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REPORT OF THE BOARD OF TRUSTEES

B of T Report 07-I-24

Subject:	Re-evaluation of Scoring Criteria for Rural Communities in the National Health Service Corps Loan Repayment Program (Resolution 307-I-23)
Presented by:	Michael Suk, MD, JD, MPH, MBA, Chair
Referred to:	Reference Committee K

INTRODUCTION

Resolution 307-I-23, submitted by the Idaho Delegation, asked that the AMA "advocate, in partnership with other major medical associations at the federal level, for a comprehensive reevaluation and assessment of the effectiveness and equity of the Health Professional Shortage Area scoring criteria employed by the National Health Service Corps Loan Repayment Program with appropriate revisions to meet the physician workforce needs for the neediest rural communities and underserved areas." (Directive to Take Action)

Testimony was supportive of this item and cited concerns about bias in scoring as well as the need for a comprehensive reevaluation and assessment of the effectiveness and equity of the Health Professional Shortage Area (HPSA) scoring criteria. Testimony noted there is a Shortage Designation Modernization Project underway by the federal government. The resolution was referred.

BACKGROUND

The National Health Service Corps (NHSC) is a "federal government program administered by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Bureau of Health Workforce, and created to address a growing primary care workforce shortage. Since 1972, the National Health Service Corps has been building healthy communities, ensuring access to health care, preventing disease and illness, and caring for the most vulnerable populations who may otherwise go without care. National Health Service Corps programs provide scholarships and student loan repayment to health care professionals in exchange for a service commitment to practice in designated HPSAs."[1] NHSC has granted scholarships and operated loan repayment programs for over 50 years to support about 75,000 primary care physicians, dentists, and behavioral health providers who supply health care services, regardless of a patient's ability to pay, in communities with significant health professional shortages.[2]

Loan Repayment Program

For physicians, the NHSC Loan Repayment Program has traditionally provided primary care specialists (as well as dentists and mental and behavioral health care clinicians) with up to $50,000 toward student loans in exchange for their service in an underserved community.[3] In 2024, NHSC "increased the award amount for physicians, nurse practitioners, certified nurse midwives, and physician assistants who provide primary care services in high-need communities (located in a

primary care HPSA) to address the critical shortages of these practitioners" such that primary care awardees can receive up to $75,000 for a full-time, two-year commitment or up to $37,500 for a half-time, two-year commitment. Further, they will provide a one-time enhancement award of $5,000 for those awardees with Spanish-language proficiency (for a total of up to $80,000/ $42,500) if they can pass a Spanish-language competency assessment. Non-primary care participants are also eligible but at a lower amount of up to $55,000/$30,000.

To determine eligibility for the loan repayment program, an individual must be:

- "A United States citizen (U.S. born or naturalized) or a United States national.
- A provider (or eligible to participate as a provider) in the Medicare, Medicaid, and the State Children's Health Insurance Program, as appropriate.
- Fully trained and licensed to practice in the NHSC-eligible discipline and state in which you are applying to serve. [The HRSA website] lists eligible disciplines and specialties for primary care, dental care, mental/behavioral health care, and maternity care.
- A health professional in an eligible discipline with qualified student loan debt for education that led to your degree.
- Working at an NHSC-approved site."[4]

To apply to the loan repayment program, an MD or DO must be board certified in family medicine, general internal medicine, general pediatrics, obstetrics/gynecology, psychiatry, or geriatrics and willing to serve at least two years at an NHSC-approved site in a HPSA.[5] The NHSC website provides additional information regarding the sections of the online application, required supporting documentation, and additional supplemental documentation if applicable. Applicants can access the Bureau of Health Workforce Customer Service Portal to view their application status. The NHSC loan repayment program Fiscal Year 2024 Application and Program Guidance document provides detailed information to applicants. Also, the NHSC provides several links to resources for applicants on their website https://nhsc.hrsa.gov/loan-repayment/selection-factors.

