100 million annually. The AMA also combatted Anthem/BCBS policies that deny coverage for emergency care, including supporting enactment of state legislation in Missouri.

The AMA created a consensus statement - adopted by industry stakeholders - to "right size" the prior authorization process.

- Supported by: AMA, American Hospital Association, America's Health Insurance Plans, American Pharmacists Association, Blue Cross Blue Shield Association and Medical Group Management Association
- AMA successfully collaborated to enact utilization management reforms (step therapy and prior authorization) in three states (IN, NM and WV)

The AMA's grassroots website, FixPriorAuth.org, launched in 2018 to educate the general public about the problems associated with prior authorization and to gather stories from physicians and patients about how they have been affected by it.

Physician Payment

Due to AMA advocacy, physicians averted an E/M code collapse that would have implemented dramatic reductions in physician payment. An AMA-convened physician workgroup developed a new E/M coding proposal to be considered by the CPT Editorial Panel in early 2019.

The AMA fought successfully for Congress to eliminate the Independent Payment Advisory Board.

CMS expanded coverage for services using telecommunications technology, strongly supported by the AMA.

AMA has been working with specialty societies and individual physicians to promote testing of new alternative payment models. Over the past 12 months, the federal Physician-focused Payment Model Technical Advisory Committee (PTAC) has recommended to the HHS Secretary five alternative payment models that were strongly supported by the AMA. These models aim to significantly improve care for patients that need emergency department care, oncology care, palliative care, advanced primary care, and those transitioning from chronic to end-stage renal disease. As AMA has strongly advocated, the CMS Innovation Center has indicated that it plans to implement three of these physician-focused payment models early in 2019.

AMA continued to successfully seek Quality Payment Program (QPP) improvements:

- Medicare Part B drug costs will be excluded from the Merit-based Incentive Payment System (MIPS) payment adjustments and from the low-volume threshold determination
- CMS may reweight the MIPS cost performance category to not less than 10 percent for the third, fourth and fifth program years (rather than requiring a weight of 30 percent in the third year)
- CMS has more flexibility in setting the MIPS performance threshold for years three through five to ensure a gradual and incremental transition to the performance threshold being set at the mean or median performance level in the sixth year

<u>Regulatory Relief</u>

The AMA secured significant improvements to the Promoting Interoperability component of the QPP (formerly known as the EHR Meaningful Use Program).

Congress eliminated the requirement that the federal electronic health record (EHR) program become more stringent over time.

<u>State efforts</u>

Working with state medical societies, the AMA helped secure over 85 state legislative and regulatory victories (issues include opioids, stabilizing the individual market, balance billing, Anthem ER policy, PBM regulation, utilization management, Medicaid expansion, banning of conversion therapy, scope of practice, medical liability reform, telemedicine, and more.)

<u>Practice Transformation (Operational)</u>

To support the operational components of physician practices, Professional Satisfaction and Practice Sustainability (PS2) relaunched, updated and expanded the STEPS Forward™ Practice Improvement Strategies collection as part of the AMA Ed Hub™, focused on creating the organizational structures that can result in more satisfied and productive physicians.

PS2 continues to partner with health systems, large practices, state medical societies, and graduate medical education programs to assess physician burnout utilizing the Mini-Z Burnout Assessment. Many of these burnout assessments were done in collaboration with the AMA's Physician Engagement unit as a key component of our offering for group membership.

The AMA, in partnership with Stanford WellMD and Mayo Clinic, led research to evaluate the latest trends in prevalence of burnout and satisfaction with work-life integration among physicians, to assess progress relative to 2011 and 2014 studies.

PS2 co-hosted a successful International Conference on Physician Health held October 2018 in Toronto with the Canadian Medical Association and British Medical Association, and will convene the second American Conference on Physician Health in Fall 2019 with our partners Stanford WellMD and Mayo Clinic.

In 2018, PS2 made a significant investment in research to expand the body of "practice science," championing evidence-based interventions to improve the delivery models of care at the practice and system levels. This robust body of research, entitled the AMA Practice Transformation Initiative (PTI), will be conducted in collaboration with heath systems, practices, and medical societies to study interventions at various practice types and sizes, with the goal of improving patient care by improving clinician satisfaction.

PS2 and Advocacy have partnered to provide new resources for physicians to provide clear guidance on commonly misunderstood regulatory guidelines that impact day-to-day clinical practice on pressing topics like Computerized Process Order Entry (CPOE) and Medical Student Documentation.

Digital Health (Technological)

PS2 continued to support the quadruple aim by convening the health care innovation ecosystem to advance the adoption of safe, effective electronic health records (EHRs) and digital health solutions - led by the physician and patient voice - in support of the quadruple aim.

PS2's work included the July 2018 publishing of "A Usability and Safety Analysis of Electronic Health Records: A Multi-Center Study" in the Journal of the American Medical Informatics Association. This followed the release of a guide with recommendations for improving the safety and usability of EHRs as well as safety test case scenarios.

PS2 continued to support and expand the influence of Xcertia, the collaboration dedicated to improving the quality, safety, and effectiveness of mobile health applications.

The AMA's Physician Innovation Network (PIN) continues to expand to amplify further the physician voice in health tech innovation by connecting physicians with health tech innovators and entrepreneurs.

PS2 launched the AMA Digital Health Implementation Playbook in Fall 2018 to improve the clinical integration and scaling of digital health tools. These tools, when leveraged effectively, can remove obstacles to delivering quality patient care and reduce physician burnout. The Playbook was brought to life with the support of over 30 collaborators, and it includes general best practices relevant for implementing any technology solution in practice as well as a chapter specifically focused on remote patient monitoring. The Playbook will be expanded in 2019 to include additional chapters emphasizing the implementation of additional specific digital health solutions.

Physician Payment and Quality (Financial)

The financial performance and sustainability of physician practices continues to be a focus of PS2's work to update our comprehensive collection of payment and quality reporting resources,

available on the AMA website, to reflect the current Medicare Quality Payment Program (QPP) program year.

In Fall 2018, the AMA and RAND Corporation partnered again to publish a follow-up study to our 2014 research on the effects of payment models on physician practices, hospitals and health plans. With this research, the AMA is positioned to better understand and shape alternative payment models and develop our strategic plan in this area to inform our investments in research, educational resources, and activities that enable physicians to adapt, lead and thrive in a value-based health care system.

A grant from the Centers for Medicare and Medicaid Services (CMS) Transforming Clinical Practices Initiative, through which the AMA is providing technical assistance and educational resources for multiple Practice Transformation Network (PTN) practices, was renewed for 2019. Under the auspices of the grant, the AMA will continue to convene experts to tackle the challenges associated with Qualified Clinical Data Registry reporting and quality measurement.

Litigation Center

*Azar v. Allina Health Services:* In 2018, the AMA Litigation Center filed an amicus brief before the US Supreme Court to argue for Medicare to use notice and comment rulemaking for significant payment rule changes.

*Bell v. Mackey:* A psychiatrist who discharged a patient who later committed suicide was shielded from liability under state law because the physician performed a good faith examination and favored his patient's autonomy vs. involuntary commitment. The Litigation Center filed a brief supporting the physician.

*Mayo v. IPFCF:* The Wisconsin Supreme Court upheld the constitutionality of Wisconsin's statutory cap on damages in medical malpractice suits. The Litigation Center filed an amicus brief in support of reinstating the cap.

*Texas v. U.S.:* The AMA filed an amicus brief defending the constitutionality of the ACA.

*Tulare Hospital Medical Staff v. Tulare Local Healthcare District:* The AMA supported the California Medical Association in reinstating a hospital medical staff and recovering certain damages after an unjust ousting from the hospital administration.

Sexual Orientation and Gender Identity (SOGI)

As directed by the House of Delegates, Policy G-635.125, asked the AMA, with input from the LGBTQ Advisory Committee, to expand the collection of demographic information from AMA members to include sexual orientation and gender identity. The initial roll-out of the SOGI data collection effort was successfully completed ahead of the 2018 AMA membership recruitment efforts and allows members and non-members to voluntarily submit SOGI information. Post-launch improvements were recently implemented to better capture and represent the diversity of the physician member population. The focus, now, will be to encourage participation and to develop a white paper on how the AMA implemented SOGI data collection for our members.

DMPAG

The Digital Medicine Payment Advisory Group made great progress towards its goal of integrating digital medicine technologies into clinical practice. This includes proposing new CPT codes for Remote Physiologic Monitoring and Interprofessional Internet Consultations. These codes were published in 2018 and will be covered and paid by Medicare and other payers in 2019.

CPT/RUC Workgroup

The CPT/RUC Workgroup on Evaluation and Management built a new coding structure for E/M Office Visit coding in response to changes to E/M proposed by CMS. The group has developed a consensus coding structure that will be proposed to the CPT Panel in February 2019. Given the progress made by the workgroup CMS has delayed implementation of any changes to E/M until 2021.

*Reinventing medical education, training and lifelong learning*

Beta launch of AMA Ed Hub

In 2018, the AMA introduced the AMA Ed Hub™ (amaedhub.com), AMA's new education delivery platform. Designed to support lifelong learning, licensure and certification needs, the AMA Ed Hub reflects the AMA's deep and longstanding commitment to lifelong professional development that helps physicians and the broader health care team achieve real-world outcomes of better health care and better health.

The AMA Ed Hub brings together the many excellent sources of education from across the AMA under one unified umbrella including JN Learning™, STEPs Forward™ and other AMA education. Serving as a powerful discovery channel for trusted education, the AMA Ed Hub provides physicians and other learners with simple, intuitive access to high quality education on any device, in many formats and at any time of the day. It delivers increasingly personalized learning experiences, serving up recommendations based on user interests and behaviors. It also features a consolidated learner transcript and seamless claiming, tracking and reporting of credit.

*JAMA*

The JAMA Network continued to expand into new channels and content types, such as podcasts (over 2.7 million downloads), Apple News feeds, and visual abstracts to increase the accessibility and reach of content for students, physicians, and researchers. This was highlighted by the launch of *JAMA Network Open* in 2018, the AMA's first online-only, fully open access clinical research journal. *JAMA Network Open* is a general medicine journal covering more than 40 topic areas, with the same commitment to quality and integrity as all the JAMA Network journals. In addition to content being freely available to all readers upon publication, *JAMA Network Open* aims to make content accessible to readers by including invited commentaries to put research in context, press releases, and article key points. As an online-only publication, *JAMA Network Open* will provide ongoing innovations around the publishing process and dissemination of content, which will benefit the entire JAMA Network as the landscape around scientific information continues to evolve.

Accelerating Change in Medical Education (ACE)

The major accomplishments of the ACE Consortium that work toward reimagining medical education, training, and lifelong learning for the digital age include:

- Celebrated the completion of the original five-year grant period
- All 32 consortium member institutions have committed to continue to collaborate, and will invite new members.
- Consortium innovations impact over 19,000 students throughout the US

A significant output of the consortium is the increasing incorporation of health systems science into medical education. Training in health systems science will prepare physicians to lead in another critical area of AMA's focus: *Attacking the dysfunction in health care by removing obstacles and burdens that interfere with patient care.*

- The Health Systems Science textbook, published by Elsevier in December 2016, has sold more than 4,300 copies and is used at more than two dozen academic institutions, both consortium and non-consortium members.
- The Health Systems Science Review book was completed in 2018 and will be published by Elsevier in April 2019.
- The consortium is developing the Health Systems Science Learning Series of online modules which will be used by medical students to learn health systems science topics.
- The inaugural Health Systems Science Faculty Development Workshop was held in September 2018 for medical school faculty to learn how to teach health systems science. Subsequent workshops are being planned.

The AMA awarded 15 Innovation grants of $10,000 to $30,000 to schools that will further the work to transform medical education.

The AMA announced the launch of and requested proposals for the Reimagining Residency Initiative. This $15 million program will provide grants to projects that will transform graduate medical education to better train young physicians to meet the changing needs of patients, communities and our dynamic health care system.

Journal of Ethics

The *AMA Journal of Ethics* website was completely redesigned and relaunched in July 2018, making it more user friendly and accessible. For example, educators of medical students or resident physicians are now able to filter and download content based on the ACGME core competencies or by medical specialty area.

Augmented Intelligence

In 2018, our House of Delegates approved a new policy outlining the use of augmented intelligence in health care and medicine. The policy outlines important considerations for design, evaluation, implementation and oversight of AI systems use in health care. The AMA remains committed to ensuring the evolution of AI occurs in a manner that benefits patients, their physicians, and the health care community.

*Improving the health of the nation*

Opioids

While the opioid epidemic continues to have a devastating effect on our nation, the AMA Opioid Task Force notes progress as the result of its efforts, including:

- Between 2013 and 2017, the number of opioid prescriptions decreased by more than 55 million, or 22.2 percent.
- The number of physicians trained/certified to provide buprenorphine in-office continues to rise - more than 55,000 physicians are now certified - a 17,000+ increase since April 2017.
- Naloxone prescriptions more than doubled in 2017, from approximately 3,500 to 8,000 per week.
- More than 549,000 physicians and other health care professionals completed continuing medical education trainings and accessed other Federation education resources in 2017.

Congress provided nearly $4 billion for prevention, treatment and law enforcement efforts, and reached agreement on additional comprehensive legislation to address the opioid epidemic, including many provisions supported by the AMA.

AMA's intensive technical analysis and other support was used in more than 20 states to ensure state medical societies had current opioid prescribing and PDMP data to fight back against mandates and overly restrictive bills as well as strengthening naloxone access and Good Samaritan laws. This resulted in wins in at least 15 states in 2018 that are instrumental in reversing the opioid epidemic.

The AMA, along with Pennsylvania Medical Society and Manatt Health, conducted a spotlight analysis in Pennsylvania to demonstrate best practices on a state's response to the opioid epidemic and to highlight next steps. One of the key achievements in Pennsylvania includes a landmark agreement between the governor's administration and the seven largest insurers in the state, fully removing prior authorization requirements for medication-assisted treatment (MAT) to treat substance use disorder, and moving MAT to the lowest cost-sharing tier.

Access to Health Care

Congress provided funding for the Children's Health Insurance Plan for 10 years with strong AMA support.

Gun Violence

The AMA is working to prevent gun violence by partnering with the American Foundation for Firearm Injury Reduction in Medicine (AFFIRM), a physician-led nonprofit organization that aims to counter the lack of federal funding for gun violence research by sponsoring gun violence research with privately raised funds, and pushing Congress to fund CDC gun violence research.

Drug Prices

With AMA support, Congress banned so-called gag clauses in contracts with insurers that prevented pharmacists from informing patients about less expensive options for purchasing their medications.

Liability

The AMA secured passage of Good Samaritan liability protections for physicians responding to health care needs in out-of-state disasters and emergencies.

Prediabetes Awareness

Prediabetes Campaign Refresh: In November 2018, the AMA in collaboration with the Centers for Disease Control and Prevention and the Ad Council launched a new creative edition to the national prediabetes public service (PSA) campaign. To date, more than one million people have self-screened for prediabetes thanks to the PSA campaign. Additionally, the national public awareness has increased by more than four percent since launching the national campaign two years ago.

Engagement with health care organizations

STAT Refresh: In December 2018, IHO launched a new digital Diabetes Prevention Guide that helps support health care organizations in defining and implementing evidence-based diabetes prevention strategies. Using a comprehensive and customized approach, this new digital experience brings AMA resources to health systems to help them identify patients with prediabetes and implement a type 2 diabetes prevention lifestyle change program that meets the needs of their unique patient populations.

Trinity Health System Collaboration: In 2018, the AMA engaged in a multi-state chronic disease prevention effort aimed at diabetes prevention with Trinity Health System, a national health system serving diverse communities in 93 hospitals in 22 states. Work includes assisting Trinity leadership in developing a strategic roadmap that engages physicians, care teams and residents, while also recognizing the need to create community linkages.

Target: BP**:** Over the past year, participation in the national Target: BP initiative - a joint endeavor with the American Heart Association that has a shared goal of improving blood pressure control to reduce the number of Americans who have heart attacks and strokes each year - increased to more than 1,600 health systems and physician practices nationwide. More than 8 million US adults are now being reached because of this national effort, which launched less than three years ago. In 2018, we recognized more than 800 physician practices that have made prioritizing blood pressure (BP) control for their patient populations a priority, with nearly 350 achieving a BP control rate above 70 percent.

Eminence/Research

PCORI Grant: In collaboration with a team of researchers from UCSF, the AMA's web-based version of our Blood Pressure M.A.P. QI program was selected to be tested as part of a three-year PCORI grant.

NACHC Grant: In collaboration with the Centers for Disease Control and Prevention (CDC) and the National Association of Community Health Centers (NACHC), the AMA was selected in October 2018 to help establish up to three health center control networks across the country that will leverage health information technology to address undiagnosed high blood pressure and cholesterol, improve blood pressure control in African Americans, and use self-measured blood pressure (SMBP) monitoring to improve blood pressure control in all adults with hypertension through 2019.

ACPM Grant: In collaboration with CDC and American College of Preventive Medicine (ACPM), the AMA was selected in October 2018 to help up to three health care organizations address the needs of disproportionately affected populations to identify adults with prediabetes and refer those with the condition to evidenced-based Diabetes Prevention Programs through 2019.

The IHO team published nine papers in leading journals including the *American Journal of Preventative Medicine, Hypertension, and International Journal of Healthcare*.

*Communications*

The AMA rose to the top of critical debates on immigration, gun violence, reimaging medical education and the future of health care. In 2018, the AMA media relations team secured 65,354 placements across national, local and trade media - coverage that generated more than 25 billion media impressions worth $232 million in estimated publicity value.

*Membership*

Membership grew for the 8th consecutive year, with a 3.4% increase in dues paying members in 2018, more than double the growth rate in 2017. Growth was fueled by an innovative and award-winning campaign, "Membership Moves Medicine™," which celebrates the powerful work of physician members and showcases how their individual efforts - along with the AMA - are moving medicine forward.

*EVP Compensation*

During 2018, pursuant to his employment agreement, total cash compensation paid to James L. Madara, MD, as AMA Executive Vice President was $1,107,042 in salary and $1,046,000 in incentive compensation, reduced by $2,890 in pre-tax deductions. Other taxable amounts per the contract are as follows: a $170,998 payment of prior years' deferred compensation, $14,478 imputed costs for life insurance, $7,620 imputed costs for executive life insurance, $2,500 paid for health club fees, $2,820 paid for parking and $3,500 paid for a physical. An $81,000 contribution to a deferred compensation account was also made by the AMA. This will not be taxable until vested and paid pursuant to provisions in the deferred compensation agreement.

For additional information about AMA activities and accomplishments, please see the "AMA 2018 Annual Report."

REPORT OF THE BOARD OF TRUSTEES

B of T Report 8-A-19

Subject: Annual Update on Activities and Progress in Tobacco Control: March 2018 through February 2019

Presented by: Jack Resneck, Jr., MD, Chair

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This report summarizes American Medical Association (AMA) activities and progress in tobacco control from March 2018 through February 2019 and is written pursuant to AMA Policy D-490.983, "Annual Tobacco Report."

## TOBACCO USE IN THE UNITED STATES: CDC MORBIDITY AND MORTALITY WEEKLY REPORTS (MMWR)

According to the Centers for Disease Control and Prevention (CDC) tobacco use remains the leading preventable cause of disease and death in the United States with an estimated 480,000 premature deaths annually, including more than 41,000 deaths resulting from secondhand smoke exposure. These data translate to about one in five deaths related to tobacco use annually, or 1,300 deaths every day. Each year, the United States spends nearly $170 billion on medical care to treat smoking-related disease in adults. From March 2018 through February 2019, the CDC released 13 MMWRs related to tobacco use. These reports provide useful data that researchers, health departments, community organizations and others use to assess and develop ongoing evidence-based programs, policies and interventions to eliminate and/or prevent the economic and social costs of tobacco use.

2018: https://www.cdc.gov/tobacco/data_statistics/mmwrs/byyear/2018/index.htm

2019: https://www.cdc.gov/tobacco/data_statistics/mmwrs/byyear/2019/index.htm

### *Youth Smoking Rates and Trends*

According to the June 8, 2018 MMWR, which was an analysis of data from the 2011-2017 National Youth Tobacco Surveys (NYTS), there were substantial increases in electronic cigarette (e-cigarette) and hookah use among high school and middle school students, whereas significant decreases were observed in the use of cigarettes, cigars, smokeless tobacco, pipe tobacco, and bidis. The NYTS is a cross-sectional, voluntary, school-based, pencil-and-paper questionnaire self-administered to US middle and high school students. A three-stage cluster sampling procedure generated a nationally representative sample of US students attending public and private schools in grades 6–12.

Analysis of the 2017 NYTS data demonstrated that e-cigarettes were the most commonly used tobacco product among high school (11.7%; 1.73 million) and middle school (3.3%; 0.39 million) students. E-cigarette use in high school students was followed by cigars (7.7%), cigarettes (7.6%), smokeless tobacco (5.5%), hookah (3.3%), pipe tobacco (0.8%), and bidis (0.7%). E-cigarettes were the most commonly used tobacco product among non-Hispanic white (14.2%) and Hispanic (10.1%) high school students, whereas cigars were the most commonly used tobacco product

among non-Hispanic black (black) high school students (7.8%). Among high school students, current use of any tobacco product decreased from 24.2% (estimated 3.69 million users) in 2011 to 19.6% (2.95 million) in 2017. Among middle school students, current use of any tobacco product decreased from 7.5% (0.87 million) in 2011 to 5.6% (0.67 million) in 2017.

The authors highlight the need for sustained efforts to implement proven tobacco control policies and strategies that are critical to preventing youth use of all tobacco products. There is concern about the rising popularity of e-cigarettes and availability of flavored tobacco products. This concern was amplified by another MMWR publication reporting the prevalence of e-cigarette use among high school students using the 2018 NYTS data. These results were published in November 2018 prior to the publication of the full survey results. E-cigarette use among high-schoolers climbed from 11.7% in 2017 to 20.8% in 2018.

*Adult Smoking Rates*

According to a study in the November 9, 2018 MMWR, an estimated 14% of US adults (34.3 million) were current cigarette smokers in 2017, representing a 67% decline since 1965. However, in 2017, nearly nine in 10 (41.1 million) adult tobacco product users reported using a combustible tobacco product, with cigarettes being the product most commonly used. To assess recent national estimates of tobacco product use among US adults aged 18 years or older, the CDC, the Food and Drug Administration, and the National Institutes of Health's National Cancer Institute analyzed data from the 2017 National Health Interview Survey (NHIS). The NHIS is an annual, nationally representative in-person survey of the noninstitutionalized US civilian population. The NHIS core questionnaire is administered to a randomly selected adult in the household (the sample adult).

According to the analysis, an estimated 47.4 million US adults (19.3%) currently used any tobacco product, including cigarettes (14.0%; 34.3 million); cigars, cigarillos, or filtered little cigars (3.8%; 9.3 million); electronic cigarettes (e-cigarettes) (2.8%; 6.9 million); smokeless tobacco (2.1%; 5.1 million); and pipes, water pipes, or hookahs (1.0%; 2.6 million). Among current tobacco product users, 19.0% (9.0 million) used 2 or more tobacco products.

Multiple tobacco product users are at increased risk for nicotine addiction and dependence. E-cigarettes were commonly used among multiple tobacco product users. Primary reasons for e-cigarette use among adults include curiosity, flavoring, cost, consideration of others, convenience, and simulation of cigarettes.

TOBACCO CONTROL NEWS

*Newest E-cigarette is High in Nicotine and Appealing to Youth*

From 2016-2017 Juul sales increased by 641% according to the CDC. The CDC analyzed e-cigarette sales from retail stores in the U.S. during 2013 to 2017. The study assessed the five top-selling manufactures: Japan Tobacco, British American Tobacco, JUUL Laboratories, Altria and Imperial Tobacco, among others. Juul, unlike its e-cigarette competitors, does not look like a cigarette or smoking device. Juul is designed to look like a flash drive which makes it appealing to youth. It is easy to disguise and use discreetly. The popularity of JUUL among youth has helped the product account for 73% of e-cigarette sales in the U.S. and sales of Juul represent one in three e-cigarette sales nationally in retail locations.

In addition to its youth-appealing flavors and sleek design, one Juul cartridge contains the same amount of nicotine as a pack of cigarettes. The company's website claims the product delivers

nicotine up to 2.7 times faster than other e-cigarettes. Many young people are not even aware that they are consuming nicotine when they use e-cigarettes. Results from an April 2018 Truth Initiative® study published in Tobacco Control show that nearly two-thirds of JUUL users between 15 and 24 years old did not know that the product always contains nicotine.

In November 2018 Forbes reported that the FDA was seeking nationwide restrictions on the sales of fruity-flavored nicotine vaping cartridges. Juul, likely aware of the impending FDA crackdown stopped sales of its fruit-flavored nicotine pods in retail stores (though it will continue to sell them online) and has shut down its Facebook and Instagram pages in the U.S.

*Underage Smokers find Pharmacies an Easy Source for Cigarettes*

A team of researchers led by Joseph Lee, PhD, MPH, East Carolina University, examined the inspections of tobacco sales to minors conducted by the US Food and Drug Administration (FDA) in approximately 13,200 pharmacies from January 2012 to December 2017. The violation rate for tobacco sales to youths in FDA inspections at the top US pharmacies varied by chain and was highest at Walgreens. The findings were published in *JAMA Pediatrics* (Lee JGL, Schleicher NC, Lea EC, et al. US Food and Drug Administration inspection of tobacco sales to minors at top pharmacies, 2012-2017. *JAMA Pediatr*. 2018;172(11):1089-1090. doi:10.1001/jamapediatrics.2018.2150).

In February the FDA initiated enforcement action against Walgreens for underage tobacco sales. Twenty-two percent of Walgreens stores inspected have illegally sold tobacco products to minors, making it the top violator among pharmacies selling tobacco products.

Walgreens is not the only retail pharmacy violating sales to minors but they are the first one that the FDA seeks to bar all tobacco sales for 30 days. Since the FDA began inspecting retail locations in 2010, Walgreens has received more than 1,550 warning letters and 240 civil money penalty actions against its stores nationwide.

According to a research letter published in *JAMA Internal Medicine* (Krumme AA, Choudhry NK, Shrank WH, et al. Cigarette purchases at pharmacies by patients at high risk of smoking-related illness. JAMA Intern Med. 2014;174(12):2031-2032. doi:10.1001/jamainternmed.2014.5307) one in 20 patients who were taking medications for tobacco exacerbated diseases (asthma, COPD and hypertension) purchased cigarettes at a pharmacy.

Tobacco control advocates, public health organizations and medical associations, including the AMA, have called on Walgreens to no longer sell tobacco products. Selling tobacco products in a pharmacy whose primary business is to provide medications to treat and/or prevent diseases while selling products that contribute those diseases sends the wrong message to consumers.

AMA opposes sales of tobacco products in pharmacies and adopted its policy calling for a ban in 2009 and reaffirmed this policy in 2013.

AMA TOBACCO CONTROL ACTIVITIES

*AMA Fights for FDA's authority to regulate tobacco products*

The AMA joined with other physician groups, including the American Thoracic Society, American Academy of Family Physicians, American College of Cardiology and American College of Physicians, urging Congress to oppose any provisions to weaken or delay FDA's authority to

regulate all tobacco products. An important part of the Family Smoking Prevention and Tobacco Control Act, which Congress enacted with bipartisan support in 2009, was a requirement that new tobacco products undergo a scientific review by FDA. Based on its scientific assessment, FDA can prohibit new tobacco products that are harmful to public health from the marketplace.

According to the co-signed letter, in recent years, the House has included provisions in the Agriculture-FDA appropriations bill to exempt thousands of tobacco products, including many candy- and fruit-flavored products, from FDA's scientific product review.

*AMA Supports Efforts to Control Nicotine*

The AMA was one of the medical and public health organizations signing on to a joint letter to Dr. Scott Gottlieb, then FDA commissioner, in support of the Agency's initiative to move toward a product standard to reduce the nicotine level in cigarettes to non-addictive or minimally addictive levels. Such a standard would have massive public health benefits. Tobacco use is still the number one preventable cause of death. Nicotine, the addictive ingredient in tobacco products, makes it difficult for many adults to quit and keeps youth smoking.

The AMA and others urged the FDA to go further and include all combustible tobacco products in the nicotine product standard, including those currently on the market and those that may come on the market in the future. Exemption of other combustible products would invite tobacco manufacturers to market existing and develop new non-cigarette substitutes that would lead cigarette smokers to substitute those products, like the small flavored cigars the industry introduced after flavored cigarettes were removed from the market. It also would make the exempted products a potential vehicle for youth initiation. Thus, we urge FDA to make any nicotine reduction product standard applicable to other combustible tobacco products to prevent the industry from circumventing the new rule just as they did after the ban on flavored cigarettes.

*AMA Responds to Other Federal Register Notices on FDA Tobacco Regulations*

As part of its regulatory authority over cigarettes and other tobacco products, the FDA was soliciting for public comments to assist the agency in implementing initiatives that would reduce the health harms associated with smoking and tobacco use. The AMA, as part of its collaboration with other national medical associations and public health groups, signed on to comments as well as issued its own.

The AMA reiterated its support for the FDA's initiative to create a standard for nicotine in combustible tobacco products but called on the Agency to include *all* tobacco products and create a non-addictive nicotine level standard for all tobacco products, not just cigarettes. Cigarettes are not the only addictive form of tobacco, and applying this standard across all tobacco products is essential to combating the leading cause of preventable death.

The AMA also responded to a Federal Register notice on therapies to reduce youth e-cigarette and other tobacco program use. According to a study in *JAMA Pediatrics* (Watkins LW, Glantz SA, Chaffee BW. Association of noncigarette tobacco product use with future cigarette smoking among youth in the population assessment of tobacco and health (path) study, 2013-2015. JAMA Pediatr. 2018;172(2):181-187. doi:10.1001/jamapediatrics.2017.4173) use of e-cigarettes, hookah, non-cigarette combustible tobacco, or smokeless tobacco by youth is associated with cigarette smoking one year later. This dual use makes it very difficult for youth to quit. The AMA believes that while it is important to consider drug therapies for youth who are already addicted, preventing youth tobacco use and nicotine addiction must be the priority.

REPORT OF THE COUNCIL ON CONSTITUTION AND BYLAWS

CCB Report 2-A-19

Subject: Section Internal Operating Procedures and Council Rules: Roles of the House of Delegates, Board of Trustees and the Council on Constitution and Bylaws

Presented by: Jerome C. Cohen, MD, Chair

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The Council on Constitution and Bylaws has prepared this informational report to help the House of Delegates, prospective candidates for AMA office, and section members understand the role of the Council in developing bylaws that relate to the AMA sections and councils and in serving in an advisory capacity to the Board of Trustees in reviewing changes to council rules and section internal operating procedures.

## BACKGROUND

In 2006, the AMA Constitution and Bylaws underwent a significant revision when the Council conducted a comprehensive review of the Bylaws with the goal of modernizing them by eliminating redundant and inaccurate provisions and improving the overall flow and clarity.

Prior to the 2006 revision, one quarter of the Bylaws were devoted to provisions specific to six AMA sections. The Council proposed, and the House agreed, that various procedural provisions pertaining to the councils and the sections should be eliminated from the AMA Bylaws and incorporated into individual council rules or section internal operating procedures to reduce the amount of time and energy spent by the House reviewing procedural details. The Board (rather than the House) was given responsibility to approve future changes in procedures for both the councils and the sections, and the Council on Constitution and Bylaws was tasked with serving as advisory to the Board in reviewing all changes to not overburden the Board with the review process. To facilitate its review, the Council works with the council or section to submit a redlined version of the original rules or internal operating procedures to the Board showing all proposed changes, a transmittal memorandum summarizing the major changes and providing a rationale for those changes, and a final copy that incorporates all changes.

## BOARD/COUNCIL ACTIVITY RE: COUNCILS

Seven councils are listed in the AMA Bylaws, which specify each council's responsibilities and membership. Additional details are part of each council's rules, changes to which must be approved by the Board of Trustees and that occasionally require bylaws revisions. The details in the council rules typically includes the council's officers, their election process, and tenure for holding office; the frequency and types of meetings; the keeping of minutes; voting privileges; committees and subcommittees; policy on guests; the quorum for conducting business, and amendments.

When the House of Delegates votes to establish a new section, the Council works collaboratively with the section to develop appropriate bylaw language setting forth its purpose, representation structure, eligibility for section membership and specifying how governing council members are elected. The Council also works closely with the section to develop internal operating procedures

(IOPs), which are approved by the Board of Trustees, and that provide specificity re: composition of the governing council (number of members and their qualifications), procedures for electing governing council members and officers, the term and tenure of those members, filling of vacancies, credential procedures for voting members, meeting details such as resolution submission deadlines, subcommittees, and a quorum for conducting business, both at a governing council level and at the assembly/meeting level.

Subsequent changes to a section's Bylaws are presented to the House for adoption, with changes to a section's IOPs presented through the Council on Constitution and Bylaws to the Board for approval. The Council reviews all proposed changes to ensure that there is no conflict with the AMA Bylaws, and that the IOPs are internally consistent as well as consistent with the IOPs of other sections where applicable.

The councils and the dates of their various rules revisions are:

- Council on Constitution and Bylaws – February 2012, April 2016, April 2019
- Council on Ethical and Judicial Affairs – none to date
- Council on Legislation – April 2017
- Council on Long Range Planning and Development – April 2015
- Council on Medical Education – April 2013
- Council on Medical Service – April 3013
- Council on Science and Public Health – November 2010, April 2013

The Council has also facilitated the Board's review and approval of changes to the standing rules of the AMPAC Board (June 2016) and to the standing rules of the Specialty and Service Society (November 2010, February 2011).

The Council maintains an online database of all council rules to allow one to quickly compare the rules across the councils.

BOARD/COUNCIL ACTIVITY RE: SECTIONS

Since 2006, the number of sections has expanded from 6 to 10. The dates of the various revisions to their IOPs as approved by the Board of Trustees are:

- Academic Physicians Section (formerly the Section on Medical Schools) – September 2008, June 2016
- Integrated Physicians Practice Section (established June 2012) – September 2012, April 2015, April 2016, April 2018
- International Medical Graduates Section – June 2008, June 2010, November 2010, September 2013
- Medical Student Section – February 2009, November 2009, November 2011, April 2015, June 2018
- Minority Affairs Section (established November 2011) – February 2012
- Organized Medical Staff Section – November 2007
- Resident and Fellow Section – November 2009, August 2010, November 2011, April 2016
- Senior Physicians Section (established November 2012) – April 2013, April 2015, November 2018
- Women Physicians Section (established June 2013) – September 2013, September 2017
- Young Physicians Section – March 2007, April 2008, April 2013, November 2016, April 2018

The Council maintains an online database of all Section Internal Operating Procedures to allow one to quickly compare individual IOP provisions across sections, and to search and navigate easily.

The attached appendix describes the elements of an IOP, and documents the review process used by the Council on Constitution and Bylaws and the approval process utilized by the Board of Trustees.

CONCLUSION

The Council on Constitution and Bylaws hopes that this report delineates the role of the Council, the Board of Trustees and the House with respect to the AMA Bylaws, council rules and section Internal Operating Procedures. The Council also believes that the interactive database on Section IOPs can be a useful resource to emerging sections and to established sections alike.

The Council welcomes suggestions for enhancing its interactive databases as well as suggestions for improving the review process.

**Appendix: Internal Operating Procedures for the AMA Sections**
including CCB and Board Review and Approval, and Implications for Bylaw Amendments

| **IOP Provisions** (includes relevant bylaws) | **Content description** | **CCB[1] (Review for consistency with Bylaws, internal consistency and consistency with other Section IOPs)** | **Board (Review and Approve)[2]** |
|---|---|---|---|
| I. Section Name<br>*7.0.9 Section Status. Sections shall either be fixed or delineated, as determined by the House of Delegates upon recommendation of the Council on Long Range Planning and Development based on criteria adopted by the House of Delegates. A delineated Section must reconfirm its qualifications for continued delineated Section status and associated representation in the House of Delegates by demonstrating at least every 5 years that it continues to meet the criteria adopted by the House of Delegates.* | - Cite bylaw provision that establishes the Section<br>- Identify section's status as delineated or fixed (based on HOD action) | √ Elements are complete and in accordance with adopted HOD action.<br>√ Change in name that requires a bylaw amendment. | √ Review and approve.<br>√ Note that name changes require a Bylaw amendment approved by the HOD. |
| II. Purposes and Principles<br>*7.0.1 Mission of the Sections. A Section is a formal group of physicians or medical students directly involved in policymaking through a Section delegate and representing unique interests related to professional lifecycle, practice setting, or demographics. Sections shall be established by the House of Delegates for the following purposes:*<br>*7.0.1.1 Involvement. To provide a direct means for membership segments represented in the Sections to participate in the activities, including policy-making, of the AMA.*<br>*7.0.1.2 Outreach. To enhance AMA outreach, communication, and interchange with the membership segments represented in the Sections.* | - Relate to Bylaw 7.0.1<br>- *May* include additional purposes as are customary or specific to the section or as required by HOD<br>- Section mission (if applicable) | √ Content should relate to Bylaw 7.0.1 and adopted HOD action;<br>√ Purposes not covered in 7.0.1 that may require additional funding or where an additional bylaw may be necessary.<br>√ Per 7.0.3, the programs and activities shall be subject to the approval of the Board of Trustees or the House of Delegates. | √ Review and approve; determine whether HOD approval also is necessary. |

[1] Per Bylaw 6.1.1.4, The Council serves as advisory to the Board of Trustees in reviewing the rules, regulations, and procedures of the AMA Sections.
[2] Per Bylaw 7.0.7, All rules, regulations, and procedures adopted by each Section shall be subject to the approval of the Board of Trustees.

| **IOP Provisions** (includes relevant bylaws) | **Content description** | **CCB[1] (Review for consistency with Bylaws, internal consistency and consistency with other Section IOPs)** | **Board (Review and Approve)[2]** |
|---|---|---|---|
| *7.0.1.3 Communication. To maintain effective communications and working relationships between the AMA and organizational entities that are relevant to the activities of each Section.*<br>*7.0.1.4 Membership. To promote AMA membership growth.*<br>*7.0.1.5 Representation. To enhance the ability of membership segments represented in the Sections to provide their perspective to the AMA and the House of Delegates.*<br>*7.0.1.6 Education. To facilitate the development of information and educational activities on topics of interest to the membership segments represented in the Sections.* | | | |
| III. Membership<br>*Established by HOD and incorporated into Bylaws specific to each Section.* | - Who may join and how<br>- Differentiate between voting and non-voting members<br>- Organizational members<br>- Proportional representation<br>- Provisional members | √ All Section members are AMA members.<br>√ Any provisional membership, non-AMA membership or non-physician membership requires a bylaw change)<br>√ Apportionment/allocation formulas require bylaw amendment | √Review and approve proposed membership criteria.<br>√Note those provisions that require amendment to AMA bylaws. |
| IV. Officers/Governing Council<br>*7.0.3 Governing Council. There shall be a Governing Council for each Section to direct the programs and the activities of the Section.* ***The programs and activities shall be subject to the approval of the Board of Trustees or the House of Delegates.***<br>*7.0.3.1 Qualifications. Members of each Section Governing Council must be members of the AMA and of the Section.*<br>*7.0.3.2 Voting. Members of each Section Governing Council shall be elected by the voting members of the Section present at the business meeting of the Section, unless otherwise provided in this Bylaw.* | - Number and specific positions on GC, including ex-officio and nonvoting members. (At minimum, should include chair, vice-chair/chair-elect, delegate and alternate delegate) | √Titles, duties, election, term and tenure of its officers<br>√ If Governing Council is not elected by voting members present at the Section's business meeting (per 7.0.3.2) an "exemptions bylaw" is necessary.<br>√ New positions or changes in officer designations (funding implications).<br>√ Existing bylaw relating to cessation of eligibility for GC members. | Review and approve.<br>Note that some changes to election procedures may be subject to HOD approval for additional bylaws.<br>Note that any Governing Council positions that are not elected require a bylaw. |

| **IOP Provisions** (includes relevant bylaws) | **Content description** | **CCB[1] (Review for consistency with Bylaws, internal consistency and consistency with other Section IOPs)** | **Board (Review and Approve)[2]** |
|---|---|---|---|
| IV. Officers/Governing Council (continued)<br>*7.0.3.3 Additional Requirements. Each Section shall adopt rules governing the composition, election, term, and tenure of its Governing Council.*<br>*7.0.4 Officers. Each Section shall select a Chair and Vice Chair or Chair-Elect and other necessary and appropriate officers.*<br>*7.0.4.1 Qualifications. Officers of each Section must be members of the AMA and of the Section.*<br>*7.0.4.2 Voting. Officers of each Section shall be elected by the voting members of the Section, unless otherwise provided in this Bylaw.*<br>*7.0.4.3 Additional Requirements. Each Section shall adopt rules governing the titles, duties, election, term, and tenure of its officers.*<br>*7.0.5 Delegate and Alternate Delegate. Each Section shall elect a Delegate and Alternate Delegate to represent the Section in the House of Delegates.* | - Authority/general statement of GC duties (include statement, "subject to the approval of such programs and activities, when required, by the BOT or HOD")<br>- Eligibility to run for GC -- AMA membership, Section membership, any other relevant criteria<br>- Individual GC member responsibilities<br>- Term/tenure, including overall tenure of GC<br>- Term limits<br>- Vacancies and how filled | | |
| V. Elections<br>*(see Bylaws 7.0.4.2 and 7.0.5 above)* | - Timing of election<br>- Eligibility (including exceptions if relevant)<br>- Nominations—how and when received<br>- Campaign rules<br>- Voter eligibility<br>- Method of voting, including vote counting, how ties are handled and the appeals process (if relevant) | √ Eligibility to run for office, voting eligibility<br>√ Fairness of campaign rules<br>√ Election rules are transparent and clear | Review and approve. |

| **IOP Provisions** (includes relevant bylaws) | **Content description** | **CCB[1] (Review for consistency with Bylaws, internal consistency and consistency with other Section IOPs)** | **Board (Review and Approve)[2]** |
|---|---|---|---|
| VI. Standing Committees (if relevant) | - How constituted<br>- Purpose<br>- Duration<br>- Nominations or appointments | √ Criteria is complete and transparent to Section members<br>√ Any additional financial component (additional meetings, etc.) | Review and approve. |
| VII. Trustee (if relevant) – The HOD must adopt any proposal to add additional designated seats for a trustee | - Eligibility<br>- Term and tenure<br>- Election specifics | √ Consistency with the Bylaws | Review and approve. |
| VIII. Additional HOD Delegates (beyond 1 allotted per section) | - Regions (if applicable)<br>- Eligibility for election<br>- How elected<br>- Filling of vacancies | √ Consistency with Bylaws that identify the criteria for additional HOD delegates and allocation/apportionment<br>√ Governance<br>√ Regions (if applicable)<br>√ Election rules and procedures | Review and approve.<br>Note that HOD approval is needed for more than 1 delegate to the HOD. |
| IX. Business Meeting<br>*7.0.6 Business Meeting. There shall be a Business Meeting of members of each Section. The Business Meeting shall be held on a day prior to each Annual and Interim Meeting of the House of Delegates.*<br>*7.0.6.1 Purpose. The purposes of the Business Meeting shall be:*<br>*7.0.6.1.1 To hear such reports as may be appropriate.*<br>*7.0.6.1.2 To consider other business and vote upon such matters as may properly come before the meeting.*<br>*7.0.6.1.3 To adopt resolutions for submission by the Section to the House of Delegates.*<br>*7.0.6.1.4 To hold elections.* | - Date and Location<br>- Call to the Meeting<br>- Representatives to the Meeting, including eligibility criteria for organizational reps<br>- Certification and registration processes<br>- Official observers and guests<br>- Meeting purpose | √ Additional purposes of the Business meeting may require an "exceptions" bylaw<br>√ Verify rules of procedure are comprehensive and include the rights and privileges of Section members, including any limitations on participation or vote. | Review and approve.<br>Additional purposes of the Business meeting may require a bylaw adopted by the HOD. |

| **IOP Provisions** (includes relevant bylaws) | **Content description** | **CCB[1] (Review for consistency with Bylaws, internal consistency and consistency with other Section IOPs)** | **Board (Review and Approve)[2]** |
|---|---|---|---|
| IX. Business Meeting (continued)<br>*7.0.6.2 Meeting Procedure.*<br>*7.0.6.2.1 The Business Meeting shall be open to all members of the AMA.*<br>*7.0.6.2.2 Only duly selected representatives who are AMA members shall have the right to vote at the Business Meeting.*<br>*7.0.6.2.3 The Business Meeting shall be conducted pursuant to rules of procedure adopted by the Governing Council. The rules of procedure may specify the rights and privileges of Section members, including any limitations on participation or vote.* | - Business--how resolutions are submitted, including timeline and provisions for late or emergency resolutions<br>- Online testimony/comments<br>- Convention Committees: how selected and function<br>- Rules of Order<br>- Quorum | | |
| X. Appointments/Endorsements | - Appointments to AMA or external groups; liaison assignments<br>- Endorsements/nominations of Section members running for AMA elected positions<br>- How selected<br>- Section endorsement of BOT or Council candidates | √ Conflicts with Bylaws<br>√ Transparency of nomination and fair selection processes<br>√ Additional funding requirements | Review and approve |
| XI. Miscellaneous<br>*7.0.7 Rules. All rules, regulations, and procedures adopted by each Section shall be subject to the approval of the Board of Trustees.* | - Parliamentary authority<br>- Internal policies<br>- IOP Amendments | √ Any IOP amendments need a corresponding bylaw? | Review and approve |

REPORT OF THE COUNCIL ON ETHICAL AND JUDICIAL AFFAIRS

CEJA Report 4-A-19

Subject: Judicial Function of the Council on Ethical and Judicial Affairs – Annual Report

Presented by: James E. Sabin, MD, Chair

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At the 2003 Annual Meeting, the Council on Ethical and Judicial Affairs (CEJA) presented a detailed explanation of its judicial function. This undertaking was motivated in part by the considerable attention professionalism has received in many areas of medicine, including the concept of professional self-regulation.

CEJA has authority under the Bylaws of the American Medical Association (AMA) to disapprove a membership application or to take action against a member. The disciplinary process begins when a possible violation of the Principles of Medical Ethics or illegal or other unethical conduct by an applicant or member is reported to the AMA. This information most often comes from statements made in the membership application form, a report of disciplinary action taken by state licensing authorities or other membership organizations, or a report of action taken by a government tribunal.

The Council rarely re-examines determinations of liability or sanctions imposed by other entities. However, it also does not impose its own sanctions without first offering a hearing to the physician. CEJA can impose the following sanctions: applicants can be accepted into membership without any condition, placed under monitoring, or placed on probation. They also may be accepted, but be the object of an admonishment, a reprimand, or censure. In some cases, their application can be rejected. Existing members similarly may be placed under monitoring or on probation, and can be admonished, reprimanded or censured. Additionally, their membership may be suspended or they may be expelled. Updated rules for review of membership can be found at https://www.ama-assn.org/governing-rules.

Beginning with the 2003 report, the Council has provided an annual tabulation of its judicial activities to the House of Delegates. In the appendix to this report, a tabulation of CEJA's activities during the most recent reporting period is presented.

APPENDIX

CEJA
*Judicial Function*
*Statistics*

APRIL 1, 2018 – MARCH 31, 2019

| Physicians Reviewed | SUMMARY OF CEJA ACTIVITIES |
|---|---|
| 1 | Determinations of no probable cause |
| 50 | Determinations following a plenary hearing |
| 14 | Determinations after a finding of probable cause, based only on the written record, after the physician waived their plenary hearing right |

| Physicians Reviewed | FINAL DETERMINATIONS FOLLOWING INITIAL REVIEWS |
|---|---|
| 10 | No sanction or other type of action |
| 4 | Monitoring |
| 9 | Probation |
| 17 | Revocation |
| 15 | Suspension |
| 4 | Censure |
| 4 | Reprimand |
| 2 | Admonish |

| Physicians Reviewed | PROBATION/MONITORING STATUS |
|---|---|
| 6 | Members placed on Probation/Monitoring during reporting interval |
| 9 | Members placed on Probation without reporting to Data Bank |
| 18 | Probation/Monitoring concluded satisfactorily during reporting interval |
| 7 | Memberships suspended due to non-compliance with the terms of probation |
| 47 | Physicians on Probation/Monitoring at any time during reporting interval who paid their AMA membership dues |
| 24 | Physicians on Probation/Monitoring at any time during reporting interval who did not pay their AMA membership dues |

REPORT OF THE COUNCIL ON ETHICAL AND JUDICIAL AFFAIRS

CEJA Report 5-A-19

Subject: Discrimination Against Physicians by Patients

Presented by: James E. Sabin, MD, Chair

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Policy D-65.991 provides that our AMA will study:

1. The prevalence, reasons for, and impact of physician, resident/fellow and medical student reassignment based upon patients' requests;
2. Hospitals' and other health care systems' policies or procedures for handling patient bias; and
3. The legal, ethical, and practical implications of accommodating or refusing such reassignment requests.

The Council on Ethical and Judicial Affairs (CEJA) was asked to develop guidance for physicians in response to this directive.

CEJA's review of relevant literature indicates that patient requests to be treated by a physician of a certain race, ethnicity, religion, sex, or other perceived characteristic may be driven by bias and bigotry, but it may also reflect cultural expectations or constraints, an individual's previous health care experiences, or the historical experiences of patient communities. How physicians and health care organizations should respond can depend significantly on the particular circumstances in which the request is made.

To adequately explore these complex issues, CEJA needs additional time to deliberate before presenting a report to the House of Delegates at the 2019 Interim Meeting.

OPINION OF THE COUNCIL ON ETHICAL AND JUDICIAL AFFAIRS*

CEJA Opinion 1-A-19

Subject: Amendment to E-2.2.1, "Pediatric Decision Making"

Presented by: James E. Sabin, MD, Chair

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INTRODUCTION

At the 2018 Interim Meeting, the American Medical Association House of Delegates adopted the recommendations of Council on Ethical and Judicial Affairs Report 3-I-18, "Amendment to E-2.2.1, 'Pediatric Decision Making.'" The Council issues this Opinion, which will appear in the next version of AMA PolicyFinder and the next print edition of the *Code of Medical Ethics*.

E-2.2.1– Pediatric Decision Making

As the persons best positioned to understand their child's unique needs and interests, parents (or guardians) are asked to fill the dual responsibility of protecting their children and, at the same time, empowering them and promoting development of children's capacity to become independent decision makers. In giving or withholding permission for medical treatment for their children, parents/guardians are expected to safeguard their children's physical health and well-being and to nurture their children's developing personhood and autonomy.

But parents' authority as decision makers does not mean children should have no role in the decision-making process. Respect and shared decision making remain important in the context of decisions for minors. Thus, physicians should evaluate minor patients to determine if they can understand the risks and benefits of proposed treatment and tailor disclosure accordingly. The more mature a minor patient is, the better able to understand what a decision will mean, and the more clearly the child can communicate preferences, the stronger the ethical obligation to seek minor patients' assent to treatment. Except when immediate intervention is essential to preserve life or avert serious, irreversible harm, physicians and parents/guardians should respect a child's refusal to assent, and when circumstances permit should explore the child's reason for dissent.

For health care decisions involving minor patients, physicians should:

(a) Provide compassionate, humane care to all pediatric patients.

(b) Negotiate with parents/guardians a shared understanding of the patient's medical and psychosocial needs and interests in the context of family relationships and resources.