Health Professional Shortage Areas

Definition and Governance

A HPSA is defined in the Public Health Service Act as being "any of the following which the Secretary determines has a shortage of health professional(s):

1. An urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services);
2. a population group; or
3. a public or nonprofit private medical facility."[6]

The statue that governs this program is 42 U.S. Code 254e "Health Professional Shortage Areas."[11] [7] Additional information about HPSAs can be found at https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation. HRSA provides a search tool of current HPSA sites and related data at https://data.hrsa.gov/tools/shortage-area/hpsa-find.

Scoring Criteria

Applications for shortage designations are received from state primary care offices. Once an area is designated, NHSC calculates a score using the Shortage Designation Management System (SDMS), which contains standard national data sets. Supplemental data is provided by state primary care offices and facilities. HPSA scores are calculated based on methodology that includes three disciplines: primary care, dental health, and mental health. Common across all HPSA disciplines are three scoring criteria: population-to-provider ratio, percent of the population with

incomes below 100% of the Federal Poverty Level (FPL), and travel time to the nearest source of care (NSC) outside the HPSA designation area. The scoring details for each element are listed in Appendix A. According to HRSA, the scores range from 0 to 25 "where the higher the score, the greater the priority."[8] In sum, the scoring calculation reads as follows:

(Image reprinted with permission from the Shortage Designation Branch, HRSA.)

According to the notice "Criteria for Determining Priorities Among Health Professional Shortage Areas" in the Federal Register, "a scale is developed for scoring each factor. The scale generally includes five scoring levels, and reflects different patient utilization patterns for primary care, dental, and mental health services. Relative weights for the various factors are established, based on the significance of the factors in determining a shortage. Each HPSA is scored on each factor. The factor scores are weighted and summed for each HPSA. The total scores for each HPSA are ranked from highest to lowest for each HPSA category. A level is selected annually to identify the boundary between the HPSAs of greatest shortage and all other HPSAs. Those HPSAs with total scores equal to or greater than the selected boundary level within each category are identified as the HPSAs of greatest shortage."[9] HRSA publishes, before July 1 of each year, the minimum HPSA score for NHSC scholars who are in their final year of training. NHSC approved sites must meet this score by class year (CY). For primary care, the scores are as follows: CY 2021= 20; CY 2022 = 20; CY 2023 = 18; CY 2024 = 19; and CY 2025 = 19.[10] Additional information about the HPSA score and NHSC Scholar requirements can be found at https://nhsc.hrsa.gov/scholarships/requirements-compliance/jobs-and-site-search.

HRSA Shortage Designation Modernization Project

HRSA first launched the Shortage Designation Modernization Project in 2013 with the goal of creating efficiencies. In Phase I, the SDMS was established. This tool allowed state primary care offices to manage their health workforce data, apply for HPSA and Medically Underserved Areas/Populations designation, and request automatic (auto-)HPSA rescores. The SDMS was also used to review shortage designation applications, communicate with state primary care offices, and review auto-HPSA rescore requests. Phase II in 2017 saw the completion of the first National Shortage Designation Update of geographic, population, and facility HPSA designations (not including those automatically-designated). In Phase III in 2019, HRSA completed the first National Shortage Designation Update of auto-HPSAs.

During Phase IV, HRSA hosted a webinar in March 2021 entitled "National Shortage Designation 2.0" to provide updated information. Also, HRSA gathered public comment regarding the HPSA scoring criteria and Maternity Care Target Areas, and the SDMS was updated. Also, the due date for Statewide Rational Service Areas plans was moved to March 31, 2024, while addressing how these plans will be submitted and reviewed in the SDMS. The responses to the public comment were reviewed and the Shortage Designation Branch of HRSA is determining the optimal way to share the results, which will inform HRSA's options and next steps in modernizing the current HPSA scoring methodology. The AMA contacted HRSA in June 2024 and was told Phase IV is ongoing.