* Opinions of the Council on Ethical and Judicial Affairs will be placed on the Consent Calendar for informational reports, but may be withdrawn from the Consent Calendar on motion of any member of the House of Delegates and referred to a Reference Committee. The members of the House may discuss an Opinion fully in Reference Committee and on the floor of the House. After concluding its discussion, the House shall file the Opinion. The House may adopt a resolution requesting the Council on Ethical and Judicial Affairs to reconsider or withdraw the Opinion.

(c) Develop an individualized plan of care that will best serve the patient, basing treatment recommendations on the best available evidence and in general preferring alternatives that will not foreclose important future choices by the adolescent and adult the patient will become. Where there are questions about the efficacy or long-term impact of treatment alternatives, physicians should encourage ongoing collection of data to help clarify value to patients of different approaches to care.

(d) Work with parents/guardians to simplify complex treatment regimens whenever possible and educate parents/guardians in ways to avoid behaviors that will put the child or others at risk.

(e) Provide a supportive environment and encourage parents/guardians to discuss the child's health status with the patient, offering to facilitate the parent-child conversation for reluctant parents. Physicians should offer education and support to minimize the psychosocial impact of socially or culturally sensitive care, including putting the patient and parents/guardians in contact with others who have dealt with similar decisions and have volunteered their support as peers.

(f) When decisions involve life-sustaining treatment for a terminally ill child, ensure that patients have an opportunity to be involved in decision making in keeping with their ability to understand decisions and their desire to participate. Physicians should ensure that the patient and parents/guardians understand the prognosis (with and without treatment). They should discuss the option of initiating therapy with the intention of evaluating its clinical effectiveness for the patient after a specified time to determine whether it has led to improvement and confirm that if the intervention has not achieved agreed-on goals it may be discontinued.

(g) When it is not clear whether a specific intervention promotes the patient's interests, respect the decision of the patient (if the patient has capacity and is able to express a preference) and parents/guardians.

(h) When there is ongoing disagreement about patient's best interest or treatment recommendations, seek consultation with an ethics committee or other institutional resource. (IV, VIII)

REPORT OF THE COUNCIL ON LONG RANGE PLANNING AND DEVELOPMENT

CLRPD Report 1-A-19

Subject: Demographic Characteristics of the House of Delegates and AMA Leadership

Presented by: Alfred Herzog, MD, Chair

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This informational report is prepared in odd numbered years by the Council on Long Range Planning and Development (CLRPD), with an abbreviated version created in even numbered years by the American Medical Association (AMA) Board of Trustees (BOT), pursuant to AMA Policy G-600.035, "The Demographics of the House of Delegates." This policy states:

> (1) A report on the demographics of our AMA House of Delegates will be issued annually and include information regarding age, gender, race/ethnicity, education, life stage, present employment, and self-designated specialty. (2) As one means of encouraging greater awareness and responsiveness to diversity, our AMA will prepare and distribute a state-by-state demographic analysis of the House of Delegates, with comparisons to the physician population and to our AMA physician membership every other year. (3) Future reports on the demographic characteristics of the House of Delegates will identify and include information on successful initiatives and best practices to promote diversity, particularly by age, of state and specialty society delegations.

This demographic report will survey the current demographic makeup of AMA leadership in accordance with AMA Policy G-600.030, "Diversity of AMA Delegations," which states that, "Our AMA encourages…state medical associations and national medical specialty societies to review the composition of their AMA delegations with regard to enhancing diversity..." and AMA Policy G-610.010, "Nominations," which states in part:

> Guidelines for nominations for AMA elected offices include the following... (2) the Federation (in nominating or sponsoring candidates for leadership positions), the House of Delegates (in electing Council and Board members), and the Board, the Speakers, and the President (in appointing or nominating physicians for service on AMA Councils or in other leadership positions) to consider the need to enhance and promote diversity…

Like previous reports, this document compares AMA leadership with the entire AMA membership and with the overall U.S. physician population. Medical students are included in all references to the total physician population, which is consistent with past practice. For the purposes of this report, AMA leadership includes delegates, alternate delegates, the BOT, and councils, sections and special groups (hereinafter referred to as CSSG; see detailed listing in Appendix A).

Additionally, this report includes information on successful initiatives and best practices to promote diversity, particularly by age, of state and specialty society delegations, pursuant to part 3 of Policy G-600.035.

## DATA SOURCES

Lists of delegates and alternate delegates are maintained by the Office of HOD Affairs and based on official rosters provided by the relevant societies. The lists used in this report reflect year-end 2018 delegation rosters. AMA council rosters as well as listings for the governing bodies of each of the sections and special groups were provided by the relevant AMA staff.

Data on demographic characteristics of individuals are taken from the AMA Physician Masterfile, which provides comprehensive demographic, medical education, and other information on all graduates of U.S. medical schools and international medical graduates (IMGs) who have undertaken residency training in the United States. Data on AMA members and the total physician population are taken from the year-end 2018 Masterfile after it is considered final.

Some key considerations must be kept in mind regarding the information in this report. Members of the BOT, the American Medical Political Action Committee (AMPAC) and the Council on Legislation who are not physicians or medical students are not included in any tables. Vacancies in delegation rosters mean the total number of delegates is fewer than the 617 allotted at the 2018 Interim Meeting, and the number of alternate delegates is nearly always less than the full allotment. Race and ethnicity information, which is provided directly by physicians, is missing for slightly over one-fifth of AMA members (20.8%) and the total U.S. physician population (22.3%), limiting the ability to draw firm conclusions.

Readers are reminded that most AMA leadership groups considered herein designate seats for students and resident/fellow physicians. This affects some characteristics, particularly age, as well as the makeup of age-related groups, namely the student, resident, and young physician sections.

## CHARACTERISTICS OF AMA LEADERSHIP

Table 1 displays the basic characteristics of AMA leadership, AMA members, and all physicians and medical students. Raw counts for Tables 1 and 2 can be found in Appendix A. Upward- and downward-pointing arrows indicate an increase or decrease of at least two percentage points compared to CLRPD 2-A-17, “Demographic Characteristics of the House of Delegates and AMA Leadership”; the following observations refer to changes since CLRPD Report 2-A-17. Changes are not highlighted for the BOT due to the small number of Board members.

- The demographic characteristics of delegates to the HOD remained largely unchanged; the only demographic group among which a change of greater than two percentage points was observed was among White, non-Hispanic delegates, who made up 72.8% of all delegates in 2016, and 70.2% in 2018, a decrease of 2.6 percentage points.
- Among alternate delegates, increases of greater than two percentage points were observed among those age 40-49 (+2.5 percentage points) and among women (+4.8), while the percentage of male alternate delegates decreased by 4.8 percentage points.
- Among CSSG, increased representation was observed among those under age 40 (+3.8) and among females (+8.3), while decreased representation was observed among males (-8.3) and in the 60-69 age group (-5.6).
- Members under age 40 now make up over half of the Association’s membership (51.5%), an increase of 2.3 percentage points over 2016. Additionally, the proportion of White, non-Hispanic AMA members decreased by 3.4 percentage points. However, the percentage of AMA members for whom race/ethnicity information was unavailable increased by 4.0 percentage points.

| | Delegates | Alternate Delegates | Board of Trustees[1] | Councils and Leadership of Sections and Special Groups[2] | AMA Members | All Physicians and Medical Students |
|---|---|---|---|---|---|---|
| Count | 594[3] | 401 | 20 | 170 | 250,253 | 1,341,682 |
| Mean Age (Years)[4] | 56.4 | 51.1 | 57.0 | 50.4 | 46.0 | 51.0 |
| **Age distribution** | | | | | | |
| Under Age 40 | 14.1% | 22.7% | 10.0% | 32.9%↑ | 51.5%↑ | 29.7% |
| 40-49 Years | 10.4% | 18.7%↑ | 15.0% | 11.2% | 9.7% | 18.5% |
| 50-59 Years | 22.2% | 23.9% | 15.0% | 15.3% | 9.9% | 17.4% |
| 60-69 Years | 34.5% | 26.2% | 55.0% | 24.7%↓ | 10.8% | 16.9% |
| 70 or More | 18.7% | 8.5% | 5.0% | 15.9% | 18.1% | 17.5% |
| **Gender** | | | | | | |
| Male | 73.6% | 66.8%↓ | 70.0% | 53.5%↓ | 64.3% | 64.8% |
| Female | 26.4% | 33.2%↑ | 30.0% | 46.5%↑ | 35.7% | 34.7% |
| Unknown | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.5% |
| **Race/ethnicity** | | | | | | |
| White, Non-Hispanic | 70.2%↓ | 66.6% | 70.0% | 59.4% | 52.7%↓ | 51.0% |
| Black, Non-Hispanic | 5.1% | 4.0% | 15.0% | 7.1% | 4.6% | 4.2% |
| Hispanic | 2.9% | 4.7% | 0.0% | 6.5% | 5.5% | 5.5% |
| Asian/Asian American | 9.1% | 13.5% | 5.0% | 15.3% | 14.6% | 15.3% |
| Native American | 0.2% | 0.0% | 0.0% | 0.0% | 0.3% | 0.3% |
| Other[5] | 1.5% | 1.0% | 0.0% | 1.2% | 1.4% | 1.4% |
| Unknown | 11.1% | 10.2% | 10.0% | 10.6% | 20.8%↑ | 22.3% |
| **Education** | | | | | | |
| US or Canada | 93.3% | 90.8% | 95.0% | 90.0% | 82.6% | 77.1% |
| IMG | 6.7% | 9.2% | 5.0% | 10.0% | 17.4% | 22.9% |

Table 1. Basic Demographic Characteristics of AMA Leadership

Table 2 displays life stage, present employment and self-designated specialty of AMA leadership.

- Residents, interns and fellows now make up nearly one quarter of all AMA members (24.7%), an increase of 3.0 percentage points over 2016.
- Among delegates, only those employed by medical schools (-2.4) saw a change of two percentage points or greater.
- The percentage of student alternate delegates decreased (-2.4) while the percentage of established alternate delegates increased (+3.8). Changes of two percentage points or greater were also observed among self-employed solo practice (-3.0), student (-2.4), OB/GYN (-2.2) group practice (+3.8) and family medicine (+2.1) alternate delegates.
- Young physician representation among CSSG increased by 5.9 percentage points, while the percentage of established physicians (age 40-64) declined by 3.5 percentage points.

[1] Numbers do not include the public member of the Board of Trustees, who is not a physician.
[2] Numbers do not include non-physicians on the Council on Legislation and AMPAC. In addition, Appendix A contains a listing of the AMA councils, sections, and special groups.
[3] Numbers include medical students and residents endorsed by their states for delegate and alternate delegate positions.
[4] Age as of December 31. Mean age is the arithmetic average.
↑ Indicates an increase of at least two percentage points compared with 2016.
↓ Indicates a decrease of at least two percentage points compared with 2016.
[5] Includes other self-reported racial and ethnic groups.

| | Delegates | Alternate Delegates | Board of Trustees | Councils and Leadership of Sections and Special Groups | AMA Members | All Physicians and Medical Students |
|---|---|---|---|---|---|---|
| Count | 594 | 401 | 20 | 170 | 250,253 | 1,341,682 |
| **Life Stage** | | | | | | |
| Student[1] | 5.1% | 6.2%↓ | 5.0% | 11.8% | 22.5% | 8.1% |
| Resident[1] | 5.2% | 5.7% | 5.0% | 11.2% | 24.7%↑ | 10.4% |
| Young (under 40 or first 8 years in practice)[2] | 5.2% | 13.7% | 5.0% | 15.9%↑ | 7.9% | 15.6%↓ |
| Established (40-64) | 49.8% | 52.4%↑ | 50.0% | 34.1%↓ | 21.8% | 40.5%↑ |
| Senior (65+)[2] | 34.7% | 21.9% | 35.0% | 27.1% | 23.2% | 25.4% |
| **Present Employment** | | | | | | |
| Self-employed Solo Practice | 15.0% | 9.7%↓ | 25.0% | 12.4% | 7.7% | 8.6% |
| Two Physician Practice | 2.2% | 2.2% | 5.0% | 1.2% | 1.4% | 1.6% |
| Group Practice | 40.4% | 39.9%↑ | 35.0% | 27.6% | 22.4% | 40.6% |
| Non-Government Hospital | 5.1% | 5.7% | 0.0% | 4.1%↓ | 2.5% | 3.1% |
| State or Local Government Hospital | 10.4% | 11.5% | 10.0% | 11.8% | 4.2% | 6.9% |
| HMO | 0.7% | 1.2% | 0.0% | 0.6% | 0.1% | 0.2% |
| Medical School | 4.2%↓ | 5.2% | 10.0% | 8.8% | 1.1% | 1.6% |
| US Government | 3.7% | 5.0% | 0.0% | 2.4% | 1.1% | 1.9% |
| Locum Tenens | 0.2% | 0.2% | 0.0% | 0.0% | 0.2% | 0.2% |
| Retired/Inactive | 7.2% | 4.7% | 0.0% | 7.1% | 11.0% | 11.7% |
| Resident/Intern/Fellow | 5.2% | 5.7% | 5.0% | 11.2% | 24.7%↑ | 10.4% |
| Student | 5.1% | 6.2%↓ | 5.0% | 11.8% | 22.5% | 8.1% |
| Other/Unknown | 0.7% | 2.5% | 5.0% | 1.2% | 1.1% | 5.0% |
| **Self-designated specialty[3]** | | | | | | |
| Family Medicine | 10.6% | 11.0%↑ | 15.0% | 6.5%↓ | 8.5% | 11.6% |
| Internal Medicine | 21.2% | 20.2% | 25.0% | 14.7%↓ | 19.3% | 22.9% |
| Surgery | 23.6% | 20.4% | 15.0% | 19.4% | 13.6% | 13.3% |
| Pediatrics | 4.2% | 4.0% | 0.0% | 7.1% | 5.0% | 8.7% |
| OB/GYN | 6.6% | 4.2%↓ | 0.0% | 9.4%↑ | 5.0% | 4.7% |
| Radiology | 4.9% | 5.7% | 5.0% | 4.7% | 3.5% | 4.5% |
| Psychiatry | 4.9% | 3.5% | 5.0% | 8.2% | 4.0% | 5.2% |
| Anesthesiology | 3.5% | 3.7% | 10.0% | 3.5% | 3.6% | 4.6% |
| Pathology | 2.0% | 3.2% | 0.0% | 0.6% | 1.7% | 2.2% |
| Other Specialty | 13.5% | 17.7% | 20.0% | 14.1% | 13.3% | 14.3% |
| Student | 5.1% | 6.2%↓ | 5.0% | 11.8% | 22.5% | 8.1% |

Table 2. Life Stage, Present Employment and Self-Designated Specialty of AMA Leadership

1 For further data, including information on state medical associations and national medical specialty
2 societies, please see Appendix A.

[1] Students and residents are so categorized without regard to age.
↓ Indicates a decrease of at least two percentage points compared with 2016.
[2] Age delineation reflects section/group definition of its membership.
↑ Indicates an increase of at least two percentage points compared with 2016.
[3] See Appendix B for a listing of specialty classifications.

PROMOTING DIVERSITY AMONG DELEGATIONS

Pursuant to Part 3 of AMA Policy G-600.035, CLRPD queried state and specialty societies on initiatives they have instituted to encourage diversity, particularly by age, among their delegations, and the outcomes of these initiatives.

In general, associations and societies that have implemented one or more initiatives aimed at increasing diversity have reported some degree of success. Most often, they defined success as leadership demographics more closely aligned with those of the society's membership at large and/or the demographic characteristics of the physician population in the society's geographic area. Other measures of success included decreases in the average age of delegates, greater recruitment of candidates with diverse demographic characteristics to specialties and/or specialty societies, and increased participation and subsequent engagement within societies by early career physicians.

Please note that some initiatives mentioned by respondents were included in CLRPD Reports 3-A-15, "Best Practices and Successful Efforts to Increase Diversity, by Age, of AMA Delegates and Alternate Delegates," and 2-A-17, "Demographic Characteristics of the House of Delegates and AMA Leadership," and not duplicated in this document. Please refer to those reports for further information.

- Task forces: Several societies have instituted task forces on diversity, inclusion and leadership to identify solutions that may be beneficial to their specific society. This may be particularly useful as solutions are not "one-size-fits-all," and initiatives that may be possible for one society may be impossible for another to implement. These task forces considered a variety of elements of diversity, including but not limited to age, race, ethnicity and gender identity. One society reported that the task force resulted in the development of a Minority Affairs Section specific to the society. More than one of these task forces recommended and/or led to the development of minority mentoring programs to encourage minority candidates to consider future leadership roles within their societies and/or encourage minority candidates to consider careers in specific specialties (see below).

- Specific positions for younger physicians and trainees: Many societies mentioned that certain positions within their organizations are set aside for residents/fellows and/or young physicians. Some of these included seats on their societies' boards of trustees, councils, and delegations to the AMA HOD. One society indicated that they aimed to have at least half of their delegation made up of younger physicians and the other half of seasoned mentors. Another society indicated that while positions were not mandated, current leaders were encouraged to identify and reach out to younger colleagues who they believed would be good candidates for leadership roles in the future. Another association makes use of funds donated to its foundation to subsidize students and residents to attend AMA meetings.

- Efforts to recruit women and minority candidates to specialties: Multiple specialty societies indicated that they were currently engaged in initiatives to recruit more female and minority candidates into their specialties, increase the number of underrepresented minorities that apply and are accepted to residency programs, and/or increase interest in their specialties among minority college and medical school students. One society that has implemented such an effort indicated that while no initiative was in place with the specific goal of promoting diversity among society leadership, diversity at annual meetings had increased, and the society has worked to develop ways that trainees and early career members can engage with the organization and its programs.

- Minority mentorship programs: Specific types of initiatives aimed at recruiting diverse candidates to specific specialties mentioned by multiple societies were mentorship programs. These programs attempt to attract minority medical students to careers in specific specialties, and participation in related specialty societies. One society's program provides grants to 20 recipients, focusing in particular on third and fourth year medical students who have indicated strong interest in entering the society's specialty; approximately one in three program participants go on to match in the specialty. This society has also implemented a "Diversity Champion" initiative, which aims to encourage all residency programs within the specialty to appoint a diversity champion, an individual focused on outreach to medical schools, holistic review of residency applicants, expanded cultural competency among residency programs, and other efforts.

- Candidate nominating committees: A number of societies indicated that the use of nominating committees to identify candidates for leadership roles has led to improved diversity among candidates and leaders. Nominating committees are often encouraged to consider the demographic makeup of societies, as well as those of leadership, including boards of trustees, delegations, etc. In addition to demographic characteristics previously listed, other elements of diversity considered by nominating committees included specialty, practice setting and geographic region. Multiple societies indicated that nominating committee members are appointed for a set number of years and selected from varied geographic areas.

CLRPD applauds those associations and societies currently engaged in efforts to increase diversity among their leadership and specialties, while also recognizing that various limitations exist that may make such efforts difficult to implement. The Council hopes, however, that the initiatives above may act as useful examples for those associations and societies considering strategies by which to promote diversity among their own membership and leaders.

APPENDIX A

Table 3. Basic Demographic Characteristics of AMA Leadership

| | Delegates | Alternate Delegates | Board of Trustees[1] | Councils and Leadership of Sections and Special Groups[2] | AMA Members | All Physicians and Medical Students |
|---|---|---|---|---|---|---|
| Count | 594 | 401 | 20 | 170 | 250,253 | 1,341,682 |
| Mean Age (Years)[3] | 56.4 | 51.1 | 57.0 | 50.4 | 46.0 | 51.0 |
| **Age distribution** | | | | | | |
| Under Age 40 | 84 | 91 | 2 | 56 | 128,935 | 399,122 |
| 40-49 years | 62 | 75 | 3 | 19 | 24,268 | 248,239 |
| 50-59 years | 132 | 96 | 3 | 26 | 24,709 | 232,842 |
| 60-69 years | 205 | 105 | 11 | 42 | 27,141 | 226,440 |
| 70 or more | 111 | 34 | 1 | 27 | 45,200 | 235,039 |
| **Gender** | | | | | | |
| Male | 437 | 268 | 14 | 91 | 160,796 | 868,937 |
| Female | 157 | 133 | 6 | 79 | 89,245 | 465,592 |
| Unknown | 0 | 0 | 0 | 0 | 212 | 7,153 |
| **Race/ethnicity** | | | | | | |
| White, Non-Hispanic | 417 | 267 | 14 | 101 | 131,898 | 684,276 |
| Black, Non-Hispanic | 30 | 16 | 3 | 12 | 11,587 | 56,495 |
| Hispanic | 17 | 19 | 0 | 11 | 13,809 | 73,990 |
| Asian/Asian American | 54 | 54 | 1 | 26 | 36,656 | 204,640 |
| Native American | 1 | 0 | 0 | 0 | 875 | 3,496 |
| Other[4] | 9 | 4 | 0 | 2 | 3,477 | 19,266 |
| Unknown | 66 | 41 | 2 | 18 | 51,951 | 299,519 |
| **Education** | | | | | | |
| US or Canada | 554 | 364 | 19 | 153 | 206,697 | 1,034,954 |
| IMG | 40 | 37 | 1 | 17 | 43,556 | 306,728 |

[1] Numbers do not include the public member of the Board of Trustees, who is not a physician.
[2] Numbers do not include non-physicians on the Council on Legislation and AMPAC.
[3] Age as of December 31. Mean age is the arithmetic average.
[4] Includes other self-reported racial and ethnic groups.

Table 4. Life Stage, Present Employment and Self-Designated Specialty of AMA Leadership

| | Delegates | Alternate Delegates | Board of Trustees | Councils and Leadership of Sections and Special Groups | AMA Members | All Physicians and Medical Students |
|---|---|---|---|---|---|---|
| Count | 594 | 401 | 20 | 170 | 250,253 | 1,341,682 |
| **Life Stage** | | | | | | |
| Student[1] | 30 | 25 | 1 | 20 | 56,192 | 109,082 |
| Resident[1] | 31 | 23 | 1 | 19 | 61,928 | 139,222 |
| Young (under 40 or first 8 years in practice)[2] | 31 | 55 | 1 | 27 | 19,698 | 209,120 |
| Established (40-64) | 296 | 210 | 10 | 58 | 54,466 | 544,007 |
| Senior (65+)[2] | 206 | 88 | 7 | 46 | 57,969 | 340,251 |
| **Present Employment** | | | | | | |
| Self-Employed Solo Practice | 89 | 39 | 5 | 21 | 19,263 | 115,266 |
| Two Physician Practice | 13 | 9 | 1 | 2 | 3,560 | 22,050 |
| Group Practice | 240 | 160 | 7 | 47 | 55,933 | 544,717 |
| Non-Government Hospital | 30 | 23 | 0 | 7 | 6,255 | 42,014 |
| State or Local Government Hospital | 62 | 46 | 2 | 20 | 10,594 | 92,236 |
| HMO | 4 | 5 | 0 | 1 | 215 | 2,243 |
| Medical School | 25 | 21 | 2 | 15 | 2,834 | 21,563 |
| US Government | 22 | 20 | 0 | 4 | 2,654 | 25,930 |
| Locum Tenens | 1 | 1 | 0 | 0 | 454 | 2,696 |
| Retired/Inactive | 43 | 19 | 0 | 12 | 27,542 | 157,414 |
| Resident/Intern/Fellow | 31 | 23 | 1 | 19 | 61,928 | 139,222 |
| Student | 30 | 25 | 1 | 20 | 56,192 | 109,082 |
| Other/Unknown | 4 | 10 | 1 | 2 | 2,829 | 67,249 |
| **Self-designated specialty[3]** | | | | | | |
| Family Medicine | 63 | 44 | 3 | 11 | 21,350 | 155,064 |
| Internal Medicine | 126 | 81 | 5 | 25 | 48,229 | 306,907 |
| Surgery | 140 | 82 | 3 | 33 | 34,119 | 178,587 |
| Pediatrics | 25 | 16 | 0 | 12 | 12,537 | 116,785 |
| OB/GYN | 39 | 17 | 0 | 16 | 12,637 | 62,509 |
| Radiology | 29 | 23 | 1 | 8 | 8,682 | 59,898 |
| Psychiatry | 29 | 14 | 1 | 14 | 9,903 | 69,764 |
| Anesthesiology | 21 | 15 | 2 | 6 | 8,892 | 61,501 |
| Pathology | 12 | 13 | 0 | 1 | 4,377 | 29,480 |
| Other Specialty | 80 | 71 | 4 | 24 | 33,335 | 192,105 |
| Student | 30 | 25 | 1 | 20 | 56,192 | 109,082 |

[1] Students and residents are so categorized without regard to age.
[2] Age delineation reflects section/group definition of its membership.
[3] See Appendix B for a listing of specialty classifications.

Table 5. Characteristics of Specialty Society Delegations[1]

| | Mean Age | % Female | % IMG |
|---|---|---|---|
| AMA Members (n =250,253) | 47.0 | 35.7% | 17.4% |
| Specialty Society Delegates and Alternates (n =416) | 55.7 | 32.2% | 5.5% |
| Family Medicine Delegations (n =25) | 56.0 | 32.0% | 0.0% |
| Internal Medicine Delegations (n =87) | 57.7 | 27.6% | 10.3% |
| Surgery Delegations (n =100) | 57.2 | 16.0% | 4.0% |
| Pediatrics Delegations (n =16) | 55.7 | 62.5% | 0.0% |
| OB/GYN Delegations (n =26) | 55.7 | 61.5% | 3.8% |
| Radiology Delegations (n = 28) | 55.9 | 32.1% | 3.6% |
| Psychiatry Delegations (n =25) | 55.2 | 36.0% | 8.0% |
| Anesthesiology Delegations (n =12) | 53.7 | 50.0% | 8.3% |
| Pathology Delegations (n =18) | 53.6 | 22.2% | 0.0% |
| Other specialty Delegations (n =79) | 52.3 | 40.5% | 6.3% |

[1] See Appendix B for a listing of specialty classifications.

Table 6. Mean Age of AMA Members and Delegations by State

| State | Total AMA Members in State | Mean Age of AMA Members | Total Number of Delegates and Alternate Delegates | Mean Age of AMA Delegates and Alternate Delegates |
|---|---|---|---|---|
| Alabama | 3,062 | 47.9 | 10 | 54.7 |
| Alaska | 352 | 54.2 | 2 | † |
| Arizona | 4,271 | 47.5 | 11 | 58.4 |
| Arkansas | 2,021 | 45.8 | 5 | 59.6 |
| California | 22,429 | 51.3 | 42 | 55.8 |
| Colorado | 4,096 | 44.1 | 10 | 54.4 |
| Connecticut | 3,413 | 46.6 | 8 | 66.8 |
| Delaware | 668 | 58.5 | 2 | † |
| District of Columbia | 1,981 | 38.4 | 3 | † |
| Florida | 13,489 | 51.7 | 26 | 56.1 |
| Georgia | 4,874 | 49.6 | 10 | 63.2 |
| Guam | 25 | 57.2 | 2 | † |
| Hawaii | 1,078 | 54.1 | 3 | † |
| Idaho | 563 | 56.5 | 2 | † |
| Illinois | 11,069 | 49.4 | 21 | 59.0 |
| Indiana | 4,439 | 46.7 | 8 | 59.4 |
| Iowa | 2,151 | 49.8 | 5 | 57.6 |
| Kansas | 1,903 | 53.0 | 7 | 67.3 |
| Kentucky | 3,228 | 45.9 | 8 | 61.8 |
| Louisiana | 4,024 | 40.6 | 8 | 52.9 |
| Maine | 1,337 | 42.3 | 4 | 65.8 |
| Maryland | 4,414 | 50.8 | 10 | 56.4 |
| Massachusetts | 12,321 | 38.2 | 22 | 56.9 |
| Michigan | 12,011 | 44.7 | 23 | 56.5 |
| Minnesota | 4,393 | 47.2 | 8 | 62.4 |
| Mississippi | 2,749 | 46.2 | 6 | 56.2 |
| Missouri | 4,846 | 42.9 | 8 | 59.3 |
| Montana | 679 | 48.1 | 2 | † |
| Nebraska | 1,640 | 43.1 | 5 | 50.0 |
| Nevada | 1,471 | 47.6 | 4 | 67.8 |
| New Hampshire | 877 | 50.1 | 2 | † |
| New Jersey | 7,074 | 49.2 | 15 | 63.7 |
| New Mexico | 1,285 | 48.7 | 4 | 60.8 |
| New York | 19,468 | 46.6 | 29 | 58.0 |
| North Carolina | 5,181 | 49.1 | 9 | 61.3 |
| North Dakota | 762 | 41.2 | 2 | † |
| Ohio | 10,593 | 44.6 | 16 | 55.3 |
| Oklahoma | 3,751 | 45.2 | 8 | 63.1 |
| Oregon | 1,902 | 54.0 | 4 | 56.8 |
| Other | 743 | 77.7 | | |
| Pennsylvania | 13,213 | 47.4 | 21 | 63.5 |
| Puerto Rico | 1,399 | 43.4 | 4 | 72.0 |
| Rhode Island | 1,018 | 44.5 | 3 | † |
| South Carolina | 4,572 | 39.4 | 10 | 58.3 |
| South Dakota | 963 | 43.7 | 2 | † |

† To protect the privacy of these individuals, data for three or fewer persons are not presented in the table, although the data are included in the overall total.

| State | Total AMA Members in State | Mean Age of AMA Members | Total Number of Delegates and Alternate Delegates | Mean Age of AMA Delegates and Alternate Delegates |
|---|---|---|---|---|
| Tennessee | 4,744 | 46.3 | 9 | 63.2 |
| Texas | 18,002 | 45.9 | 34 | 58.3 |
| Utah | 1,668 | 50.1 | 3 | † |
| Vermont | 416 | 49.2 | 2 | † |
| Virgin Islands | 37 | 65.4 | | |
| Virginia | 7,111 | 44.3 | 15 | 64.1 |
| Washington | 3,888 | 53.7 | 9 | 54.9 |
| West Virginia | 1,831 | 42.7 | 4 | 67.8 |
| Wisconsin | 4,556 | 46.7 | 9 | 58.2 |
| Wyoming | 202 | 60.8 | 2 | † |
| TOTAL | 250,253 | 48.5 | 501 | 59.6 |

Table 7. Women and International Medical Graduates on State Association Delegations

| State | Total AMA Members in State | Total Number of Delegates and Alternate Delegates | Percentage of female AMA Members in State | Number of Female Delegates and Alternate Delegates | Percentage of IMG Members in State | Number of IMG Delegates and Alternate Delegates |
|---|---|---|---|---|---|---|
| Alabama | 3,062 | 10 | 29.8% | 1 | 11.9% | 0 |
| Alaska | 352 | 2 | 34.4% | 1 | 7.7% | 0 |
| Arizona | 4,271 | 11 | 34.0% | 2 | 16.2% | 0 |
| Arkansas | 2,021 | 5 | 33.6% | 1 | 11.1% | 1 |
| California | 22,429 | 42 | 34.3% | 11 | 16.1% | 2 |
| Colorado | 4,096 | 10 | 38.4% | 7 | 4.9% | 0 |
| Connecticut | 3,413 | 8 | 37.7% | 2 | 17.4% | 1 |
| Delaware | 668 | 2 | 31.3% | 2 | 24.0% | 0 |
| District of Columbia | 1,981 | 3 | 49.5% | 0 | 11.8% | 0 |
| Florida | 13,489 | 26 | 30.8% | 4 | 25.7% | 3 |
| Georgia | 4,874 | 10 | 35.0% | 2 | 16.8% | 1 |
| Guam | 25 | 2 | 32.0% | 0 | 56.0% | 1 |
| Hawaii | 1,078 | 3 | 33.7% | 1 | 11.9% | 0 |
| Idaho | 563 | 2 | 21.1% | 1 | 5.5% | 0 |
| Illinois | 11,069 | 21 | 35.4% | 4 | 22.6% | 7 |
| Indiana | 4,439 | 8 | 32.8% | 2 | 15.4% | 2 |
| Iowa | 2,151 | 5 | 32.1% | 1 | 12.8% | 0 |
| Kansas | 1,903 | 7 | 30.0% | 1 | 14.0% | 0 |
| Kentucky | 3,228 | 8 | 33.0% | 0 | 15.1% | 0 |
| Louisiana | 4,024 | 8 | 38.7% | 3 | 13.8% | 1 |
| Maine | 1,337 | 4 | 43.2% | 1 | 8.0% | 0 |
| Maryland | 4,414 | 10 | 37.6% | 5 | 20.8% | 4 |
| Massachusetts | 12,321 | 22 | 45.4% | 4 | 16.1% | 1 |
| Michigan | 12,011 | 23 | 36.3% | 7 | 23.7% | 6 |
| Minnesota | 4,393 | 8 | 35.0% | 3 | 13.5% | 0 |
| Mississippi | 2,749 | 6 | 31.5% | 2 | 10.1% | 1 |
| Missouri | 4,846 | 8 | 36.9% | 1 | 10.6% | 2 |
| Montana | 679 | 2 | 38.4% | 1 | 4.4% | 0 |
| Nebraska | 1,640 | 5 | 35.4% | 1 | 7.8% | 0 |
| Nevada | 1,471 | 4 | 30.3% | 1 | 16.9% | 1 |
| New Hampshire | 877 | 2 | 34.0% | 0 | 16.2% | 0 |
| New Jersey | 7,074 | 15 | 35.1% | 3 | 29.7% | 4 |
| New Mexico | 1,285 | 4 | 37.6% | 0 | 10.9% | 0 |
| New York | 19,468 | 29 | 37.1% | 4 | 27.2% | 4 |
| North Carolina | 5,181 | 9 | 33.4% | 3 | 12.2% | 0 |
| North Dakota | 762 | 2 | 38.3% | 1 | 17.6% | 0 |
| Ohio | 10,593 | 16 | 36.3% | 6 | 16.5% | 1 |
| Oklahoma | 3,751 | 8 | 32.5% | 2 | 11.3% | 1 |
| Oregon | 1,902 | 4 | 33.4% | 1 | 8.5% | 0 |
| Other | 743 | 0 | 14.7% | 0 | 63.1% | 0 |
| Pennsylvania | 13,213 | 21 | 35.2% | 4 | 17.0% | 1 |
| Puerto Rico | 1,399 | 4 | 40.4% | 0 | 19.8% | 2 |
| Rhode Island | 1,018 | 3 | 40.6% | 2 | 13.9% | 0 |

| State | Total AMA Members in State | Total Number of Delegates and Alternate Delegates | Percentage of female AMA Members in State | Number of Female Delegates and Alternate Delegates | Percentage of IMG Members in State | Number of IMG Delegates and Alternate Delegates |
|---|---|---|---|---|---|---|
| South Carolina | 4,572 | 10 | 39.4% | 1 | 5.8% | 0 |
| South Dakota | 963 | 2 | 34.9% | 1 | 11.5% | 0 |
| Tennessee | 4,744 | 9 | 33.7% | 1 | 9.4% | 1 |
| Texas | 18,002 | 34 | 36.1% | 11 | 16.8% | 2 |
| Utah | 1,668 | 3 | 26.7% | 0 | 5.5% | 0 |
| Vermont | 416 | 2 | 39.4% | 0 | 8.4% | 0 |
| Virgin Islands | 37 | 0 | 29.7% | 0 | 35.1% | 0 |
| Virginia | 7,111 | 15 | 38.2% | 4 | 14.8% | 1 |
| Washington | 3,888 | 9 | 33.8% | 3 | 13.1% | 1 |
| West Virginia | 1,831 | 4 | 33.4% | 0 | 20.2% | 0 |
| Wisconsin | 4,556 | 9 | 34.8% | 4 | 15.8% | 1 |
| Wyoming | 202 | 2 | 24.3% | 0 | 9.4% | 0 |
| TOTAL | 250,253 | 501 | 35.7% | 123 | 17.4% | 53 |

American Medical Association Councils, Sections and Special Groups

COUNCILS

- American Medical Political Action Committee
- Council on Constitution and Bylaws
- Council on Ethical and Judicial Affairs
- Council on Legislation
- Council on Long Range Planning and Development
- Council on Medical Education
- Council on Medical Service
- Council on Science and Public Health

SECTIONS

- Academic Physicians Section
- Integrated Physician Practice Section
- International Medical Graduates Section
- Medical Student Section
- Minority Affairs Section
- Organized Medical Staff Section
- Resident and Fellow Section
- Senior Physicians Section
- Young Physicians Section
- Women Physicians Section

SPECIAL GROUPS

- Advisory Committee on LGBTQ Issues

## APPENDIX B

Specialty classification using physicians' self-designated specialties

| Major Specialty Classification | AMA Physician Masterfile Classification |
|---|---|
| Family Practice | General Practice, Family Practice |
| Internal Medicine | Internal Medicine, Allergy, Allergy and Immunology, Cardiovascular Diseases, Diabetes, Diagnostic Laboratory Immunology, Endocrinology, Gastroenterology, Geriatrics, Hematology, Immunology, Infectious Diseases, Nephrology, Nutrition, Medical Oncology, Pulmonary Disease, Rheumatology |
| Surgery | General Surgery, Otolaryngology, Ophthalmology, Neurological Surgery, Orthopedic Surgery, Plastic Surgery, Colon and Rectal Surgery, Thoracic Surgery, Urological Surgery |
| Pediatrics | Pediatrics, Pediatric Allergy, Pediatric Cardiology |
| Obstetrics/Gynecology | Obstetrics and Gynecology |
| Radiology | Diagnostic Radiology, Radiology, Radiation Oncology |
| Psychiatry | Psychiatry, Child Psychiatry |
| Anesthesiology | Anesthesiology |
| Pathology | Forensic Pathology, Pathology |
| Other Specialty | Aerospace Medicine, Dermatology, Emergency Medicine, General Preventive Medicine, Neurology, Nuclear Medicine, Occupational Medicine, Physical Medicine and Rehabilitation, Public Health, Other Specialty, Unspecified |

REPORT 5 OF THE COUNCIL ON MEDICAL EDUCATION (A-19)
Accelerating Change in Medical Education Consortium Outcomes

## EXECUTIVE SUMMARY

Phase one of our American Medical Association's (AMA) Accelerating Change in Medical Education (ACE) five-year initiative, launched in 2013, concluded in fall 2018. This innovative initiative, as described in Council on Medical Education Report 2-I-18,

> *[F]ostered a culture of medical education advancement, leading to the development and scaling of innovations at the undergraduate medical education level across the country. After awarding initial grants to 11 U.S. medical schools, the AMA convened these schools to form the Accelerating Change in Medical Education Consortium—an unprecedented collective that facilitated the development and communication of groundbreaking ideas and projects. The AMA awarded grants to an additional 21 schools in 2016. Today, almost one-fifth of all U.S. allopathic and osteopathic medical schools are represented in the 32-member consortium, which is delivering revolutionary educational experiences to approximately 19,000 medical students—students who one day will provide care to a potential 33 million patients annually.*

The initiative has been successful in stimulating change at member institutions and propagating innovations nationwide. Students benefitted from training in new topics (such as health systems science) and in the creation of more precise, individualized educational pathways to support broad competency development. Faculty members benefitted from evolving funded educational roles and the opportunity for scholarship and academic advancement. Member medical schools reported enhanced reputations that strengthened recruitment and positioned them for additional external funding. Health systems benefitted from faculty and students trained in quality improvement, patient safety, and systems thinking. ACE collaborations produced 168 academic publications, which to date have been cited over 1,000 times. Over 600 consultations involving 250 institutions served to accelerate innovation across the country and internationally. In short, the ACE initiative fostered a community of innovation in medical education centered around our AMA.

This informational report provides a detailed description of the activities and outcomes of the ACE initiative. Impacts on students, faculty members, member institutions, health systems, the general medical education community, patients, and the reputation of the AMA are described. Future directions to advance our AMA's role as a catalyst for medical education innovation are outlined.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION

CME Report 5-A-19

Subject: Accelerating Change in Medical Education Consortium Outcomes

Presented by: Carol Berkowitz, MD, Chair

## INTRODUCTION

Launched in 2013 by the American Medical Association (AMA), the Accelerating Change in Medical Education (ACE) initiative established and continues to foster a community of innovation and discovery by supporting the development and scaling of creative undergraduate medical education (UME) models across the country. Grants initially were awarded to eleven U.S. medical schools; funding was extended in 2016 to an additional 21 U.S. schools. The AMA convened these schools to create the ACE Consortium, providing an unprecedented opportunity for cross-institutional partnerships to implement and disseminate groundbreaking ideas.[1,2] Almost one-fifth of all allopathic and osteopathic medical schools in the United States are represented by these 32 grantees. Collectively, these schools are delivering revolutionary educational experiences to approximately 19,000 medical students across the country. Extrapolating the reach of students graduating from these programs, it is estimated that they will provide care to approximately 33 million patients annually.

The initiative has been successful in stimulating change at member institutions and propagating innovations across the United States. Students benefitted from training in new topics (such as health systems science) and in the creation of more precise, individualized educational pathways to support broad competency development. Faculty members benefitted from evolving funded educational roles and the opportunity for scholarship and academic advancement. Member medical schools reported enhanced reputations that strengthened recruitment and positioned them for additional external funding. Health systems benefitted from faculty and students trained in quality improvement, patient safety, and systems thinking. ACE collaborations produced 168 academic publications, which to date have been cited over 1,000 times. Over 600 consultations involving 250 institutions served to accelerate innovation across the country and internationally. In short, the ACE initiative fostered a community of medical education innovation centered around our AMA.

This report reviews the historical context prompting the initiative; structure and processes of the project; outcomes for students, faculty members, member institutions, health systems, the general medical education community, patients, and the reputation of the AMA; and outlines future steps.

## OUR AMA'S HISTORICAL EDUCATIONAL MISSION AND LEADERSHIP ROLE IN EDUCATIONAL REFORM

Since its founding in 1847, the AMA has demonstrated a commitment to developing and supporting advancements in medical education, both autonomously and in partnership with others. The AMA's influence includes the Council on Medical Education's contributions to the Flexner Report in 1910 and the formation and sponsorship of organizations such as the Liaison Committee on Medical Education (LCME), Accreditation Council for Graduate Medical Education (ACGME), and Accreditation Council for Continuing Medical Education (ACCME).[3]

In 2005, the AMA launched a multi-year forerunner to the ACE initiative, the Initiative to Transform Medical Education (ITME), which was intended to "Promote excellence in patient care by implementing reform in the medical education and training system across the continuum, from premedical preparation and medical school admission through continuing physician professional development."[4] ITME comprised three phases: identification of existing strengths, gaps, and opportunities for improvement in physician preparation; development of recommendations for change in the system of medical education to address the gaps; and prioritization of needed changes in medical education. In 2006, Innovative Strategies for Transforming the Education of Physicians (ISTEP), a separate initiative (later encompassed by ITME), was launched to develop the evidence base needed to generate decisions leading to reform in physician education.[5-10]

To promote sustained organizational support of these important initiatives, the Council on Medical Education in 2007 recommended that the AMA "continue to recognize the need for transformation of medical education across the continuum...and the need to involve multiple stakeholders in the transformation process, while taking an appropriate leadership and coordinating role."[11]

In 2012, the AMA announced a new strategic plan, which included accelerating change in medical education as one of three key focus areas, leading to the development of the ACE initiative as it is known today.

## CONTEXT OF MEDICAL SCHOOL CURRICULUM REFORM PRIOR TO THE LAUNCH OF ACE

Although medical educators have a strong tradition of continual iterative improvements in programming, these efforts have commonly been focused on enhancing individual courses or isolated programs. The turn of the 21st century, marking nearly 100 years since the Flexner Report, served as a stimulus to contemplate more transformative and large-scale change. A plethora of reports acknowledged that the delivery of health care had evolved significantly with little concomitant adjustment in the overarching medical education process. Calls for bold transformative change emerged from national professional organizations, foundations, and advocacy groups, engaging an international audience in a dynamic discussion.[12-23]

The Carnegie Foundation, for example, supported a qualitative analysis by Irby et al. of multiple institutions embarking upon educational innovations, resulting in the 2010 book *Educating Physicians: A Call for Reform of Medical School and Residency.* Four key themes emerged from this work as systemic needs:

- Standardization of outcomes yet individualization of process;
- Integration of formal learning with clinical experience;
- Fostering habits of inquiry and improvement; and
- Formation of professional identity.

The Carnegie report served as a call to action in the medical education community and acknowledged the need for significant resource investment and leadership for organizational change. At the time, however, best practices could not be offered based upon the timing and scope of the team's analysis.[19,20]

In 2010, Susan E. Skochelak, MD, MPH, then Vice President for Medical Education at the AMA, performed a comprehensive review of recommendations for change from the prior decade, with an in-depth analysis of 15 major reports from the United States and Canada (including the AMA's ITME and ISTEP initiatives). Eight major recurring themes were identified:

- Enhancing integration across the educational continuum;
- The need for evaluation and research of educational methods and processes;
- New methods of financing medical education;
- The importance of physician leadership;
- An emphasis on social accountability;
- The use of new technology in education and medical practice;
- Alignment of the educational process with changes in health care delivery; and
- Future directions in the health care workforce.

In discussing the remarkable congruence across such reports, Dr. Skochelak challenged educators to move from research to action: "We can be assured that we don't need to keep asking 'What should we do?' but rather 'How can we get there?'"[12]

Additional scholarly work from this period elaborated upon specific recommendations. The 2010 Lancet Commission report called for tighter integration of medical education systems with health care delivery systems and anchoring desired educational outcomes to evolving societal needs.[17] To meet current social needs, Berwick and Finkelstein advocated that students must be prepared to work in, and contribute to the continual improvement of, health care systems: "Physicians should not be mere participants in, much less victims of, such systems. Instead, they ought to be prepared to help lead those systems toward ever-higher-quality care for all."[21] Addressing the movement toward competency-based approaches (standardized outcomes), Hodges validated the importance and challenges of authentic workplace-based assessment of performance and the merits of individualized pathways, yet cautioned that the professional identity formation of learners not be neglected in shifting paradigms: "There could be no more 'see one, do one, teach one.' Rather the phrase would have to be updated to something like 'watch until you are ready to try, then practice in simulation until you are ready to perform with real patients, then perform repeatedly under supervision until you are ready to practice independently'."[22] Nora addressed the critical need for health systems and academic centers to invest in faculty development: "Faculty members must be given the release-time and the tools necessary for success, with the understanding that they must use these resources appropriately and meet the expectations of their roles."[23]

Despite these repeated calls for change and relatively strong agreement on key elements to be addressed, only marginal progress was made in transforming medical education. Recognizing that significant change may lie beyond the scope of individual institutions, the AMA stepped in to serve as a guiding body to build consensus, identify best practices, and provide both financial and moral support for the challenging work to be done. By committing significant financial resources to this initiative, the AMA generated a sense of urgency among medical educators and administrators.

## ACE OBJECTIVES AND PROCESS

Based upon the previously outlined international medical education discourse, the following core objectives were established for ACE:

Objective 1: Developing new methods for teaching and/or assessing key competencies for medical students and fostering methods to create more flexible, individualized learning plans.

Objective 2: Promoting exemplary methods to achieve patient safety, performance improvement, and patient-centered team-based care.

Objective 3: Improving medical students' understanding of the health care system and health care financing.

Objective 4: Optimizing the learning environment.

With objective 1, the AMA endorsed competency-based medical education (CBME), which explicitly aligns curricular offerings and assessment of student performance with the desired outcomes of the educational program. Since CBME has been embraced in graduate medical education (GME), supporting its implementation in UME would promote alignment across the continuum of training. Competency-based approaches enhance attention to areas of performance beyond the traditional focus on medical knowledge and clinical skills. Because each student possesses differing strengths and educational needs, fully fostering this breadth of competency requires flexible, individualized pathways.[23]

Objectives 2 and 3 were quickly identified by the consortium's membership as closely related. Collaboration among the ACE institutions ultimately resulted in articulation of the larger construct of health systems science, identified as the "third pillar" of medical education alongside the traditional focus on basic science and clinical skills. Objectives 2 and 3 are jointly referred to as "health systems science (HSS)" in subsequent sections of this report.[24-26]

Objective 4 acknowledged our AMA's concerns regarding physician burnout. Additional drivers supporting attention to the environment in which students learn include cognitive science about the learning process; a desire to promote the success of a diversity of students; and emerging evidence of "imprinting," or persistence throughout a physician's later career, of certain dimensions of the health system(s) in which one trains (such as quality, cost, and professionalism behaviors).

The ACE program was planned to function at two levels. Grants were awarded to individual institutions to complete local projects aligned with one or more of the initiative's objectives. Additionally, the program was structured to promote organic collaboration among institutions, resulting in amplification and acceleration of the change process.

The AMA's initial request for proposals in 2013 generated an overwhelming response: 119 letters of intent were received, representing 80% of eligible U.S. medical schools. Of those letters of intent, 31 applicants were invited to submit full proposals. To assure attainment of the objectives, successful applicants were required to describe a significant commitment from the relevant associated clinical system. Of the 31 applicants, 11 institutions were selected, each funded at $1 million over a five-year period (see Appendix A, Table A-1). In addition to this funding, the AMA supported two face-to-face meetings of consortium members each year of the grant. Common themes quickly emerged and resulted in collaboration across institutions. Multiple interest groups were established, for which ACE staff provided administrative support and project management, and the AMA convened in-person thematic meetings to propel key shared initiatives. Throughout the process, national partners were engaged to facilitate innovation, including the Association of American Medical Colleges (AAMC), LCME, ACGME, National Board of Medical Examiners (NBME), American Osteopathic Association (AOA), American Association of Colleges of Osteopathic Medicine (AACOM), and the Josiah Macy Jr. Foundation. Many of the outcomes reported here were generated by such inter-organizational efforts.

In 2015, the AMA recognized the opportunity to further propagate the work undertaken by the first cohort of ACE grantees and to address gaps in existing programs. New partners were solicited under a revised request for proposals, offering more modest funding, and the opportunity was expanded to osteopathic as well as allopathic medical schools. Of 108 applications, twenty-one additional schools were funded at $75,000 over a three-year commitment. (see Appendix A, Table A-1).[1]

At the time of the writing of this report, all Phase 1 grant commitments have been successfully completed. While the consortium continues to operate under a new structure, described later, the remainder of this report focuses on the outcomes of the ACE Consortium's initial five-year phase.

## OUTPUTS OF ACE

The ACE member institutions from both funding cohorts implemented significant programs at their sites. Additionally, collaborative efforts among sites served to accelerate and amplify productivity. This section provides an overview of outputs and the major activities that were undertaken in the initiative; the impacts of those changes are described in the following section.

### *Institutional Outputs*

#### Site-based Projects

Each funded institution implemented site-specific projects aligned with local needs and capacity. Schools defined key objectives for their projects and submitted two progress reports per year. School-based initiatives contributed to the shared ACE objectives of fostering competency-based approaches and individualized pathways, promoting education in HSS, and improving the learning environment. The scope of the projects ranged from a targeted intervention to support a specific theme (such as training in HSS) to sweeping curricular overhauls that addressed multiple objectives. As anticipated, some sites revised their objectives over the life of the grant. Despite these recalibrations, core themes persisted. See Appendix A, Table A-1 for a brief description of each school's project and its relationship to the overarching ACE objectives.

#### Common Changes to Curricular Content and Structure

Each institution was queried regarding the implementation of curricular content areas of interest to the AMA. Topics that generally moved from contemplation to implementation included elements of HSS (related to objectives 2 and 3); systems thinking; leadership and change agency; clinical informatics and health information technology; value-based care; health care economics; quality improvement; patient safety; teamwork and interprofessional care; and health care policy.