NHSC Sites

To become an NHSC-approved site, NHSC provides a Site Reference Guide and makes available their eligibility requirements. NHSC-approved sites provide outpatient, comprehensive primary health care services to people in HPSAs. "Eligible sites providing comprehensive primary care must become NHSC-approved BEFORE recruiting participants or supporting loan repayment applications from their existing clinician staff."[1] Once approved, sites may be able to recruit individuals into not only the scholarship program and loan repayment program discussed previously, but also the NHSC Students to Service Loan Repayment Program, Substance Use Disorder Workforce Loan Repayment Program, and Rural Community Loan Repayment Program.

Where Physicians Serve

HRSA provides data on those who serve in their programs. Their Field Strength Dashboard allows users to search and filter by specific subsets of data such as year, program, region, state, site type, rural status, provider type, site HPSA score, clinical discipline, ethnicity, race, and gender. Data is presented as of September 30 of a given fiscal year. For example, when filtering by "2023," "rural," "primary care," and "physician," results show a total of 680 participants across the country in such programs. The top five states with the most participating primary care physicians were Missouri (60), Michigan (50), Alaska (36), New York (31), and Arizona (30). Comparatively, the five states and U.S. territories with the lowest numbers were North Dakota (4), Pennsylvania (3), South Dakota (3), Delaware (1), and Guam (1).[11]

To aid interested and involved physicians and non-physician providers, HRSA provides the Health Workforce Connector database to identify NHSC sites as well as employment and training opportunities. Also, the NHSC Empowerment Initiative provides a curriculum intended to "equip NHSC participants with the information they need to succeed as they enter the workforce and begin caring for patients with complex medical needs and barriers to care and guide NHSC-approved sites in their efforts to support clinician well-being and develop organizational resilience."[10]

DISCUSSION

Resolution Author Concern

The original author of Resolution 307-I-23 cited concerns about the lack of NHSC approved HPSAs in Idaho, particularly as it relates to rural health and an applicant's ability to serve in Idaho pending the HPSA scores. According to the dashboard cited above, Idaho had only 12 primary care physicians serving in rural sites in 2023.[11] A search of all counties in Idaho on the HPSA Find tool indicated the following (most of which were listed as having "rural" or "partially rural" status):

- 12 geographic HPSAs (with one labeled as "high need")
- 2 low-income migrant farmworker population HPSAs
- 30 low-income population HPSAs
- 15 federally qualified health centers (FQHCs)
- 7 Indian Health Service, Tribal Health, and Urban Indian Health Organizations
- 31 rural health clinics
- 4 correctional facilities.[8]

Among these 101 HPSAs, only 26% of them scored 16 or higher. The HRSA website indicates that a level is selected annually to identify the boundary between the HPSAs of greatest shortage and all

other HPSAs but does not provide the annual determination. Therefore, the cut-off score is unclear from year to year. This lack of transparency may further fuel frustrations.

Concerns From Others

Entities have raised concerns about the HPSA scoring criteria. For example, the National Organization of State Offices of Rural Health (NOSORH) conducted an analysis in 2020 of HPSA scoring for Primary Medical Care HPSAs to provide comments on the HRSA/Bureau of Health Workforce request for information on the HPSA scoring criteria. The analysis "focused on the number and percentage of Primary Medical Care HPSAs which received a score of 16 or higher – the effective cutoff point for potential assignment of NHSC personnel."[12] It found that:

- few geographic Primary Medical Care HPSAs scored above 16;
- fewer than half of rural Primary Medical Care Population HPSAs and Rural Health Clinic HSPAs received NHSC-qualifying scores; and
- there is a low percentage of NHSC-qualifying rural Primary Medical Care FQHC HPSAs (compared to non-rural).[12]

Related listening sessions with member SORHs noted:

- Difficulties for geographic and low-income population HPSAs in rural areas to achieve NHSC-qualifying scores,
- Rural Health Clinic HPSAs and Indian Health Service/Tribal facility HPSAs as well as small rural population, remote rural, and frontier HPSAs do not receive scores which accurately reflect their needs.
- Current health indicators used in HPSA-scoring do not adequately measure HPSA health status,
- SDMS data are insufficient in many areas, and
- States have differential abilities to correct and supplement the SDMS dataset.[12]

As a result, NOSORH recommended that HRSA modify their scoring mechanism to more accurately reflect the severity of need within rural and frontier areas (for primary medical care, mental health, and dental health HPSAs as well as geographic, population and auto-scored facility HPSAs). NOSORH recommended further changes such as:

- Scoring measures
    - Add a factor to the scoring process that reflects the rurality of a HPSA's location.
    - Revise the factors used to measure population health status and health disparities and that a planning group be convened to identify and select such factors.
    - Revise the factors used in the measurement of distance/travel time, led by a planning group charged with identifying and selecting an appropriate redefinition.
    - Revise the factors used in the measurement of low-income population such that it be adjusted to include the low-income population with incomes below 200% of the Federal Poverty Level, as well as consideration for the uninsured population.
    - Revise the formula used to calculate facility HPSA scores for FQHCs, RHCs, and Indian Health Service-Tribal Facilities and use standardized approaches to service area definition, service population calculation, and calculation of low-income population.
- Scoring scales and factor weighting
    - Revise scoring scales to rule out bias against small rural and frontier HPSAs.
    - Revise the weighting of scoring so that the weights given to measure components are standardized, led by a planning group charged with creating revised scoring formulae for all HPSA disciplines.
- Scoring process

    - Establish a distinct scoring process just for small rural and frontier HPSAs.
    - Allow service areas to be designated as both geographic and population HPSAs.
    - Develop a more accurate national dataset for designation, recognizing the limits of the SDMS national provider dataset.
    - Increase investment in state capacity to assess HPSAs.[12]

Details related to these recommended changes can be found on the NOSORH website.

AMA EFFORTS

The Council on Medical Education issued a report on Rural Health Physician Workforce Disparities that was adopted at the Special November 2021 meeting. In March 2023, the AMA sent a letter to Senators Bernie Sanders and Bill Cassidy of the Committee on Health, Education, Labor and Pensions. Specific to this topic, the letter asked that:

- additional funding be provided to bolster the scholarship aspect of the NHSC program,
- NHSC program provide intensive and frequent counseling to NHSC scholars as they enter and then proceed through the NHSC program, and
- NHSC be expanded to include more scholarships, greater loan forgiveness, and the inclusion of all medical specialties in need.

RELEVANT AMA POLICIES

The AMA has policy in support of the National Health Service Corps (NHSC) and their Loan Repayment Program as well as physician workforce related to the needs of rural communities and underserved areas. While policy does address Health Professional Shortage Areas, it does not specifically denote scoring criteria. Full policies are listed in Appendix B and in the Policy Finder.

- Effectiveness of Strategies to Promote Physician Practice in Underserved Areas D-200.980
- Principles of and Actions to Address Medical Education Costs and Student Debt H-305.925
- Educational Strategies for Meeting Rural Health Physician Shortage H-465.988
- Difficulties in the Fulfillment of National Health Service Corps Contractual Obligations H-200.991
- Access to and Quality of Rural Health Care H-465.997
- Primary Care Physicians in Underserved Areas H-200.972

Additional policies include:

- Access to Physician Services in Rural Health Clinics H-465.984
- Rural Health Physician Workforce Disparities D-465.997
- Improving Rural Health H-465.994
- Diversity in the Physician Workforce and Access to Care D-200.982
- Enhancing Rural Physician Practices H-465.981
- Teleconsultations And Medicare Reimbursement D-480.997

SUMMARY AND RECOMMENDATIONS

HPSAs serve a critical function in determining areas of greatest need. Such determinations impact the resources and NHSC scholars deployed to said areas. The HRSA Shortage Designation Modernization Project has been underway for over a decade, but next steps have not yet been made clear. Reevaluation of the scoring criteria as well as greater clarity and transparency are recommended to better inform all interested parties.