A similar query was made regarding changes in structural frameworks supporting student education. Common programmatic changes supported competency-based medical education (objective 1), including flexible individualized learning plans and deliberate assessment of readiness for internship, as well as optimization of the learning environment (objective 4), including medical student coaching and medical student wellness programs.

See Appendix B, Tables B-1 and B-2 for more detailed information regarding common shifts in curricular content and structure in local institutional projects.

### *Collaborative Outputs*

A significant benefit of convening consortium members twice per year was the sense of community that quickly developed. Institutions striving to implement bold ideas were able to share their strategies and, importantly, share their struggles and failures (an uncommon practice in traditional academic environments). This resulted in a deep, shared commitment to the difficult work of creating the medical schools of the future and spurred rapid dissemination of solutions among consortium members and the academic community.

Table 1, below, presents areas of shared efforts across consortium members. Appendix C provides a more detailed description of these topics.

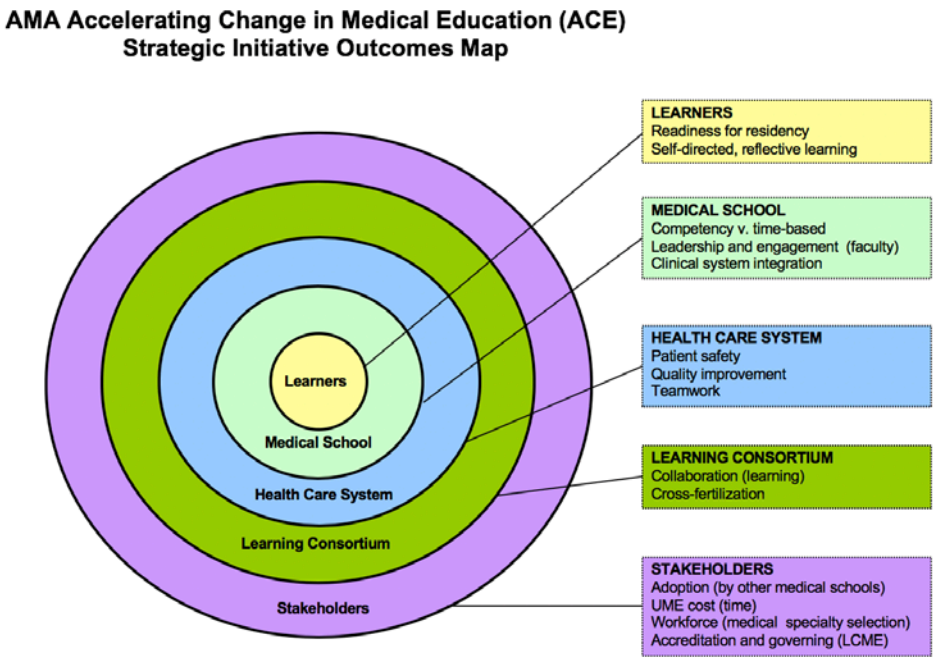
**Table 1**

| Topic Area | Corresponding ACE Objective(s) | Shared Curricular Efforts |
|---|---|---|
| Competency-Based Medical Education and Individualized Pathways | Objective 1:<br><br>Developing new methods for teaching and/or assessing key competencies for medical students and fostering methods to create more flexible, individualized learning plans. | Competency assessments<br><br>Readiness for residency<br><br>Individualized learning plans<br><br>Flexible curricula |
| Health Systems Science | Objective 2:<br><br>Promoting exemplary methods to achieve patient safety, performance improvement, and patient-centered team-based care.<br><br>Objective 3:<br><br>Improving medical students' understanding of the health care system and health care financing. | Value-added roles for medical students<br><br>Medical students embedded in the community<br><br>Patient safety and quality improvement<br><br>Social determinants of health<br><br>Chronic disease |
| Optimizing the Learning Environment | Objective 4:<br><br>Optimizing the learning environment. | Well-being<br><br>Master adaptive learner[28]<br><br>Coaching<br><br>Technology<br><br>Evaluation |

IMPACT OF ACE

At the formative stage of the consortium, several tiers of potential impact were envisioned, as described in Figure 1. Multiple measures tracked over the life of the initiative reflect the successful implementation of bold innovations across the 32 medical schools, and document the significant impact on member institutions, their constituents, and stakeholders beyond the consortium.

**Figure 1**




*Impact on ACE Learners*

Students at consortium schools benefited from direct interventions that included the addition of specific content (such as HSS)[24-26] as well as processes to enhance learning outcomes (such as competency-based approaches and coaching).[23,28]

Grantees reported anticipated enhanced student readiness for residency and anticipated improvements in graduates' competency in patient-centered care, communication, interprofessional collaboration, patient safety, quality improvement, value-based health care, addressing social determinants of health, telemedicine, and electronic health records. Many sites applied ACGME milestones[29] and AAMC Core Entrustable Professional Activities (EPAs)[30] to measure student progress, and the NBME HSS exam provides evidence of the acquisition of new knowledge in these areas.[31] At the time of this report, most member institutions were just starting to graduate cohorts of students affected by changes in programming. Downstream evidence to assess the actual performance of ACE graduates will include graduate surveys, program director surveys, and analyses of ACGME milestone outcomes during residency.

The consortium contributed to a culture change within institutions and the creation of processes to support more precise education. Greater attention to assessment in the workplace generated more timely, actionable feedback for students. Individualized, student-centered, and in some cases accelerated pathways provided greater alignment of learning experiences to learning needs and opportunities for reduced time in school, reduced tuition expenses, and reduced need to repeat material for which the learner is already demonstrably competent.

Professional identity formation was enhanced by many of the grant interventions. Consortium school faculty and students reported that real-life simulations, coaches (as opposed to traditional advisers), and population-centered care frameworks taught students how to care for individual patients and collaborate across specializations to improve health care systems. As one medical student from A.T. Still University-School of Osteopathic Medicine in Arizona offered:

> *As a former student who was permitted to participate in several community health projects while in medical school, I can report on the tremendous impact it has had on my appreciation of community health. Medicine is quite sterile in academia, which is very difficult to escape - even during highly structured clinical years. However, community-based projects seem to breathe life into our profession, allowing us as students to more fully appreciate elements such as specific socioeconomic factors that keep people from pursuing care, or how HIV is experienced in rurality. As a family medicine resident, it is striking how many students seem to find their "purpose" in medicine after a community project inspired some shift in career paths altogether. The common denominator is that deeper connection to a community, which is just so hard to get with the abbreviated time we have in traditional medical school curricula.*

Students also benefitted from participation in leadership and scholarship consortium projects, participating as active partners in designing and refining curricular interventions at many institutions.[32] As seen in Appendix D, novel and disruptive educational methods, such as near-peer mentoring among students, contributed to learning and facilitated successful curricular transition. Students were exposed to various presentation and publication opportunities and, as active leads and co-leads of experience-based scholarship, developed problem-solving skills and adaptability through innovation and creativity.

*Impact on ACE Medical Schools*

Participating institutions experienced an overarching impact beyond the direct effect of the grant projects. In their final reports to the AMA, grantees were asked to reflect on what had been the most significant contribution of the grant at their institution. The responses were broad, ranging from improvement in specific areas of curriculum (such as interprofessional care and electronic health records) to impacts on institutional culture and prestige.

The magnitude of change that ACE projects demanded involved multiple institutional challenges, including confronting established approaches to education and skepticism about the need for change; senior decision-makers who were resistant to innovation and/or changing the educational status quo; significant in-kind resources needed to implement and sustain changes (including resources to support administrative burden, the need for feasible and motivating compensation models, and new technological platforms); policies, both state and institutional, that did not immediately permit innovation; and the need to develop mechanisms to provide effective and sufficient communication to all stakeholders.

Several schools noted that the prestige of the grant and the consortium provided credibility for their educational mission, which facilitated successful implementation of their grant project and led to changes in their institution's fundamental approach to education. Grant funding and consortium participation stimulated increased collaboration among institutional stakeholders, including students, faculty, and the affiliated health system. Additionally, the grant conferred external validation on institutions as leaders in educational innovation. A sampling of schools' feedback on the initiative provides a glimpse into these opinions:

> *For the AMA to fund our initiatives was confirming, accelerating, consolidating, the push that we needed.*
> Vanderbilt University School of Medicine

> *The ongoing recognition and attention of the project accomplishments continues to facilitate visibility and the sense of culture change.*
> East Carolina Brody School of Medicine

*The grant provided important validation of our vision.*
University of California, San Francisco School of Medicine

For some schools, the AMA grant spurred additional funding. Schools received supplemental funding for their projects from universities, regional foundations, states, and health systems. Consortium schools received over $16 million in Health Resources and Services Administration grants related to ACE projects, and two schools received gifts related to medical student education totaling $700 million. In addition, ACE schools received grants from the Kern Institute, Josiah Macy Jr. Foundation, Robert Wood Johnson Foundation, Substance Abuse and Mental Health Services Administration, ACGME, and the National Institutes of Health.

*Impact on ACE Faculty*

ACE grants prompted significant changes in faculty roles and expertise. Grantees reported that curricular innovations resulted in the creation of new positions or the repurposing of existing positions. Across the 32 schools, 900 faculty positions were affected, and a total of 87 full-time equivalent (FTE) positions were redistributed as novel educational formats drove new faculty roles. The most common new roles included small group facilitators, coaches, and faculty trained to teach HSS and mentor student-led quality improvement projects.[33] These transformative impacts on funded faculty roles are projected to continue even now that AMA grant funds have ceased to support site-based projects.

Faculty challenges related to the change process included faculty and other health professionals' engagement; buy-in for new collaborations; time demands of design and implementation; building and maintaining a team of educators to resolve necessary changes in staffing and facilities; a lag between implementation of novel teaching or assessment methods and faculty comfort with leading them (an unavoidable gap in depth and breadth of expertise); funding for, and leadership of, sustainable faculty training and development; turnover of dedicated faculty or administrators; and providing effective and sufficient communication across all stakeholders.

Despite these challenges, grantees reported that faculty increased their own knowledge areas and expertise. New curricular content areas, such as patient safety and quality improvement, demanded faculty training, which in turn was reported to affect faculty members' own clinical practices. Changes in process also required faculty development. Competency-based methods encouraged faculty members to focus on student development rather than grades, reminding faculty of their critical role in serving the needs of future patients.[34,35] Faculty learned how to develop data-driven curricula and teaching in support of diverse patient care and reported a greater shared sense of purpose across departments and professions. Looking to the future, institutions anticipate expanded faculty knowledge and mentoring, increasing the value that students bring to patients and communities through multiple pathways (e.g., direct patient care and interprofessional teamwork).

Additional faculty impacts included enhanced opportunities for academic advancement. Schools reported that consortium activities stimulated scholarship that would not have occurred otherwise, as well as cross-institutional and cross osteopathic/allopathic collaborations. The resulting manuscripts[24,28,31,33,36-50] were more competitive for publication, improving a key metric for faculty advancement. Sites cited an increase in faculty participation in national and international presentations over the course of the grant, and reported that grant activities led to a total of 71 promotions (reported by 31 of 32 schools) and 99 appointments to named positions within their institution (reported by 29 of 32 schools). Additionally, schools shared that the national prestige associated with consortium membership allowed them to cast a wider net in recruiting top faculty

and administrators to their institutions. Further examples regarding the benefits to faculty of consortium participation may be seen in Appendix E.

*Impact on ACE-affiliated Health Care Systems*

The most direct impact of consortium activities on affiliated health systems resulted from the deliberate incorporation of HSS training, focusing on how health care is delivered, how health care professionals work together to deliver that care, and how health systems can improve patient care and health care delivery. Some schools designed experiences for students to learn leadership, work in their community, or team up with interprofessional colleagues; others implemented rigorous quality improvement and patient safety training.[51-60] For example, the University of California San Francisco Health System and School of Medicine partnered in 2016 to embed 80 first-year medical student teams as active participants in health systems improvement efforts to address problems aligned with the health system's True North pillars of quality, safety, and value. Meanwhile, at the Pennsylvania State University School of Medicine, students were trained to serve as patient navigators who guide patients through a complex health care continuum.

To capture the impact of such student roles and student-led projects, the AMA launched the Health Systems Science Student Impact Competition in 2018. Forty-six students submitted descriptions of their work. Eligible projects addressed one of the HSS domains, such as leadership, patient safety, quality improvement, or population health. The winning entry was submitted by Kevin Tyan, a student at Harvard Medical School, who implemented strategies to protect patients and health workers from the Ebola epidemic and health care-associated infections. The second-place winner was Richard Lang, a student from Rutgers Robert Wood Johnson Medical School, a student-veteran who drew upon his military experience to improve teamwork training in medical education. The third-place submission was from Jasmyne Jackson, a student at the University of Michigan Medical School who developed a tiered mentorship program to address diversity pipeline issues, engaging pre-medical and medical students who are underrepresented in medicine to promote professional development and empowerment.

Other ACE objectives affected health systems in indirect ways. Competency-based efforts at many schools were designed to better align student training with the needs of patients and populations. The deliberate preparation of students for their responsibilities as interns was a focus at many sites, which is projected to improve the function of the health care system at the time of transition. Similarly, changes to the student learning environment impact all members of the clinical team, including residents, faculty, nurses, and other professionals.[1] Encouraging a system in which all learners work and all workers learn supports an ethos of shared learning and improvement that may mitigate emotional exhaustion and depersonalization.[61]

The ACE application process was structured to require that schools collaborate closely with their health care system, creating a shared understanding of roles, values, and learning needs of participating students. Health system leaders were included in curricula, especially surrounding the development of HSS experiences. For example, Pennsylvania State University College of Medicine notes that:

> *Collaboration with our health system on educational initiatives over the life of the grant includes the following health systems leaders and professionals who have contributed to the design and implementation of the HSS curriculum (UME, GME, faculty development): dean and CEO of the College of Medicine and Health System, vice dean for educational affairs, chief financial officer, chief operating officer, vice president and chief quality officer, vice president of operational excellence, vice president of population health, director of ambulatory*

*nursing, chief information officer, clinical and basic science faculty, advanced care practitioners, nurse educators, allied health professionals, social workers, librarians.*

*Impact on the ACE Learning Consortium: Fostering a Community of Innovation*

During the lifespan of the grant, relationships naturally spread across disciplinary lines in the consortium into a collegial, snowballing network spanning multiple topics, purposes, and depths. Although very difficult to quantify, consortium schools reported valuing this outcome tremendously and anticipated the continuation of these relationships into the future.

When asked to note the most significant contribution of the consortium, grantees repeatedly cited interaction with other educators and learning from innovations at other sites. Recurrent themes are well articulated by the following excerpts:

*The ACE Consortium serves as a catalyst for innovation. Through conferences, online discussions, and incubator projects, it unifies a variety of experienced American medical school innovators. Through this process, members gain a shared mental model, learn best practices, discuss complex issues in learning communities, and reference a common evidence base.*
Faculty, Brody School of Medicine at East Carolina University

*The consortium has provided us the opportunity to share ideas, ask for help and have the status/gravitas as a consortium member to implement innovations. Our collaborations have led to deeper understandings of how to educate well and deeply and have caused us to continue to question and reform what we do. We also continue to develop ways to enact our vision of having students be value-added members of the patient care team and have seen the fruits of our past labor with our students' successful entry into their clerkships.*
Faculty, CUNY School of Medicine

*This consortium reinforces the truth that we are all responsible for the future of health care and that we are teammates, not competitors.*
Faculty, A.T. Still University-School of Osteopathic Medicine in Arizona

*The single greatest contribution of the consortium may not have been anticipated but was fully realized because of the openness that the AMA demonstrated to ensuring the 'whole was greater than the sum of our parts'. In other words, the Innovation Ecosystem that resulted from the work together in the consortium was the single greatest benefit we realized from our participation in this grant program.*
Faculty, University of Michigan Medical School

*In just five years, the consortium has become the home of medical education in the United States.*
Faculty, New York University School of Medicine

Grantees also credited the following with facilitating the accomplishment of grant project objectives: endorsement by the AMA through the national consortium; internal and external networking that resulted in strong partnerships; consortium membership as a place to seed ideas, learn new approaches to similar problems, and receive professional validation; and financial support, including that from the AMA for travel and consortium meetings.

Consortium grants also led to the creation of environments supportive of student engagement with and partnership in scholarly endeavors. Student debriefings about interventions served as valuable and powerful ways to impact future faculty development. Students expressed their appreciation for being included in this community:

> *As a first-year medical student, I had the opportunity to attend the AMA consortium annual conference. It was here that I was first introduced to the community of medical educators. This community represented a shift in my medical school journey to one being centered about medical education. It was also the place where I found inspiration, learned the power of collaboration between institutions, and was encouraged to pursue my own contributions to the field. However, the most important of the community was the people I had the opportunity to meet. They will serve as role models to me as I continue my career in academic medicine.*
> Medical Student, University of Michigan Medical School

> *I was excited to see such a broad group of medical education professionals exploring ways to shake the status quo of traditional medical curricula through engagement with student perspectives and new technologies. The consortium offers an opportunity for rapid and sustainable change of long-held but flawed standards that currently prevent students from reaching their highest learning potential.*
> Medical Student, Warren Alpert Medical School of Brown University

*Impact on the broader medical education landscape: scholarship and dissemination*

Scholarship related to ACE educational innovations has been an important vehicle for dissemination. Over the five-year grant period, consortium members authored 168 publications, which to date have been cited by over 1,000 subsequent manuscripts. Ninety-two of these publications related to HSS, and 30 related to competency assessment. Fifty-three papers were published in *Academic Medicine*. Over 270 abstracts have been presented by consortium members in regional, national, and international venues.

The collaborative interest groups of the consortium generated significant dissemination of scholarship in non-traditional ways. The most productive interest group concentrated on defining the domains of HSS, advocating for its status as the third pillar of medical education complementing basic science and clinical skills.[24-25] This group adopted multiple modalities to promote the teaching and assessment of HSS. The resulting textbook[26] has sold over 4,000 copies internationally, and online modules are scheduled to be released in 2019. Additionally, HSS subject matter experts collaborated with the NBME to create a subject examination in HSS[31] to be administered by medical schools. In a January 2019 editorial, *Academic Medicine* Editor-in-Chief David Sklar, MD, reinforced the value of teaching HSS as the third pillar of medical education and cited HSS curricula as a potential marker of school excellence.[62] Another ACE collaborative group focused on medical student coaching created a handbook that has been downloaded more than 7,000 times from the AMA website.[27] A monograph self-published by the AMA outlining the impact of scholarship generated by consortium activities has been downloaded nearly 9,000 times.[63]

Furthering scholarly impact, grantees also served as consultants to other institutions embarking on change processes. As stated previously, the consortium served as a safe space for educators to articulate the many challenges associated with educational innovation, including negotiating accrediting requirements that do not readily allow for innovation; modernizing inflexible educational technologies; forging new collaborations across the health system; managing competing demands on student attention which may detract from the benefits of innovations;

addressing students' concerns that systems thinking may lie beyond their stage of development; coping with challenges of scheduling innovative experiences within required traditional medical education cycles; building effective and sufficient communication; sustaining interventions as students from innovative undergraduate programs transition to GME; measuring educational outcomes and creating evaluation and assessment plans; and handling the complexity of linking educational interventions to patient outcomes.

The strategies that emerged from individual institutions and from consortium activities were of value to schools outside the consortium seeking to innovate. Consultations served to amplify the impact of the ACE initiative into the broader educational community, thus accelerating widespread change. Consortium members reported advising other institutions to use validated tools whenever possible; consider implementing models that already exist rather than creating new ones; increase collaborations with other departments early on in the change process; plan ahead to gather meaningful outcomes data; and ensure that there are supportive systems, processes, and administration in place before committing to such an undertaking. Over the course of the grant, collaborations of ACE schools with one another and with non-consortium institutions exceeded 600 interactions involving over 250 institutions and organizations, reflecting the sense of authority afforded to ACE members in the medical education community.

Member institutions have cooperated with accrediting agencies and governing bodies to enable innovation by removing regulatory and legal barriers. The University of California, Davis, School of Medicine worked with the state legislature of California to alter the required minimum time of training so that students committed to primary care could complete a three-year track aimed at enhancing diversity of the physician workforce. Other interventions promise a potential to reduce the costs of UME: for example, via its competency-based assessment process, Oregon Health & Science University (OHSU) School of Medicine was able to graduate 25 percent of its students a semester early, resulting in an average tuition cost reduction of $17,000. Dialogue in consortium sessions amplified national concerns about scoring for the USMLE, prompting the NBME, in collaboration with the AMA and other influential organizations, to host discussions with subject matter experts to explore this issue more deeply.

*Impact on the AMA*

Despite the AMA's longstanding investment in medical education, the launch of the ACE initiative represented a bold step into the UME sphere. The investment of significant resources gained initial attention, and the subsequent successful efforts of the consortium have anchored the AMA as a hub for innovation in medical education. As a consortium member school put it, "In just five years, the consortium has become the home of medical education innovation in the United States" (New York University).

In a qualitative study conducted in 2015 by consulting firm Penn Schoen Berland, 31 medical school deans who were not members of ACE were interviewed to solicit their perspectives on educational innovation and the AMA's ability to lead in that space. For several, the ACE initiative changed their view of the AMA: "It's unexpected coming from a trade organization that the AMA has been in the past. It really speaks to the present—the AMA has a different vision, which I am delighted about. I think it's very exciting."

The ACE initiative garnered significant external attention for the AMA, and it is interesting to track how earned media coverage has evolved since the ACE initiative launch in 2013. Initially, ACE coverage mainly appeared in trade publications; this is not unusual for a new initiative, as reporters often prefer to cover results and concrete milestones. ACE's visibility and reach have

grown over the past five years, however, as evidenced by media coverage in national mainstream publications, including the *Wall Street Journal*,[64] National Public Radio,[65] and the *New York Times*.[66] Mentions of ACE work in more prominent, high-impact publications also have grown over time and are often synched to major announcements, such as the launch of the HSS textbook and the electronic health record (EHR) designed for educational settings. The additional uptick in the quality of journal placements was also the result of exposure to consortium meetings, relentless media team pitching, and access to press conference calls with James Madara, MD, Executive Vice President and CEO of the AMA, and Dr. Skochelak. Finally, in 2018, impressions were derived from a significant push to earn attention for the first graduating classes from consortium schools and the five-year anniversary of ACE. Increasingly, the storyline around ACE and the need for reimagining medical education have moved from health trade publications into the public consciousness. See Appendix F, Table F-1 for a listing of top *AMA Wire* articles about ACE.

To capitalize on the interest in ACE activities and expand our reach beyond consortium members, the medical education unit launched a new national conference, ChangeMedEd®, which welcomes both consortium and non-consortium members and medical education stakeholders. The inaugural 2015 conference attracted 273 participants (226 of whom were non-members); attendance rose to 363 in 2017 (including 265 non-members). Additionally, digital platforms have been exploited to create other interactions and stretch engagement to an international scale. Webinars and asynchronous discussions have been offered, with 1,000 participants across seven webinars and over 2,000 participants across 17 asynchronous discussions. More details about virtual-session topics and participation in the webinars are provided in Appendix F, Tables F-2 and F-3.

Other critical AMA initiatives have benefited from direct access to the medical educators and UME curricula affiliated with the ACE Consortium. For example, collaboration with ACE member institutions propelled efforts of the AMA's Improving Health Outcomes unit to address chronic disease by piloting a new structure of the patient history and physical to target the needs of patients with chronic illness.[49] Similarly, synergy exists between the goals of the AMA's Professional Satisfaction & Practice Sustainability unit and ACE efforts to empower students to attack the dysfunction in the health care system by training them in HSS.[61] Such empowerment is expected to enhance a sense of control and well-being, supplementing education's recent focus on individual resilience and wellness.

The myriad activities that comprise the ACE initiative have secured the AMA's position as the leading home for purposeful innovation in medical education.

*Impact on patients*

The ultimate goal of the ACE initiative is to improve patient care. The impacts of the ACE objectives on learners, faculty members, medical schools, health systems, and the broader medical education community outlined in this report culminate in physicians who are better trained, more satisfied, and poised to shape the constantly evolving health care system—in short, as the AMA mission states, "to promote the art and science of medicine and the betterment of public health."

## FUTURE STEPS

The ACE initiative has taken great strides toward creating the medical school of the future. Institutional members of the consortium have offered case studies in accomplishing a variety of needed reforms, and collaborative efforts across sites have identified techniques that can be generalized to other schools. Significantly, all 32 participating schools have committed to continue as members of the consortium despite the cessation of direct funds to support site-based initiatives.

AMA ACE staff will continue to convert developing ideas into tangible products that can be adopted broadly. Ongoing smaller innovation grants and targeted memberships in the consortium will be offered to promote strategic areas of focus. Traditional academic venues will be complemented with alternative modes of dissemination to propagate change. To support the ultimate vision of a dynamic learning health system, the ACE unit will continue to monitor emerging trends affecting educational processes (such as artificial intelligence) and continue to partner with other agencies to incorporate new objectives into ongoing innovation efforts.

Building on its work to accelerate change in UME, the AMA recently established the Reimagining Residency initiative—a new five-year, $15 million grant program to address challenges associated with the transition from UME to GME and the maintenance of progressive development through residency and across the continuum of physician training. The goal of the initiative is to align residency training with the needs of patients, communities, and the rapidly changing health care environment. Grants are intended to promote systemic change in GME and support bold, creative innovations that provide a meaningful and safe transition from UME to GME, establish new curricular content and experiences to enhance readiness for practice, and support well-being in training. With a focus on collaboration, the initiative aims to inspire cooperation among the distinct entities responsible for oversight of GME, including medical schools, GME sponsors, and health systems. Furthermore, Reimagining Residency grant recipients will join the ACE Consortium, further expanding the AMA's community of innovation to allow for broad collaboration and dissemination of ideas across the medical educational continuum, as well as providing an independent focus on creating the residency programs of the future.