The analysis by NOSORH illuminated inequities in the process, whereby many HPSAs do not seem to receive scores that reflect their actual need and health indicators do not adequately measure health status. These problems can lead to significant negative impacts on underserved populations. The actionable changes, such as those recommendations by NOSORH, can lead the way to better outcomes.

Therefore, the Board of Trustees recommends that the following recommendations be adopted and the remainder of the report be filed:

1. Our AMA supports the efforts of the Health Resources and Services Administration (HRSA) to conduct a comprehensive reevaluation and assessment of the effectiveness and equity of the Health Professional Shortage Area scoring criteria in order to meet the physician workforce needs of rural communities and underserved areas. (New HOD Policy)

2. Our AMA urges increased federal and state resources to improve the accuracy of the Shortage Designation Management System (SDMS) data used to determine Health Professional Shortage Area (HPSA) scoring.

3. AMA policies D-200.980, H-305.925, H-465.988, and H-200.991, which support funding for NHSC and loan repayment programs, be reaffirmed.

4. AMA policy H-465.997, which supports efforts to place NHSC physicians in underserved areas, be reaffirmed.

5. AMA policy H-200.972, which supports efforts to increase recruitment and retention of physicians to practice in HPSAs, be reaffirmed.

Fiscal note: $1,000

APPENDIX A – HPSA scoring criteria:

Score for population-to-full-time-equivalent primary care physician (PCP) ratio:

- Ratio > 10,000:1, or no PCPs and population greater than or equal to (GE) 2500 = 5 points
- 10,000:1 > Ratio GE 5,000:1, or no PCPs and population GE 2000 = 4 points;
- 5,000:1 > Ratio GE 4,000:1, or no PCPs and population GE 1500 = 3 points;
- 4,000:1 > Ratio GE 3,500:1, or no PCPs and population GE 1000 = 2 points;
- 3,500:1 > Ratio GE > 3,000:1, or no PCPs and population GE 500 = 1 point.[9]

Score for percent of population with incomes below poverty level (P):

- P GE 50% = 5 points;
- 50% > P GE 40% = 4 points;
- 40% > P GE 30% = 3 points;
- 30% > P GE 20% = 2 points;
- 20% > P GE 15% = 1 point;
- P GE < 15% = 0 points.[9]

Score for travel distance/time to nearest source of accessible care outside the HPSA:
Nearest source of care is defined as the closest location where the residents of the area or population can access comprehensive primary care services.

- Time GE 60 minutes or distance GE 50 miles = 5 points;
- 60 min > time GE 50 min or 50 mi > distance GE 40 mi = 4 points;
- 50 min > time GE 40 min or 40 mi > distance GE 30 mi = 3 points;
- 40 min > time GE 30 min or 30 mi > distance GE 20 mi = 2 points;
- 30 min > time GE 20 min or 20 mi > distance GE 10 mi = 1 point;
- Time < 20 min or distance < 10 mi = 0 points.[9]

For primary care, the scoring also includes the Infant Health Index, which evaluates both the infant mortality rate (IMR) and low birth weight (LBW) rate and awards points based on the one with the higher score.