## THE NEED FOR CONTINUED AMA SUPPORT OF MEDICAL EDUCATION

The ACE initiative has served to anchor the AMA as a leading force in UME innovation, and the forthcoming, unprecedented investment in GME is expected to echo and amplify that impact. Yet much work remains. Medical education is a complex process involving interaction among multiple systems with competing drivers. Systematic change requires a voice that advocates across stakeholder groups in order "promote the art and science of medicine and the betterment of public health." The success of past initiatives and the potential for future innovation speak to the need for ongoing attention to educational trends and support for innovative educational initiatives.

APPENDIX A: CONSORTIUM SCHOOLS (COHORTS 1 AND 2) AND SCHOOL PROJECTS

**Table A-1**
**Consortium member institutions, brief descriptions of site-based projects, and alignment with ACE objectives.**

| School | Description of project | Competency-based | Health systems science | Learning Environment |
|---|---|---|---|---|
| **Joined the consortium in 2013** | | | | |
| Brody School of Medicine at East Carolina University | Designed and created its Teachers of Quality Academy. Graduates have become a cohort of master educators on patient safety and quality improvement. | | X | X |
| Indiana University School of Medicine | Developed a novel virtual health systems curriculum framed by the structures, policies, and evaluative mechanisms of its health system partners and grounded in a common e-patient panel accessed through the Regenstrief EHR Clinical Learning Platform. | | X | X |
| Mayo Clinic Alix School of Medicine | Developed a four-year health systems science blended learning curriculum. Amplified efforts in student well-being. | | X | X |
| New York University School of Medicine | Created "Health Care by the Numbers," a flexible, technology-enabled curriculum to train medical students in using big data. | | X | X |
| Oregon Health & Science University School of Medicine | Implemented a novel, rigorous, learner-centered competency-based curriculum that allows students to pursue a broader array of interests, shifting the focus toward what students learn rather than what appears on a given exam. | X | | X |
| Pennsylvania State University College of Medicine | Launched a curriculum combining a course in health systems science with an immersive experience as a patient navigator. | | X | X |
| University of California, Davis, School of Medicine | Established a model three-year education track and implemented it in close collaboration with the largest health care provider in the region. | | | X |
| University of California, San Francisco, School of Medicine | Created a three-phase, fully integrated curriculum, crafted to enable students to contribute to improving health care outcomes as they learn to work within complex systems and advance science. | X | X | X |

| | | | | |
|---|---|---|---|---|
| University of Michigan Medical School | Assigns students to an M-Home learning community for their four years of medical school. Students achieve competency in leadership through activities integrated with other core curricular components—all while developing change management experience in health care scholarly concentrations. | X | | X |
| Vanderbilt University School of Medicine | Established "Curriculum 2.0," which uses flexible, competency-based pathways to create master adaptive learners trained in health systems science, able to adapt to the evolving needs of their patients and the health care system throughout their careers. | X | X | X |
| Warren Alpert Medical School of Brown University | Developed nine new courses that constitute the basis for a Master of Science degree in population medicine for its medical students. | | X | |
| **Joined the consortium in 2016** | | | | |
| A.T. Still University-School of Osteopathic Medicine in Arizona | Promotes early exposure to health care needs and social determinants by embedding medical students in urban and rural community federally-qualified health centers across the country and empowering student-led systems solutions. | | X | X |
| Case Western Reserve University School of Medicine | Places students in interprofessional teams where they manage and assess the needs of patients at high-performing patient-centered medical homes. | | X | X |
| CUNY School of Medicine | Created a combined a seven-year BS/MD program, preparing students to become primary care physicians in medically underserved areas. | | | X |
| Dell Medical School at the University of Texas at Austin | Designed and implemented a curriculum focused on servant and collaborative leadership along with training in health systems science and adaptive expertise. | | X | X |
| Eastern Virginia Medical School | Teaches health systems science, along with basic and clinical sciences, through a case-based, integrated approach using a virtual community of culturally diverse families and associated electronic health records. | | X | X |

| | | | | |
|---|---|---|---|---|
| Emory University School of Medicine | Standardized instruction on quality improvement and patient safety across the medical education continuum, including all medical students, residents, fellows, faculty, affiliated physicians, and interprofessional colleagues. | | X | X |
| Florida International University Herbert Wertheim College of Medicine | Created a program where students are assigned to an interprofessional team comprised of students from nursing, social work, and/or physician assistant studies. Competency-based assessments using EPAs to monitor readiness for residency. | X | X | X |
| Harvard Medical School | Reorganized its entire curriculum using active-learning models, creating a mastery-oriented culture as opposed to a performance-oriented culture. | | | X |
| Michigan State University College of Osteopathic Medicine | Launched its “First, Do No Harm” curriculum that incorporates patient safety concepts longitudinally across undergraduate and graduate medical education. | | X | X |
| Morehouse School of Medicine | Increased its class size and its community-based sites, and established learning communities designed to ensure the development of strong longitudinal faculty-student and student-student interactions to facilitate the professional transition process. | | | X |
| Ohio University Heritage College of Osteopathic Medicine | Launched “Value-Based Care,” an innovative, competency-based program that integrates primary care delivery and medical education. | X | X | X |
| Rutgers Robert Wood Johnson Medical School | Incorporates medical students and other health-profession learners into care coordination teams at an affiliated health system’s accountable care organization. | | X | X |
| Sidney Kimmel Medical College at Thomas Jefferson University | Implemented the Regenstrief EHR Clinical Learning Platform and interprofessional health care delivery team educational experiences. | | X | X |
| University of Chicago Pritzker School of Medicine | As part of its patient safety and health care quality curriculum, created a “Room of Horrors” simulation, in which students must recognize common hazards to patient care. | | X | |

| | | | | |
|---|---|---|---|---|
| University of Connecticut School of Medicine | Created a curriculum that incorporates the Regenstrief EHR Clinical Learning Platform and brings teams of medical students together across all four years with dental students and other interprofessional partners to learn core skills. | | X | X |
| University of Nebraska Medical Center College of Medicine | Moving interprofessional education beyond the traditional classroom setting and into clinical training environments where it can be applied for the benefit of patients and populations. | | X | X |
| University of North Carolina School of Medicine | Instructs students in quality improvement techniques focused on specific common clinical problems, positioning students to complete quality improvement projects benefiting the clinics in which they train. | | X | X |
| University of North Dakota School of Medicine and Health Sciences | Incorporates advanced simulation and telemedicine into education about providing care to those in rural or remote communities. | | X | X |
| University of Texas Rio Grande Valley School of Medicine | Incorporates tablet computers into a curriculum that nurtures communication skills specific to working with disadvantaged populations. | | | X |
| University of Utah School of Medicine | Adapting tools proven effective at bending the cost curve of health care to create a new educational model that emphasizes cost reduction and improves undergraduate medical educational outcomes. | | X | X |
| University of Washington School of Medicine | Implemented a new curriculum structure across its sites in Washington, Wyoming, Montana, Alaska, and Idaho, enhancing clinical training during the basic science years and basic science in the clinical years. | | | X |

APPENDIX B: COMMON CURRICULAR CHANGES AT MEMBER INSTITUTIONS

Principal investigators at all 32 schools were asked about common curricular interventions, including content and structural elements. Respondents indicated the state of each element prior to, and at the conclusion of, the grant, with the following response options:

- Absent, no plans to implement
- Absent, but plans underway to implement
- Newly implemented
- Progressing implementation
- Mature implementation
- Abandoned implementation (only one incident was reported of abandoning a topic)

The tables provide the most common response (mode) for each topic at pre- and post-grant.

**Table B-1**

| **Curricular Element** | **Most common pre-grant status** | **Most common post-grant status** |
|---|---|---|
| Leadership and change agency | Absent, no plans | Progressing implementation |
| Health care economics | Absent, no plans | Progressing implementation |
| Clinical informatics and health information technology | Absent, no plans | Progressing implementation |
| Value-based care | Absent, no plans | Progressing implementation |
| Systems thinking | Absent, no plans | Progressing implementation |
| Master adaptive learner skills | Absent, no plans | Progressing implementation |
| Patient safety | Newly implemented | Mature implementation |
| Quality improvement | Newly implemented | Progressing implementation |
| Teamwork/inter-professional care | Newly implemented | Progressing implementation |
| Health care policy | Progressing implementation | Mature implementation |

**Table B-2**

| **Structural Element** | **Most common pre-grant status** | **Most common post-grant status** |
|---|---|---|
| Med student coaching | Absent, no plans | Absent, but plans underway to implement |
| Flexible individualized learning plans | Absent, no plans | Progressing implementation |
| Competency-based education | Absent, but plans underway to implement | Progressing implementation |
| Assessment readiness for internship | Absent, but plans underway to implement | Progressing implementation |
| Optimizing the learning environment | Absent, but plans underway to implement | Progressing implementation |
| Medical student wellness | Newly implemented | Mature implementation |

APPENDIX C: COLLABORATIVE OUTPUTS OF ACE

This appendix provides more detailed descriptions of collaborative efforts and institutional exemplars of implementation.

**Health systems science**

One of the earliest innovations to emerge from the work of the consortium was the articulation of the concept of health systems science (HSS) as the third pillar of medical education, complementing the traditional focus on basic sciences and clinical skills. ACE members recognized that learners must understand how health systems deliver care to patients, how patients receive and access that care, and how to improve those systems. Experts from consortium member schools collaborated to write the *Health Systems Science* textbook, published by Elsevier in December 2016 (see text users in tables 5 and 6 below). ACE members collaborated with the National Board of Medical Examiners to create a HSS subject exam and to incorporate this content into the USMLE Step exams. A student-led thematic meeting in support of the HSS construct, "Patient-Centered Care in the 21st Century-Health Systems Science Through the Medical Education Continuum," was held at Penn State College of Medicine in August 2018. A total of 87 students, residents, faculty members and staff from 27 consortium schools attended.

**Table C-1**
**Users of the Health Systems Science textbook**

| **Consortium member schools** | |
|---|---|
| The Warren Alpert Medical School of Brown University | Required for the Primary Care-Population Medicine program |
| Case Western Reserve University School of Medicine | Used throughout the MD curriculum. |
| CUNY School of Medicine | Used in the longitudinal clinical experience |
| Morehouse School of Medicine | Fundamentals of Medicine (supplement) |
| Oregon Health & Science University | MD Program, required |
| Pennsylvania State University College of Medicine | Required for Science of Health Systems courses |
| University of California, San Francisco, School of Medicine | Clinical and Systems Applications, supplementary text |
| University of Nebraska Medical Center | Longitudinal Health Systems Sciences course |
| University of Utah | Pathway in value/health systems |
| University of Washington | Reference text for the Ecology of Medicine course. |
| Vanderbilt University | Foundations of Health Care Delivery (FHD); all four years; also used for the pediatric GME program |
| Vanderbilt University Medical Center | Health Policy, supplementary. (business school) |
| **Non-consortium medical schools, other educational institutions, and other entities** | |
| Arizona College of Osteopathic Medicine- Midwestern University | Required for a Health Systems/Health Policy Research elective |
| Boise State University | Used in a nursing course |
| California State University, Long Beach | HCA 416 Management & Info Systems |

| | |
|---|---|
| Cedars-Sinai Medical Center | GME/Epidemiology, required |
| Columbia University | Supplementary, Leading Quality Improvement in Healthcare |
| Drexel University | Frontiers IV (recommended) |
| Jacobs School of Medicine and Biomedical Sciences at the University at Buffalo | AOA Leadership Track, year 2 curriculum - understanding health systems |
| Lock Haven University | Professional Topics Seminar/PA program |
| MITRE Corporation | Resource for members of the health care consulting unit |
| Rosalind Franklin University | Patient Safety Elective Course/Supplemental reference text used in parts in various courses, M1 and M2 years. |
| San Antonio Uniformed Services Health Education Consortium | Supplement to the Introduction to Quality Improvement and Patient Safety |
| Shenandoah University/Byrd School of Business | Health business courses |
| St. Anthony Hospital | GME/required |
| TDC Labs | Resource for entrepreneurs |
| Uniformed Services University F. Edward Hebert School of Medicine | Medical courses |
| University of Kansas Medical Center | Not used in a course; used as a resource for Scholarship and Enrichment week |
| University of South Carolina School of Medicine, Greenville | Integrated Practice of Medicine, used as faculty resource |
| Western Michigan University Homer Stryker MD School of Medicine | Residency training |
| William Carey University | Doctoring Skills & Clinical Science (recommended textbook) |
| Wright State University | Upstream Medicine |

*Value-added roles for medical students*

Incorporating pragmatic experiences regarding HSS into curricula enhances opportunities for students to add value to the health system. At Penn State College of Medicine, students spend nine months as patient navigators embedded in transitional care programs, primary care clinics, specialty-based clinics, underserved free clinics, and nursing homes. Student navigators guide patients through the complex health continuum, providing information, patient education, emotional support and coordinating community care. Student navigators use the resulting insights to assist in implementing new processes to enhance safety, efficiency, and the patient experience.

Case Western Reserve University School of Medicine modified Penn State's patient-navigator model to work with specific populations and focus more on care coordination. Rutgers Robert Wood Johnson Medical School incorporated medical students and other health-profession learners into care coordination teams at the Robert Wood Johnson Partners Accountable Care Organization (ACO). Medical students at the University of California, San Francisco are immersed in a longitudinal, interprofessional and authentic clinical microsystem and play a role in improving patient experience and health care quality while learning and applying clinical skills.

*Medical students embedded in the community*

Students at CUNY School of Medicine are embedded at numerous federally-qualified health centers. During the first year, students shadow physician preceptors and develop their clinical history-taking skills. They also learn about team-based care and rotate with nurses, dieticians, and social workers in order to understand how each professional contributes to patient care. Medical students are trained as health coaches and help patients implement health-related behavioral changes, such as exercise and diet changes. Students return to the same health centers during the following two years of their longitudinal clinical experience and assist with value-added tasks, such as medication reconciliation and developing and disseminating patient education tools. Students act as navigators accompanying patients through all points of their clinic visit and begin to identify the multiple points of care, the various members of a health team and their specific roles, ranging from the front desk, to nursing/triage staff, the physician, pharmacists, social workers, and nutritionists.

A.T. Still University-School of Osteopathic Medicine in Arizona has partnered with the National Association of Community Health Centers to place second through fourth-year medical students in 12 rural and urban community health centers. These longitudinal experiences provide contextual learning about the social determinants of health and other aspects of HSS as well as the basic and clinical sciences.

Florida International University Herbert Wertheim College of Medicine (FIU) built on its "Green Family Foundation Neighborhood Health Education Learning" program (NeighborhoodHELP™). During the second, third, and fourth years, students become part of teams of interprofessional students going into households to take care of underserved families. FIU was host to "Community Medical Education: From Engagement to Development," a thematic meeting attended by 47 people from 28 consortium schools.

*Patient safety and quality improvement*

Patient safety and quality improvement are two other key topics included within HSS, and several schools developed a sharp focus on these domains. The University of Chicago Pritzker School of Medicine incorporates active learning in patent safety and health care quality into all four years of medical school and uses novel technological tools to do so. These tools include an online microblogging learning community with trained faculty coaches, point-of-care applications on mobile devices and a "Room of Horrors" filled with some of the scariest hazards to patient care. The Room of Horrors has been replicated by at least five medical schools and was featured at a sold-out event during Chicago Ideas Week, September 2018.

Students at Vanderbilt University School of Medicine have completed over two hundred quality improvement projects. Identifying needs over the course of their clinical experience, students complete a mentored process under the guidance of quality experts to create interventions with defined outcome metrics to ensure alignment with the priorities of the health care system. Recognizing that similar improvement efforts were occurring at multiple consortium sites, the AMA sponsored a student impact challenge in 2018. Over 40 high-impact projects were submitted, and cash prizes were awarded to 3 students.

But before medical students can be taught the competencies associated with patient safety and quality improvement, medical school faculty must learn how to teach these relatively new areas of focus in medicine. Brody School of Medicine at East Carolina University designed and created its Teachers of Quality Academy (TQA). Those who have graduated from the program have become a cohort of master educators on patient safety and quality improvement and have helped advance

these subjects across the campus and health system. Emory University School of Medicine implemented a faculty development program around patient safety and quality improvement that offers multiple options for engagement. Quality improvement training and related projects can be used to meet maintenance of certification requirements. The AMA launched a Health Systems Science Faculty Academy in September 2018 with 39 participants. In the future, the Academy will be open to consortium and non-consortium schools.

*Social determinants of health*

Social determinants of health, one of the domains of HSS, is a focus at some consortium member schools. The University of California, Davis, School of Medicine launched a three-year education track, the Davis Accelerated Competency-based Education in Primary Care (ACE-PC) program, in close collaboration with Kaiser Permanente of Northern California, the largest health care provider in the region. Addressing social determinants of health is central to the program's mission and curriculum. UC Davis ACE-PC students are embedded into Kaiser Permanente's integrated health care delivery system and patient-centered medical home model from the first week of medical school. Davis was the host of "Health Equity & Community-based Learning: Students as Advocates," a student-led thematic, in August 2016 that was attended by over 200 medical education leaders, medical students, and students from other health professions.

*Chronic disease*

In recognition of the fact that medical care is increasingly focused on chronic disease rather than acute conditions, several consortium projects have focused on shifting medical education in this direction. For example, the medical students incorporated into the ACO at Rutgers Robert Wood Johnson Medical School augment care for patients with multiple chronic conditions. Chronic disease management is a core component of the ACE-PC program at Davis. The curriculum at Eastern Virginia Medical School includes a focus on care for patients with multiple chronic conditions. The Accelerating Change in Medical Education initiative has held several meetings with Improving Health Outcomes, another of the AMA's strategic focus areas, to work toward developing medical school coursework on chronic disease.

**Competency-based Medical Education and Individualized Pathways**

Member institutions of ACE had varying levels of engagement in implementing competency-based approaches. At some sites, changes were limited in scope to specific interventions such as establishing intern-prep courses or defining competencies in specific curricular realms such as HSS. A subset within the consortium, however, worked closely together to advance more significant implementation of CBME and individualized pathways. Interestingly, four of the ten schools invited to the AAMC's national pilot of the Core Entrustable Professional Activities for Entering Residency (Core EPAs) were ACE Consortium schools (FIU, OHSU, NYU and Vanderbilt).

Although ACE members have not yet achieved time-variable advancement to GME, several sites did create the capacity for individualized pathways informed by competency development. At Vanderbilt, students receive feedback in all competency domains starting in the first weeks of school and complete evidence-driven personalized learning plans in a structured process supported by faculty coaches. The requirements of the post-clerkship phase can be adjusted to match the competency needs of the individual, with some students requiring more clinical skill development and others focusing on foundational sciences, while students who have attained all competency expectations are permitted full flexibility to pursue personal goals. In a similar structure, OHSU utilized competency evidence and coaches to permit some students to graduate early. Although

these students were not able to immediately enter GME, they did reduce their tuition burden. Michigan uses the analogy of a tree's trunk and branches to illustrate the relationship of core competencies expected of all students to the individualized pathways that prepare students for future leadership roles.

These sites serve as important exemplars for a challenging implementation process. Their collective experience has positioned the AMA and ACE to contribute with authority to the international call for a greater focus on educational outcomes over educational process.

**Optimizing the Learning Environment**

The consortium has not just been focused on what medical students learn, but also how they learn. The learning environment includes several components: personal, social, organizational, and physical / virtual.[67] ACE schools have implemented changes at all these levels to promote student success.

*Well-being*

Concerns for student well-being was a shared priority among members of the consortium. Many of the curricular innovations implemented across ACE sites are designed to enhance the learner's experience and thus mitigate against the dehumanizing impact of traditional training. However, it was also acknowledged that adjusting to new models can be distressing to students. Mayo Clinic Alix School of Medicine has been a leader in the realm of physician and student wellness and lead an inventory across consortium schools to identify current practices. Consortium members attacked this issue from several perspectives: assessing student distress, implementing supportive programs, defining the competencies students need to effectively manage wellness throughout their careers. Importantly, the group facilitated a shift to focus beyond the individual to align with the AMA's vision that wellness is a structural issue. Training in HSS and master adaptive learning techniques will prepare students to take control of their practice environments in the future.

*Master adaptive learner*

Although entering medical students may consider themselves expert learners, their prior environments were structured, with learning objectives and outcomes defined by their teachers. Successful lifelong learning requires differing strategies to juggle learning alongside the competing demands of daily practice. To illustrate this point, experts from several consortium schools such as Vanderbilt University School of Medicine, University of Michigan Medical School, Oregon Health & Science University School of Medicine (OHSU) and New York University School of Medicine developed the conceptual model of the *master adaptive learner*. Physicians who are master adaptive learners adapt to the evolving needs of their patients and the health care system throughout their careers by engaging in guided self-assessment and cyclical learning plans. Several sites introduced this model to their students and implemented authentic workplace-based opportunities to practice identifying and addressing individual learning needs.

*Coaching*

Coaching and the use of coaches is a key factor that supports the development of master adaptive learner. Unlike an adviser or a mentor, an academic coach may or may not have expertise in the realm of the self-identified need(s) in their learner but is skilled at helping the learner accurately reflect on their performance, their needs for growth, and gain insight into desired outcomes. Coaches help learners improve their own self-monitoring. In order to disseminate the coaching concept, the consortium published Coaching in Medical Education, A faculty handbook on the AMA website and made it freely available (log-in required). A total of 7,457 components of this

book were downloaded from the website. More than a thousand copies were mailed to medical schools for distribution. A thematic meeting focused on coaching was offered in October 2018 and attended by 81 people from 30 consortium schools.

*Technology*

Very little of the innovations described throughout this report could happen without the best technology infrastructure. Many of the ACE schools implemented new learning management systems to better support interactive and team-based learning. Digital platforms are critical to assemble and display the performance evidence that supports competency-based approaches to medical education. For example, at Vanderbilt, a rich informatics and technology infrastructure collects learner experiences and assessments in the learning portfolio and aggregates and displays performance data in a way that facilitates interpretation and decision-making for personalized learning plans. At OHSU, competency milestones achieved by medical students are tracked in a web-based personal portfolio, and students receive badges for their achievements. Learners can monitor their progress toward preparing for the expectations of internship in real time and can track relative progress across various domains of competency.

Training students to effectively use technology in practice is also critical. Indiana University School of Medicine (IUSM), in conjunction with the Regenstrief Institute, developed the Regenstrief EHR Clinical Learning Platform. This EHR, designed specifically for teaching, is a clone of an actual clinical EHR, using de-identified and misidentified real data on more than 10,000 patients. This platform allows medical students, starting in week one of medical school, to write notes and orders, view data on patients, and access just-in-time information links. It provides a safe and realistic health system environment from which to learn and practice clinical decision-making skills and is a resource to address learning gaps and assist students in meeting competency-based expectations. Students work within a virtual health system and use the Regenstrief EHR to identify errors and patient safety issues; initiate quality improvement and measure the success of these efforts; explore the potential for personalized medicine; and gain comfort in comparing their own practice patterns with those of their peers. Students “care” for a panel of e-patients and, blinded to the real care provided, have the ability to compare their diagnosis and treatment recommendations to those of their health student colleagues and to the actual attending provider, as well as experience firsthand the utility, power, versatility, and challenges of using health information technology to deliver cost-effective, quality health care.

The Regenstrief EHR Clinical Learning Platform was adopted by consortium and non-consortium schools, including several who built up and expanded upon this tool. The University of Connecticut School of Medicine, a consortium member, incorporated the Regenstrief EHR Clinical Learning Platform into its new “MDelta” curriculum and expanded the IUSM registry of real de-identified and misidentified patients with its collection of virtual patients and families. Sidney Kimmel Medical College at Thomas Jefferson University integrated the Regenstrief EHR Clinical Learning Platform into an interprofessional health care delivery team educational experience that all Jefferson College of Medicine, College of Nursing, College of Pharmacy, and College of Health Professions students participate in during their first two years.

New York University School of Medicine created “Health Care by the Numbers,” a flexible, technology-enabled curriculum to train medical students in using big data—extremely large and complex data sets—to improve care coordination, health care quality and the health of populations. This three-year blended curriculum is founded on patient panel databases derived from de-identified data gathered from NYU Langone’s outpatient physician practices and government-provided open data from the 2.5 million patients admitted each year to New York State hospitals. A

total of over five million de-identified patient level records are available for student projects. Students can explore every inpatient admission by DRG code, providers, charges, or hospitals. The data set is continually expanded and refined. The technology infrastructure for the NYU Health Care by the Numbers curriculum is open to the public at: http://ace.iime.cloud.

*Evaluation*

Evaluation has been a pivotal piece of the AMA's Accelerating Change in Medical Education initiative since its inception. The objectives of the overall initiative and the work at each site are founded upon current educational theory. Significant resources have been invested in the interventions that have been implemented, and consortium members acknowledge the duty to critically appraise outcomes. In addition to the internal evaluation plans at each site, experts from the member institutions collaborated to determine measures of success for the collective. The group has committed to advancing educational scholarship. The following section elaborates on these outcomes.

APPENDIX D: IMPACT ON LEARNERS

Case Western Reserve University Medical School

*Twenty medical student navigators were partnered with refugee families at Neighborhood Family Practice, a federally qualified community health center on Cleveland's west side, during the current grant year. These students all forged relationships with their families over the course of the year, however 4 pairs of students have served as inspirations to all of us, demonstrating how care should be provided for all patients. They partnered with families who escaped war in Syria, Afghanistan, and Ethiopia. Each of these 3 medical student navigator pairs partnered with a newly arrived refugee family facing serious health issues in addition to transitioning to a new country, culture, and language. They embraced the notion of creating authentic trusting relationships by employing cultural humility and gaining the trust of their partner families. These students approached each family with kindness and attentiveness to their most pressing needs in order to eventually address health needs and promoted well-being. Additionally, they seamlessly integrated themselves into the primary care team, becoming trusted among colleagues and even consistently documenting in the electronic medical record.*

*Two medical student navigators partnered with a mother and adult daughter from Afghanistan who experienced serious trauma as a result of war. While the mother had been dismissed by some physicians as having "somatic complaints," the navigators attended specialty and primary care appointments to articulate all of her concerns in the context of her past trauma, living situation, and profound social determinants of health. The students facilitated treatment for a bedbug infestation in their home, new health insurance when she and her daughter were dis-enrolled, and coordinated with the pharmacy when multiple medication were not filled due to insurance and communication errors. They also helped the family obtain clothes and food when those basic resources were scarce and advocated for transition to a new case manager and trauma therapist when they determined her case had been sub-optimally handled by one agency. They ultimately assisted in making the diagnosis of rheumatoid arthritis leading to more effective systemic treatment options rather than continued dismissal as trauma related somatic complaints. They accomplished all of this while using an interpreter to communicate in Dari. This family has repeatedly shared their gratitude for the role the navigators have played in this difficult transition to the U.S.*

University of North Dakota School of Medicine and Health Sciences

From a student in the program:

*I felt nervous but excited to attend the simulation. I did not know what to expect. When I walked into the room, the role play began immediately. I was thinking there would have been a brief discussion of roles, but it started right away, which turned out to work out. I introduced myself to the granddaughter, and the patient in the nursing home. During the first two role plays, I felt like I did really well about talking directly with Sandra, the patient in the nursing facility, and then also talking to the granddaughter and explaining resources. I felt like that was good to do to get a better understanding of the client's cognitive level of functioning, and awareness, but also to maintain her dignity and respect by talking to her. During the second session role play, I felt like I didn't do as good of a job interacting specifically with the patient, but was more focused on the granddaughter, and learning her coping skills, supports, and informing her of services and supports.*

*One thing I did initially think about was that as a social worker, I typically have several resources available to give out. I was pretending to give the granddaughter brochures to review during the role play. I know I learn better from both hearing about things, but also being able to look at things, and reflect on it, and let it sit, rather than make a decision in a minute. I think in real life, without providing too much as to overwhelm the person, social workers would have resources available for the person to review. I thought about if it would be helpful to have a sample DNR to have at the simulation to review, and to tell the family, there are different types available, but that these are some of the typical questions and things to consider.*

*I think I need to get better with physical touch. I am really mindful about use of self and touch, and some people don't like it, while others really do, and I think in a hospital setting, depending on the situation, touch may be important. Touch, I can see, would be challenging when using telemedicine/teleconferencing in this setting. This simulation made me thing about doing telecounseling, and what that may look like, and how there could be ways to create connections depending on the population. For example, when working with youth, after rapport is established, to do a soft fist bump or something to the screen at the same time, in lieu of a handshake, or other techniques to help make a "physical connection."*

*Lastly, one thing I didn't say during the role play, but thought of after when talking with a classmate was that I regret not mentioning or bringing up if there was any cultural, religious, or spiritual practices that they wanted us to be aware of. I think that is really important to be cognizant of. Along those same lines, I also think it is important to be aware of how individuals learn. I know that is one thing the nurses locally have been asking is how people prefer to learn new things/learn to take their medications/learn how to do their own treatment, whether it is reading written information, watching demonstrations, or hearing/being told how to do something. I think this is important to ask so we know we are getting the client and family the information in inclusive ways.*

*I really enjoyed the simulation, and I would be open to participating in others. I liked how there was one session without the OT and then how the next one the OT was there. It gave me and the team good insight about what their role was. I wonder how it would be if there was one simulation without a social worker, and then the next one with a social worker, and how the team would see the difference. This role play did peak my interest in hospital social work and prompted me to do more learning on advanced directories and living wills for myself, and also for people I may work with.*

APPENDIX E: IMPACT ON FACULTY

Researchers at the Brody School of Medicine at East Carolina University created the Redesigning Education to Accelerate Change in Healthcare (REACH) program, comprised of three separate but interconnected parts: 1) Teachers of Quality Academy (TQA); Leaders in Innovative Care (LNC); Longitudinal Core Curriculum (LCC). The TQA is a faculty development program that has been designed to increase the pedagogical and leadership capacity of faculty in HSS, specifically within the areas of quality improvement, patient safety, population health, and interprofessional education. Focusing upon both content and process across the medical education continuum, the TQA aims to achieve excellence in health care delivery through dedicated training and application of team-based, patient-centered care.

To date, there have been 78 graduates from the Academy, 18 of whom have received promotions. There have been opportunities for interinstitutional collaboration – for example, between Brody, Penn State, and Case Western – resulting in a draft health systems science assessment tool and refinement of a health systems science longitudinal curriculum. An annual quality improvement and medical education symposia series have been established as well as seminars, cross campus collaborations, opportunities for mentoring, and clinical experiential applications. TQA graduates shared their personal philosophies which include:

> *I want to be known for being an approachable, optimistic, trustworthy leader so that I can deliver innovative, productive, and compassionate care.*
>
> *I want to be known for being respectfully decisive and sincerely optimistic so that I can deliver meaningful results based on competent analysis.*
>
> One graduate summarized the experience in the following way:
>
> *TQA was one of the most comprehensive learning experiences I've participated in. Learned much more than I expected. Collaboration with others in the group was a great benefit learned. Thank you to the leaders and course coordinators.*

APPENDIX F: IMPACT ON THE AMA

**Table F-1**

| **Top 10 AMA Wire titles** | **Pageviews** |
|---|---|
| Not your grandfather's med school: Changes trending in med ed | 8,610 |
| 3 big ethical issues medical school doesn't prepare you for | 6,279 |
| New textbook is first to teach "third pillar" of medical education | 6,023 |
| Video games are changing medical education | 5,683 |
| Why medical schools are building 3-year programs | 5,647 |
| Pre-residency boot camps prep med school grads for new realities | 4,420 |
| Tailor-made plans help M4s get more out of last year before GME | 4,221 |
| At these 3 med schools, health systems science is core component | 4,040 |
| New approach equips med school grads for tomorrow's health system | 4,016 |
| Advice for a med student's must-have—a sound night's sleep | 3,920 |
| **Total page views from 10/26/16 to 9/28/18** | **193,992** |

**Table F-2**

| **2017 Webinars** | **Date (2018)** | **Participants** |
|---|---|---|
| Inter-Professional Education | Jan 29 | 250 |
| Student Wellness | March 19 | 296 |
| Student Leadership | May 21 | 171 |
| Student Portfolios | July 30 | 178 |
| Health Systems Science in MedEd (US/South Africa) | Aug 13 | 77 |
| Value-Added Roles for students | Sept 17 | 89 |
| Leadership in HSS (US/South Africa) | Nov 1 | 46 |
| | | Total Participants: 1107 |
| **2018 Webinars** | **Date (2018)** | **Participants** |
| Regenstrief Teaching Virtual EHR | 4/24/2017 | 204 |
| Educause Collaboration | 6/5/2017 | N/A |
| Big Data for Population Health | 8/21/17 | 199 |
| Health Systems Science | 10/23/17 | 186 |
| Inter-Professional Education | 1/29/18 | 250 |
| Student Wellness | 3/19/18 | 296 |
| Student Leadership | 5/21/18 | 171 |
| Student Portfolios | 7/30/18 | 178 |
| Health Systems Science in MedEd (US/South Africa) | 8/13/18 | 77 |
| Value-Added Roles for students | 9/17/18 | 89 |
| Leadership in HSS (US/South Africa) | 11/1/18 | 46 |
| | | Total Participants: 1696 |

**Table F-3**

| Virtual Discussion | Date | Participants |
|---|---|---|
| Teaching Virtual EHR | 4/24/17 | 51 |
| Transforming education: Leading innovations in health professions education | 5/29/17 | 74 |
| Interprofessional Education: Challenges and Solutions | 7/13/17 | 76 |
| Reflections on the ACE Student Leadership Meeting | 8/3/17 | 24 |
| Using Big Data to Teach Population Health | 8/17/17 | 36 |
| ChangeMedEd® 2017 Discussion Forum | 9/13/17 | 62 |
| Health Systems Science – The Third Pillar of Medical Education | 10/17/17 | 91 |
| Implementing a Successful Academic Coaching Program for your Learners | 12/4/17 | 135 |
| Sexual Harassment of Learners in the Clinical Environment | 1/16/18 | 111 |
| Interprofessional Education: Using technology to teach team-based care | 1/29/18 | 130 |
| Medical Student Wellness and Beyond: Creating a Healthy Culture for All | 3/19/18 | 264 |
| Recruiting for Diversity: Recognizing Visible and Invisible Strengths | 4/23/18 | 133 |
| Developing the Next Generation of Physician Leaders | 5/21/18 | 139 |
| Enhancing Medical Student Experiences in Light of the New CMS Policy for EHR Documentation | 6/11/18 | 213 |
| Portfolios and Dashboards: Leveraging Data for Student Success | 7/30/18 | 194 |
| How Can Medical Students Add Value to Patient Care in the Health System? | 9/17/18 | 115 |
| MedEd Makeover: Making Room in a Crowded Curriculum | 10/22/18 | 170 |
| | | Total Participants: 2018 |

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REPORT OF THE COUNCIL ON MEDICAL EDUCATION

CME Report 7-A-19

Subject: For-Profit Medical Schools or Colleges

Presented by: Carol Berkowitz, MD, Chair

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American Medical Association (AMA) Policy D-305.954, "For-Profit Medical Schools or Colleges," states:

> That our American Medical Association study issues related to medical education programs offered at for-profit versus not-for-profit medical schools, to include the: (1) attrition rate of students, (2) financial burden of non-graduates versus graduates, (3) success of graduates in obtaining a residency position, and (4) level of support for graduate medical education, and report back at the 2019 Annual Meeting.

This policy resulted from Resolution 302-A-18, introduced by the Illinois Delegation. During the hearing, the reference committee heard testimony in favor of conducting this study.

The Council on Medical Education recognizes the importance and timeliness of this topic and agrees that appropriate resources and data collection are needed to study this issue and prepare the report. However, meaningful and constructive review of this issue and the data collection will require additional time. The Council therefore will present a report on this issue at the 2019 Interim Meeting of the House of Delegates.

REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 2-A-19

Subject: Drug Shortages: 2019 Update

Presented by: Robyn F. Chatman, MD, MPH, Chair

## INTRODUCTION

American Medical Association (AMA) Policy H-100.956, "National Drug Shortages," directs the Council on Science and Public Health (CSAPH) to continue to evaluate the drug shortage issue and report back at least annually to the House of Delegates (HOD) on progress made in addressing drug shortages in the United States (see Appendix 1 for policy). This report provides an update on continuing trends in national drug shortages and ongoing efforts to further evaluate and address this critical public health issue.

## METHODS

English-language reports were selected from a PubMed and Google Scholar search from September 2017 to February 2019, using the text term "drug shortages." Additional articles were identified by manual review of the references cited in these publications. Further information was obtained from the Internet sites of the US Food and Drug Administration (FDA), National Academies of Sciences, Engineering, and Medicine (NASEM), American Society of Health-System Pharmacists (ASHP), Pew Charitable Trusts, Duke Margolis Center for Health Policy, the Institute for Safe Medication Practices (ISMP), and by direct contact with key FDA, ASHP, and Utah Drug Information Service staff who monitor drug shortages and related issues daily.

## BACKGROUND

The CSAPH has issued nine reports on drug shortages.[1-9] The findings and conclusions of the first five reports are summarized in CSAPH Report 2-I-15, "National Drug Shortages: Update."[4] The remainder of this report will update information on drug shortages since the 2018 report was developed, specifically commenting on the new initiatives to identify the root causes of drug shortages.

## CURRENT TRENDS IN DRUG SHORTAGES

Drug shortages remain an ongoing public health concern in the United States. The rate of new shortages is increasing and common shortages are severely impacting patient care and pharmacy operations. Ongoing supply challenges of certain medications, typically older, generic, injectable products that are off-patent and have few suppliers (usually three or fewer), persist. Long-term active and ongoing shortages are not resolving and the most basic products required for patient care are in shortage, including bupivacaine, lidocaine, hydromorphone, morphine, fentanyl, ketamine, ondansetron, saline, and sterile water. Causes of shortages continue to remain largely unchanged and are mostly triggered by quality problems during manufacturing processes.

The two primary data sources for information on drug shortages in the United States continue to be the Drug Shortage Program at the FDA and the Drug Shortage Resource Center maintained by ASHP in cooperation with the University of Utah Drug Information Service (UUDIS). According to the most recent data compiled by ASHP and UUDIS, in 2018 there were a total of 306 active shortages, with 186 of those being new (compared to 2017 which saw 303 active and 146 new shortages). Each quarter since the third quarter of 2017 saw an increase in drug shortages. The top five classes of drugs implicated in active drug shortages include CNS medications (43); antimicrobials (33); electrolytes, nutrition, and fluids (31); cardiovascular medications (23); and chemotherapy agents (16). The reasons for drug shortages vary and unknown/unreported reasons account for 51 percent of drug shortages. Manufacturing issues account for 30 percent of shortage issues and drug discontinuation increased to 10 percent of shortage issues in 2018 compared to 4 percent in 2017. (See Appendix 2 for ASHP/UUDIS data).[10]

The fifth annual report on drug shortages from the FDA to Congress published in June 2018, summarizes the major actions the FDA took in calendar year 2017 related to drug shortages.[11] Notably, using a range of available tools, the FDA worked with manufacturers to successfully prevent 145 shortages during 2017.[11]

The FDA continues to utilize a mobile app to provide up-to-date access to drugs in shortage as well as notifications about new and resolved drug shortages and gives physicians the ability to report a drug shortage. The FDA Drug Shortages webpage includes a current shortages list, mobile app, and additional information (Box 1).[12] The ASHP Shortage Resource Center provides a list of shortages, guidance on managing critical shortages, as well as shortage metrics (Box 1).[13] Additionally, a recent publication details ASHP guidelines for managing drug product shortages and provides a framework for healthcare teams in patient care to develop policies and procedures that minimize the effects of drug shortages on quality of care.[14]

## CURRENT DRUG SHORTAGE ACTIVITIES

### *National Academies of Sciences Engineering Medicine Workshop, Medical Product Shortages during Disasters: Opportunities to Predict, Prevent, and Respond*

In September 2018, the AMA participated in a NASEM-convened workshop, Medical Product Shortages during Disasters: Opportunities to Predict, Prevent, and Respond, to better understand the gaps that lead to cascading effects in patient care throughout the U.S. health care system when shortages of medical devices, drugs, and supplies occur in the context of disaster (not day-to-day shortages).

Discussion topics included the importance of public-private partnerships and a collaborative effort; situational awareness about all elements of the supply chain; the need to identify useful metrics, collect sufficient data, and share it accordingly; the strategic national stockpile; issues with “just-in-time stocking” and shortage cascades; the issues involved in frequent staff (re)training, learning, and alert fatigue; and the impact on patient care including “regression of care” when physicians need to find solutions other than the standard of care. The detailed proceedings from the workshop have been published.[15]

*Multi-stakeholder Summit, Drug Shortages as a Matter of National Security: Improving the Resilience of the Nation's Healthcare Critical Infrastructure*

In September 2018, the AMA participated in a summit regarding drug shortages as a matter of national security, sponsored by several stakeholders including ASHP, ISMP, the American Hospital Association, American Society of Anesthesiologists, and American Society of Clinical Oncology.
The objectives of the summit were to identify the vulnerabilities of the supply chain that result in drug shortages; define the roles and responsibilities of the public and private sectors for planning and responding to national security events; and identify recommendations to strengthen the current healthcare infrastructure to prevent drug shortages that may result in patient harm.

The meeting brought together representatives from clinician groups, industry and supply chain, and public-sector members to discuss drug shortages as a national security priority. Several recommendations were offered after the discussion as potential policy and marketplace changes that may help prevent and mitigate drug shortages.[16]

Some of the recommendations discussed at length included:

1. The need for greater understanding of the drug supply chain from beginning to end, including clarity of raw material sources, overall quality of production, and greater transparency from manufacturers;
2. Development of management models using data science as well as the need to identify the relevant metrics related to the drug supply chain and how to collect and share it
3. Development of an "essential drugs" list;
4. Incentives for manufacturers;
5. Standardization of medication dose, preparations, and size.

*U.S. Food and Drug Administration Activities*

In a statement from July 2018, FDA Commissioner Scott Gottlieb, MD, and FDA Center for Drug Evaluation and Research Director Janet Woodcock, MD, outlined new efforts the FDA is advancing to address drug shortages – a three-pronged approach that focuses on preventing shortages, early identification of anticipated shortages, and responding to shortages using their current authorities, as well as the creation of an Interagency Drug Shortage Task Force.[17,18]

Interagency Drug Shortage Task Force. An Interagency Drug Shortage Task Force was established by the FDA to identify the root causes of drug shortages and advance potential long-term solutions in a report to Congress. The Task Force will be led by FDA's Associate Commissioner for Strategic Initiatives and will include federal officials from several agencies concerned with drug shortages including the FDA, the Centers for Medicare & Medicaid Services (CMS), the Office of the Assistant Secretary for Preparedness and Response, the Department of Veterans Affairs, the Department of Defense, and the Federal Trade Commission.[19]

Currently, in cases of drug shortages, the FDA has a variety of tools to employ to minimize the impact. These include expediting the inspection of a new drug manufacturing facility so it can become operational as soon as possible; expediting the review of a new or generic drug application that, if approved, may help mitigate or prevent a shortage; urging manufacturers of similar or alternative products to ramp up production to meet an anticipated increased demand; and exercising discretion with respect to temporary importation of a product from a foreign manufacturing source until a shortage is resolved. FDA officials have stated that the work of the Task Force will be

"forward-leaning and extensive" with the goal of complementing and strengthening the ongoing efforts of the Agency to establish long-term solutions. Some of the considerations include proposals for possible additions to FDA authorities, evaluation of reimbursement policies of payors, exploration of possible incentives to encourage manufacturing that can expand and ensure a stable drug supply, evaluation of the need for an essential drugs list, and incentives for manufacturing critical drugs.

FDA Listening Session on Drug Shortages. In October 2018, the FDA held a series of invitation-only listening sessions at the FDA. Invitations were extended to a diverse group of stakeholders including medical organizations (such as AMA), pharmacies and hospitals, manufacturing groups, group purchasing organizations (GPOs) and distributors, and experts and think tanks. The goal of the sessions was for the FDA to gather information concerning the economic and clinical impact of drug shortages and to inform the newly formed Interagency Drug Shortage Task Force. AMA staff in attendance provided comprehensive comments regarding AMA policy and the most recent Council on Science and Public Health report from A-18.

The FDA lists four general themes that came from the series of listening sessions:

1. The impacts of drug shortages affect every level of the health care system, ultimately compromising the standard of care, producing waste, and increasing costs.
2. Multiple market factors such as buyer and seller consolidation, low margins, and contracting practices contribute to drug shortages.
3. It is unclear what the right level of transparency is based on manufacturing security concerns, and hospital, pharmacy, and GPO needs. The health care community would like more transparency throughout the supply chain.
4. Multiple federal agencies such as the FDA, Drug Enforcement Administration, and CMS, have different authorities on drugs, which makes it hard for both industry and hospitals to manage. Ideas have been put forth on how agencies can mitigate – but may unintentionally exacerbate – the issues.

FDA Public Meeting: Identifying the Root Causes of Drug Shortages and Finding Enduring Solutions. In November 2018, the FDA Interagency Task Force under a cooperative agreement with the Robert J. Margolis, MD, Center for Health Policy at Duke University, hosted a public meeting for open discussion of the root causes of drug shortages and solutions, which AMA staff attended. The speakers at the day-long public meeting included a broad range of stakeholders.

The FDA's efforts to date have addressed the immediate causes of drug shortages such as manufacturing quality issues, raw material sourcing, business decisions to discontinue products, and marketplace changes. This initiative aims to focus on identifying and remedying systemic, root causes that drive and sustain product shortages and developing enduring solutions to mitigate and prevent drug shortages from occurring.

Little consensus exists regarding the most significant and the largest contributing root causes of drug shortages. A useful discussion guide from this public meeting outlines some of the hypothesized root causes of drug shortages including lacking information to assess drug supply reliability; low profit margins, particularly among generic drugs, causing decreased production and quality; barriers to market entry from manufacturers to address shortages; and additional contributing factors including "just-in-time" manufacturing, contracts and agreements, stockpiling, and increased globalization/limited supply chain options.[20]

Input from this meeting, as well as from listening sessions with stakeholders, and the public docket will be considered during the drafting of a report providing recommendations/guidance that the Task Force plans to submit to Congress by the end of 2019. Potential areas of action might include, but would not be limited to, contracting, tax incentives, increased transparency of manufacturing quality, reimbursement or regulatory changes, as well as any other proposed solutions as appropriate.

Public Docket. FDA had a public docket open to receive stakeholder comments regarding the root causes of drug shortages and possible solutions which closed on January 11, 2019. The AMA submitted comments to the docket outlining our policy and recommendations (Appendix 3).[21]

Quality Metrics. Appropriate quality metrics provide elements of assurance and oversight necessary for pharmaceutical manufacturing and quality control; however, the complexity of the manufacturing process makes the collection and use of metrics difficult. The FDA has taken steps within its regulatory authority to address this issue as it relates to drug shortages by developing a quality metrics program for pharmaceutical manufacturers.[22] Information generated could be used by the FDA to identify drugs at greater risk of shortage and proactively reduce that risk before a disruption occurs.

Manufacturing Modernization. Another FDA initiative encourages manufacturers to adopt advanced manufacturing technologies, such as continuous manufacturing, that increase production reliability and capacity and can assist in medical product shortage mitigation. To support this initiative, the FDA established an Emerging Technology Program to foster dialogue between FDA and manufacturers as they work to develop and implement these approaches.[23] Additionally, a recent workshop at NASEM, and sponsored by the FDA and the Biomedical Advanced Research and Development Authority, focused on the status of, and research opportunities for, continuous manufacturing in the pharmaceutical industry.[24]

Generic Drugs. As previously mentioned, medical product shortages typically involve older, generic products. In January of 2018, the FDA announced a Drug Competition Action Plan aimed at promoting competition and access, especially in the development of generic drugs in pharmaceutical categories that lack competition.[25]

*New Companies to Mitigate Drug Shortages*

Civica Rx. Recently, more than 120 health organizations have been involved in the creation of a not-for-profit generic drug company, Civica RX, that will manufacture, or sub-contract manufacturing of, critical hospital-administered drugs.[26] Martin VanTrieste, Civica Rx CEO, has stated that "All drug shortages are the result of economics, financial and management decisions." The organization will initially seek to stabilize the supply of essential generic medications administered in hospitals (including sterile injectables), many of which have fallen into chronic shortage situations, putting patients at risk. The organization is focusing on fair and sustainable prices for medications and predicts this initiative will ultimately result in overall lower costs and more predictable supplies of essential generic medicines. Civica Rx expects to have its first products on the market in 2019.

ProvideGx. In January 2019, Premier Inc. announced that it has formed a company intended to help address drug shortages, ProvideGx, and has partnered with five generic drug makers to address a targeted pipeline of 60 crucial drugs that will be available through Premier's GPO.

SUMMARY

The rate of new medical product shortages is increasing and shortages of essential medications are severely impacting patient care and pharmacy operations. The ongoing supply challenges of mostly generic medications, typically injectable products, that are off-patent persist.

A recent FDA data analysis of the scope and scale of drug shortages evaluated the occurrence, duration, intensity, and public health impact medical product shortages.[27] The analysis revealed that the occurrence of active and ongoing shortages is increasing; the duration is longer; shortages are more persistent; intensity is high, as some shortages have been ongoing for >8 years; and the public health impact is high because of an increase in patient harm and health care losses. Congruent with these findings, the FDA has undertaken new initiatives to address the systemic root causes and contributing factors that lead to shortages and determine enduring solutions. Our AMA has been involved in conversations with the FDA and other stakeholders and remains committed to addressing this critical issue. Beyond activity at the federal agency level, the marketplace in 2019 saw the emergence of two new companies, Civica Rx and ProvideGx, which may directly address shortages by bringing into the market supplies of drugs and drug vehicles critically needed by hospitals and the patients they serve.

The AMA's drug shortage policy is timely and already addresses a variety of issues that are under consideration by the FDA and other stakeholder including the improvement quality systems; expedited facility inspections and manufacturing changes/improvements; necessary resiliency and redundancy in manufacturing capability; evaluation of root causes of drug shortages; transparent analysis of economic drivers and reasonable and sustainable payment rates for prescription drugs; greater transparency of the manufacturing process; and including drug manufacturing sites as part of the nation's critical infrastructure plan. Therefore, the Council feels that an update to AMA policy is not warranted at this time.

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**Box 1. Resources available to assist in mitigation of drug shortages.**

1. ASHP Resource Center
2. ASHP list of current shortages
3. ASHP and University of Utah guidance on small-volume parenteral solutions shortages
4. ASHP and University of Utah guidance on injectable opioid shortages
5. FDA Drug Shortages Page (includes current shortages list, mobile app, and additional information)

APPENDIX 1

AMA Drug Shortage Policy

**H-100.956, "National Drug Shortages"**

1. Our AMA considers drug shortages to be an urgent public health crisis, and recent shortages have had a dramatic and negative impact on the delivery and safety of appropriate health care to patients.

2. Our AMA supports recommendations that have been developed by multiple stakeholders to improve manufacturing quality systems, identify efficiencies in regulatory review that can mitigate drug shortages, and explore measures designed to drive greater investment in production capacity for products that are in short supply, and will work in a collaborative fashion with these and other stakeholders to implement these recommendations in an urgent fashion.

3. Our AMA supports authorizing the Secretary of the U.S. Department of Health and Human Services (DHHS) to expedite facility inspections and the review of manufacturing changes, drug applications and supplements that would help mitigate or prevent a drug shortage.

4. Our AMA will advocate that the US Food and Drug Administration (FDA) and/or Congress require drug manufacturers to establish a plan for continuity of supply of vital and life-sustaining medications and vaccines to avoid production shortages whenever possible. This plan should include establishing the necessary resiliency and redundancy in manufacturing capability to minimize disruptions of supplies in foreseeable circumstances including the possibility of a disaster affecting a plant.

5. The Council on Science and Public Health shall continue to evaluate the drug shortage issue, including the impact of group purchasing organizations on drug shortages, and report back at least annually to the House of Delegates on progress made in addressing drug shortages.

6. Our AMA urges the development of a comprehensive independent report on the root causes of drug shortages. Such an analysis should consider federal actions, the number of manufacturers, economic factors including federal reimbursement practices, as well as contracting practices by market participants on competition, access to drugs, and pricing. In particular, further transparent analysis of economic drivers is warranted. The federal Centers for Medicare & Medicaid Services (CMS) should review and evaluate its 2003 Medicare reimbursement formula of average sales price plus 6% for unintended consequences including serving as a root cause of drug shortages.

7. Our AMA urges regulatory relief designed to improve the availability of prescription drugs by ensuring that such products are not removed from the market due to compliance issues unless such removal is clearly required for significant and obvious safety reasons.

8. Our AMA supports the view that wholesalers should routinely institute an allocation system that attempts to fairly distribute drugs in short supply based on remaining inventory and considering the customer's purchase history.

9. Our AMA will collaborate with medical specialty society partners and other stakeholders in identifying and supporting legislative remedies to allow for more reasonable and sustainable payment rates for prescription drugs.

10. Our AMA urges that during the evaluation of potential mergers and acquisitions involving pharmaceutical manufacturers, the Federal Trade Commission consult with the FDA to determine whether such an activity has the potential to worsen drug shortages.

11. Our AMA urges the FDA to require manufacturers to provide greater transparency regarding production locations of drugs and provide more detailed information regarding the causes and anticipated duration of drug shortages.

12. Our AMA encourages electronic health records (EHR) vendors to make changes to their systems to ease the burden of making drug product changes.

13. Our AMA urges the FDA to evaluate and provide current information regarding the quality of outsourcer compounding facilities.

14. Our AMA urges DHHS and the U.S. Department of Homeland Security (DHS) to examine and consider drug shortages as a national security initiative and include vital drug production sites in the critical infrastructure plan.

APPENDIX 2

ASHP/University of Utah Drug Information Service Drug Shortage Data

**Figure 1.**

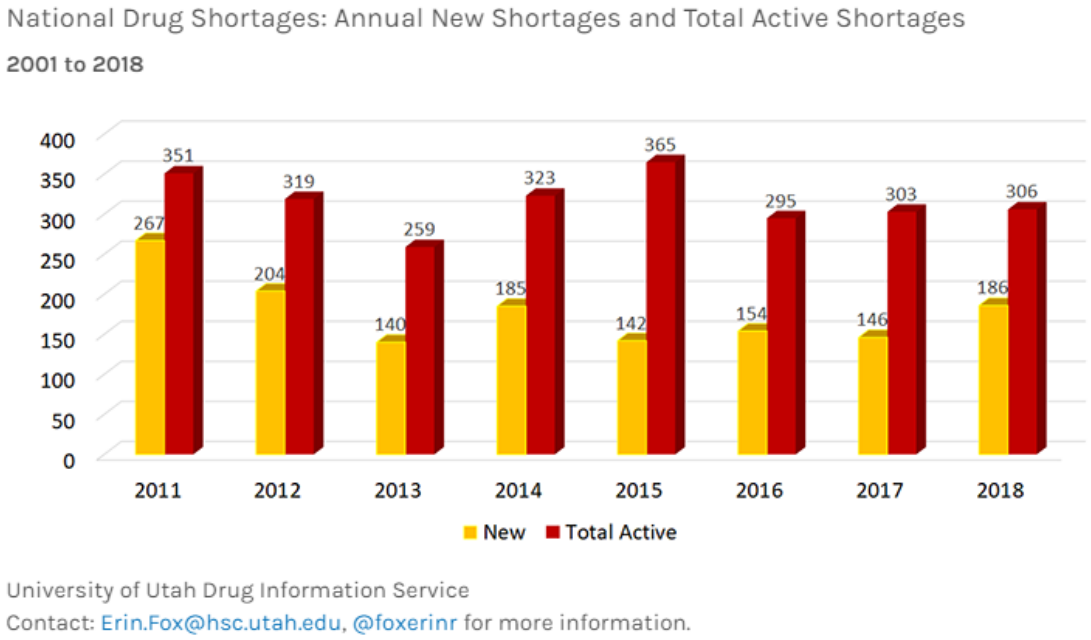



**Figure 2.**

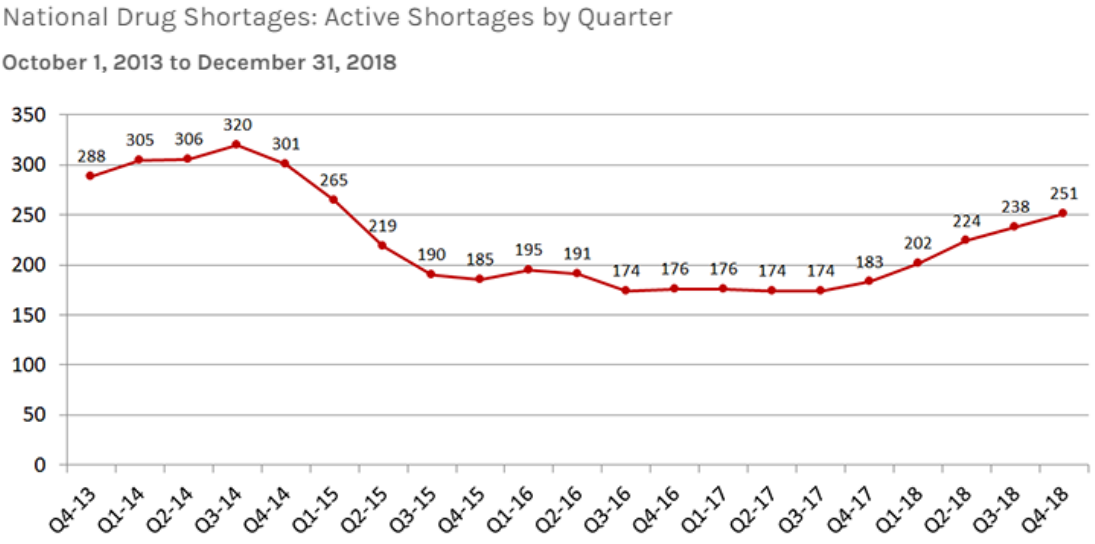
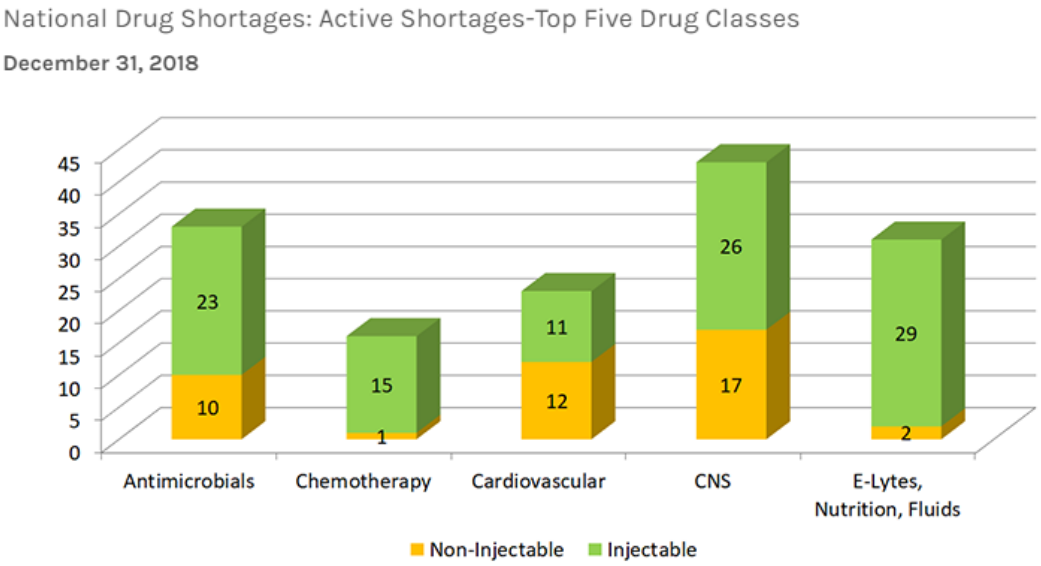
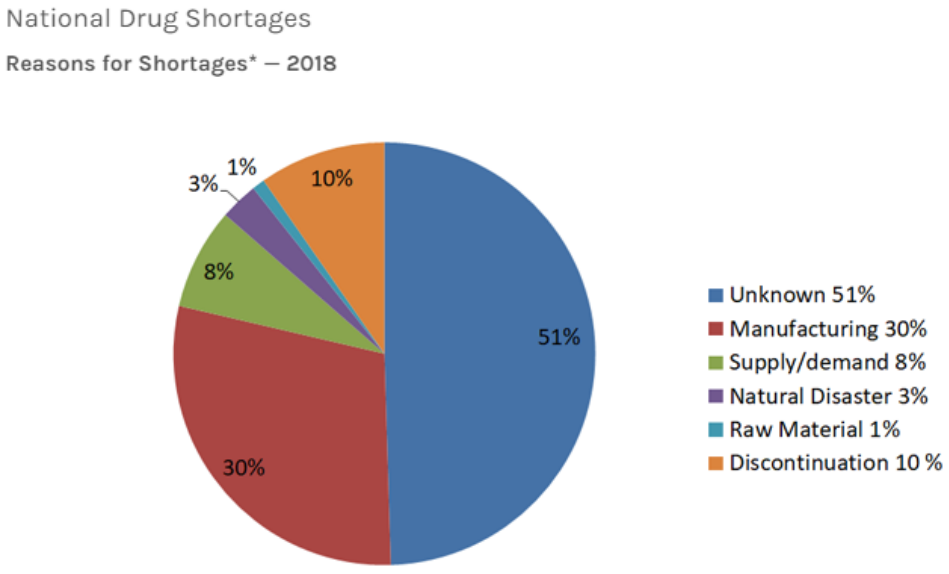


**Figure 3.**




University of Utah Drug Information Service
Contact: Erin.Fox@hsc.utah.edu, @foxerinr for more information.

**Figure 4.**




*Based on information provided by manufacturers to the University of Utah Drug Information Service*

University of Utah Drug Information Service
Contact: Erin.Fox@hsc.utah.edu, @foxerinr for more information.

APPENDIX 3

AMA Comment Letter: Identifying the Root Causes of Drug Shortages and Finding Enduring Solutions; Docket No. FDA-2018-N-3272

AMA
AMERICAN MEDICAL ASSOCIATION

JAMES L. MADARA, MD
EXECUTIVE VICE PRESIDENT, CEO

ama-assn.org
t (312) 464-5000

January 11, 2019

The Honorable Scott Gottlieb, MD
Commissioner
Food and Drug Administration
10903 New Hampshire Avenue
Silver Spring, MD 20993

Re: Identifying the Root Causes of Drug Shortages and Finding Enduring Solutions; Docket No. FDA-2018-N-3272

Dear Commissioner Gottlieb:

On behalf of the physician and medical student members of the American Medical Association (AMA), I appreciate the opportunity to provide comments in response to *Identifying the Root Causes of Drug Shortages and Finding Enduring Solutions.* We applaud the U.S. Food and Drug Administration's (FDA) establishment of a Drug Shortages Task Force in order to identify the root causes of drug shortages and recommend sustainable and structural policy solutions in a report to Congress. The persistence and pervasiveness of drug shortages have consequences for patient care and require an ongoing comprehensive examination of the systemic causes and drivers.

Drug shortages are an urgent public health crisis. Recent shortages have had a negative impact on the delivery and safety of appropriate health care to patients. Long-term shortages have been persistent and critical shortages of basic products such as saline are driving poor patient health outcomes, increasing the potential for medication errors, re-directing scarce administrative and clinical staff time and resources to the identification of alternative treatment options, or delaying patient treatment (such as surgeries). Several commonly used products required for patient care are in shortage, including sterile infusion solutions and injectable products that are off-patent and have few suppliers.[1,2]

To address the drug shortage issue, AMA supports policy, legislation, and/or regulation that:

- Encourages stakeholders in the drug supply chain to increase **collaboration**.
- **Increases transparency** along the pharmaceutical supply chain.
- Establishes plans for **continuity of supply** of vital medications, including the establishment of resiliency and redundancy in manufacturing capability.
- Reduces or **removes regulatory hurdles** and barriers while enhancing flexibilities.
- **Incentivizes investment** in expanded manufacturing production capacity for vital products.

[1] U.S. Government Accountability Office (GAO). Drug Shortages: Certain Factors Are Strongly Associated with This Persistent Public Health Challenge. July 2016.
[2] Mazer-Amirshahi M, Fox ER. Saline Shortages — Many Causes, No Simple Solution. New England Journal of Medicine. 2018; 378:1472-1474

**Collaboration**

The AMA applauds the FDA's efforts thus far in engaging with a broad range of stakeholders in public meetings and listening sessions and remains committed to participating and assisting. The AMA supports recommendations that have been developed by multiple stakeholders to improve manufacturing quality systems, identify efficiencies in regulatory review that can mitigate drug shortages, and explore measures designed to drive greater investment in production capacity for products that are in short supply.[3] We urge stakeholders from the entirety of the drug supply chain and the FDA to work in a collaborative fashion to implement these recommendations.

**Increase Transparency**

The AMA strongly urges the FDA to require manufacturers to provide greater transparency regarding the drug manufacturing process from start to finish. Knowledge of the entire supply chain, including raw material suppliers, active pharmaceutical ingredient manufacturers and suppliers, distributors and distribution sites, as well as production locations of drugs, can provide the necessary metrics for much-needed quality analysis and information regarding supply chain disruptions that contribute to medical product shortages and their causes. More information about the manufacturing process can inform the causes and anticipated duration of drug shortages and assist in shortage mitigation.

**Continuity of Drug Supply**

The AMA strongly supports conferring the FDA with enforcement authorities to ensure that drug manufacturers establish a plan for continuity of supply of vital medications and vaccines to avoid production shortages whenever possible. The continuity of supply plan should include the establishment of the necessary resiliency and redundancy in manufacturing capability to minimize disruptions of supplies in foreseeable circumstances including the possibility of a disaster affecting a plant.

The AMA strongly supports the designation of drug shortages as a national security priority and the inclusion of vital drug production sites in the critical infrastructure plan. Several manufacturers were impacted by cyber events over the past year and product shortages were worsened by the recent hurricanes impacting Puerto Rico which demonstrate the need to evaluate risk and hazard and disaster response for drug and medical product manufacturing. The AMA urges the application of critical infrastructure policies to the drug shortage challenges clinicians, their patients, and families face each day.

**Reduction in Regulatory Burden**

The AMA strongly supports the FDA's effort to provide increased flexibilities and engagement when manufacturers have notified the Agency of a potential or actual drug shortage. The AMA continues to specifically support expedited facility inspections and the review of manufacturing changes, drug applications, and supplements that would assist manufacturers in mitigating or preventing a drug shortage. We urge the FDA to consider whether innovative portals, technologies, or collaborations involving big data and augmented intelligence systems (also referred to as artificial intelligence) could be

[3] ASHP Drug Shortages Roundtable Report, November 2018. https://www.ashp.org/drug-shortages/shortage-resources/roundtable-report

deployed by the FDA to forecast potential shortages and root causes including, but not limited, to regulatory policies.

**Federal Policies, Market Forces, Investment Incentives**

The AMA strongly supports the development of a comprehensive report on the root causes that also analyzes current manufacturing capacity, the number of manufacturers, mergers and consolidations, economic factors including federal reimbursement practices, as well as contracting practices by market participants on competition, access to drugs, and pricing. The AMA also urges careful consideration of federal health care program payment rates for drugs that are vulnerable to shortage. The Government Accountability Office identified low profit margins for drugs in shortage as a relevant contributing factor to persistent shortages. Carefully targeted policies to address potential underinvestment in vital products subject to intractable shortages should be evaluated.

The AMA strongly supports collaboration between the Federal Trade Commission (FTC) and the FDA during the evaluation of potential mergers and acquisitions involving pharmaceutical manufacturers. FTC consultation with the FDA can aid in determining the public health implications of mergers and acquisitions, including the potential impact on drug shortages. Related to the foregoing, the AMA has expressed support for expanded resources and capacity at the FTC to more fully assess and evaluate the impact of mergers and consolidations on competition as well as consumer access as part of the FTC's charge to advance consumer protection. Without oversight and intervention, drug shortages will exist into the foreseeable future if further consolidations occur reducing production capacity.

Our physician members and their patients are negatively impacted by the persistent and ongoing shortages of necessary and often basic medical products. We look forward to working closely with you and other federal agencies to take rapid, direct action where opportunity exists to permanently resolve or mitigate drug shortages. If you have questions, please contact Shannon Curtis, Assistant Director, Division of Federal Affairs at shannon.curtis@ama-assn.org or 202-789-8510.

Sincerely,

James L. Madara, MD

REPORT OF THE SPEAKERS

Speakers' Report A-19

Subject: Recommendations for Policy Reconciliation

Presented by: Susan R. Bailey, MD, Speaker; and Bruce A. Scott, MD, Vice Speaker

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Policy G-600.111, "Consolidation and Reconciliation of AMA Policy," calls on your Speakers to "present one or more reconciliation reports for action by the House of Delegates relating to newly passed policies from recent meetings that caused one or more existing policies to be redundant and/or obsolete."

Your Speakers present this report to deal with policies, or portions of policies, that are no longer relevant or that were affected by actions taken at the recent meetings of the House of Delegates. Suggestions on other policy statements that your Speakers might address should be sent to hod@ama-assn.org for possible action. Where changes to policy language will be made, additions are shown with underscore and deletions are shown with strikethrough.

RECOMMENDED RECONCILIATIONS

*Policies to be rescinded in their entirety*

The following directives will be rescinded in full, as the requested activity has been completed, with reports presented to the House of Delegates when required.

- D-615.978, "Creation of LGBTQ Health Specialty Section Council" (to be rescinded)
  Our AMA will establish a Specialty Section Council on LGBTQ Health.

  This directive can be rescinded as the action has been accomplished. The glossary to the AMA Bylaws along with other documents, such as website and HOD Reference Manual note the newly established Specialty Section Council on LGBTQ Health.

- D-620.988, "Analysis of American Board of Internal Medicine (ABIM) Finances" (to be rescinded)
  1. Our AMA, prior to the end of December 2016, will formally, directly and openly ask the American Board of Internal Medicine (ABIM) if they would allow an independent outside organization, representing ABIM physician stakeholders, to independently conduct an open audit of the finances of both the American Board of Internal Medicine (ABIM), a 501(c)(3) tax-exempt, non-profit organization, and its Foundation.
  2. In its request, our AMA will seek a formal and rapid reply from the ABIM so that issues of concern that currently exist between the ABIM and its Foundation and many members of the AMA and the physician community at large can be addressed in a timely, effective and efficient fashion.
  3. Our AMA will share the response to this request, as well as the results of any subsequent analysis, with our AMA House of Delegates and our membership at large as soon as it is available.
  4. Our AMA will call on the American Board of Medical Specialties and its component specialty boards to provide the physicians of America with financial transparency,

independent financial audits and enhanced mechanisms for communication with and feedback from their diplomate physicians.

This directive was acted on in December 2016, immediately after the policy was adopted at the 2016 Interim Meeting. The American Board of Internal Medicine's verbatim responses to the questions were shared with the House in an email from your Speakers on January 23, 2017.

Policy H-515.975, "Alcohol, Drugs, and Family Violence" has been incorporated word for word into Policy H-515.965, "Family and Intimate Partner Violence," and is therefore redundant. The former will be rescinded, the latter retained.

- H-515.975, "Alcohol, Drugs, and Family Violence" (to be rescinded)
  Given the association between alcohol and family violence, physicians should be alert to look for the presence of one behavior given a diagnosis of the other. Thus, a physician with patients with alcohol problems should screen for family violence, while physicians with patients presenting with problems of physical or sexual abuse, should screen for alcohol use. (2) Physicians should avoid the assumption that if they treat the problem of alcohol or substance use and abuse they also will be treating and possibly preventing family violence. (3) Physicians should be alert to the association, especially among female patients, between current alcohol or drug problems and a history of physical, emotional, or sexual abuse. The association is strong enough to warrant complete screening for past or present physical, emotional, or sexual abuse among patients who present with alcohol or drug problems.

  H-515.965, "Family and Intimate Partner Violence" (to be retained)
  …
  (6) Substance abuse and family violence are clearly connected. For this reason, our AMA believes that:
    (a) Given the association between alcohol and family violence, physicians should be alert for the presence of one behavior given a diagnosis of the other. Thus, a physician with patients with alcohol problems should screen for family violence, while physicians with patients presenting with problems of physical or sexual abuse should screen for alcohol use.
    (b) Physicians should avoid the assumption that if they treat the problem of alcohol or substance use and abuse they also will be treating and possibly preventing family violence.
    (c) Physicians should be alert to the association, especially among female patients, between current alcohol or drug problems and a history of physical, emotional, or sexual abuse. The association is strong enough to warrant complete screening for past or present physical, emotional, or sexual abuse among patients who present with alcohol or drug problems.

*Policies dealing with the AMA-convened Physician Consortium for Performance Improvement® (AMA-PCPI®)*

Several policies deal with the AMA-PCPI which was initially established as a program of the AMA. The AMA-PCPI ceased all activities upon activation of an independent 501(c)(3) organization, the PCPI Foundation® (PCPI®). Consequently, some policies should be rescinded and others amended to clarify these changes and our AMA's role in the successor organization. Policies D-450.983 and D-478.974 should be rescinded as they no longer accurately reflect our AMA's roles and responsibilities. The latter policy also references activity that was concluded years ago.

- D-450.983, "Expansion of Scope of Activities of AMA Physician Consortium for Performance Improvement" (to be rescinded)
  Our AMA will:
  (1) expand the AMA Physician Consortium for Performance Improvement (Consortium) to include representatives from all national medical specialty societies and state medical societies who wish to participate;
  (2) expand the scope of the Consortium to include development of clinical performance measures, validation of clinical performance measures, and direction on appropriate implementation of clinical performance measures;
  (3) study and prepare a report to clarify the role and authority of the National Quality Forum and identify pathways that may allow the Consortium and physicians to have greater influence in the validation of clinical performance measures;
  (4) continue to advocate for the AMA-convened Physician Consortium for Performance Improvement (PCPI) as a leading measure development organization that addresses measures of underuse, overuse, and appropriateness;
  (5) continue to engage with the national medical specialty society members of the PCPI to identify topics to expand the PCPI portfolio of quality measures addressing, in particular, overuse and appropriateness;
  (6) engage national medical specialty societies who are leaders with the PCPI in developing measures of overuse and appropriateness to submit editorials and distribute society member communications announcing the availability and importance of these measures developed by the profession;
  (7) continue to seek opportunities to align measures of quality with measures of cost; and
  (8) ensure that the PCPI provides opportunities for active involvement by all affected specialties in the measure development and approval process.

- D-478.974, "Quality Improvement in Clinical / Population Health Information Systems" (to be rescinded)
  Our American Medical Association will invite other expert physician associations into the AMA consortium to further the quality improvement of electronic health records and population health as discussed in the consortium letter of January 21, 2015 to the National Coordinator of Health Information Technology.

*Obsolete references to be deleted from PCPI-related policies*

The following two policies require minor changes to reflect our AMA's role in PCPI as well as the organization's name. Other, more substantive changes to the policies would need to be addressed through other vehicles. Renumbering of paragraphs will be accomplished as necessary. Only the relevant portion of Policy H-406.990 is quoted below.

- H-406.990, "Work of the Task Force on the Release of Physician Data"
  Release of Claims and Payment Data from Governmental Programs

  The AMA encourages the use of physician data to benefit both patients and physicians and to improve the quality of patient care and the efficient use of resources in the delivery of health care services. The AMA supports this use of physician data only when it preserves access to health care and is used to provide accurate physician performance assessments.
  …
  (c) any physician profiling which draws upon this raw data acknowledges that the data set is not representative of the physicians' entire patient population and uses a methodology that ensures the following:

(i) the data are used to profile physicians based on quality of care provided - never on utilization of resources alone - and the degree to which profiling is based on utilization of resources is clearly identified.
(ii) data are measured against evidence-based quality of care measures, created by physicians across appropriate specialties~~, such as the PCPI AMA-convened Physician Consortium for Performance Improvement~~….

- D-450.978, "PCPI ~~Physician Consortium for Performance Improvement~~; Unfunded Performance Improvement Projects"
  Our AMA will:
  (1) ~~continue to expand the Physician Consortium for Performance Improvement (Consortium), inviting all medical societies in the AMA House of Delegates to participate;~~
  (2) continue to promote the PCPI® ~~Consortium~~ as the leading resource for performance measures development and maintenance;
  (3) continue to advocate for appropriate implementation of performance measures;
  (4) continue to encourage the testing and evaluation of PCPI ~~Consortium~~ measures by appropriate entities;
  (5) continue to communicate organized medicine's strong objections to implementation of mandatory, unfunded performance improvement projects and offer our assistance to rectify deficiencies in these programs;
  (6) continue to promote the AMA guidelines that provide operational boundaries that can be applied to specific components of pay-for-performance programs; and
  (7) monitor the ~~newly established~~ National Quality Forum, a merger of the National Quality Forum and the National Committee for Quality Health Care, to determine its current and future scope.

The changes outlined above do not reset the sunset clock and will be implemented when this report is filed.

Fiscal Note: $250