- IMR GE 20 or LBW GE 13 = 5 points;
- 20>IMR>18 OR 13>LBW>11 = 4 points;
- 18>IMR>15 or 11>LBW>10 = 3 points;
- 15>IMR>12 or 10>LBW>9 = 2 points;
- 12>IMR>10 or 9>LBW>7 = 1 point;
- IMR<10 or LBW<7 = 0 points.[9]

Source: https://www.federalregister.gov/documents/2003/05/30/03-13478/criteria-for-determining-priorities-among-health-professional-shortage-areas

APPENDIX B – RELEVANT AMA POLICIES:

Effectiveness of Strategies to Promote Physician Practice in Underserved Areas D-200.980

1. Our American Medical Association, in collaboration with relevant medical specialty societies, will continue to advocate for the following:
   a. Continued federal and state support for scholarship and loan repayment programs, including the National Health Service Corps, designed to encourage physician practice in underserved areas and with underserved populations.
   b. Permanent reauthorization and expansion of the Conrad State 30 J-1 visa waiver program.
   c. Adequate funding (up to at least FY 2005 levels) for programs under Title VII of the Health Professions Education Assistance Act that support educational experiences for medical students and resident physicians in underserved areas.
2. Our AMA encourages medical schools and their associated teaching hospitals, as well as state medical societies and other private sector groups, to develop or enhance loan repayment or scholarship programs for medical students or physicians who agree to practice in underserved areas or with underserved populations.
3. Our AMA will advocate to states in support of the introduction or expansion of tax credits and other practice-related financial incentive programs aimed at encouraging physician practice in underserved areas.
4. Our AMA will advocate for the creation of a national repository of innovations and experiments, both successful and unsuccessful, in improving access to and distribution of physician services to government-insured patients (National Access Toolbox).
5. Our AMA supports elimination of the tax liability when employers provide the funds to repay student loans for physicians who agree to work in an underserved area.

Principles of and Actions to Address Medical Education Costs and Student Debt H-305.925

The costs of medical education should never be a barrier to the pursuit of a career in medicine nor to the decision to practice in a given specialty. To help address this issue, our American Medical Association (AMA) will:

1. Collaborate with members of the Federation and the medical education community, and with other interested organizations, to address the cost of medical education and medical student debt through public- and private-sector advocacy.
2. Vigorously advocate for and support expansion of and adequate funding for federal scholarship and loan repayment programs--such as those from the National Health Service Corps, Indian Health Service, Armed Forces, and Department of Veterans Affairs, and for comparable programs from states and the private sector--to promote practice in underserved areas, the military, and academic medicine or clinical research.
3. Encourage the expansion of National Institutes of Health programs that provide loan repayment in exchange for a commitment to conduct targeted research.
4. Advocate for increased funding for the National Health Service Corps Loan Repayment Program to assure adequate funding of primary care within the National Health Service Corps, as well as to permit:
   a. inclusion of all medical specialties in need, and
   b. service in clinical settings that care for the underserved but are not necessarily located in health professions shortage areas.
5. Encourage the National Health Service Corps to have repayment policies that are consistent with other federal loan forgiveness programs, thereby decreasing the amount of loans in default and increasing the number of physicians practicing in underserved areas.
6. Work to reinstate the economic hardship deferment qualification criterion known as the “20/220 pathway,” and support alternate mechanisms that better address the financial needs of trainees with educational debt.
7. Advocate for federal legislation to support the creation of student loan savings accounts that allow for pre-tax dollars to be used to pay for student loans.
8. Work with other concerned organizations to advocate for legislation and regulation that would result in favorable terms and conditions for borrowing and for loan repayment, and would permit 100% tax deductibility of interest on student loans and elimination of taxes on aid from service-based programs.

9. Encourage the creation of private-sector financial aid programs with favorable interest rates or service obligations (such as community- or institution-based loan repayment programs or state medical society loan programs).
10. Support stable funding for medical education programs to limit excessive tuition increases, and collect and disseminate information on medical school programs that cap medical education debt, including the types of debt management education that are provided.
11. Work with state medical societies to advocate for the creation of either tuition caps or, if caps are not feasible, pre-defined tuition increases, so that medical students will be aware of their tuition and fee costs for the total period of their enrollment.
12. Encourage medical schools to:
    a. study the costs and benefits associated with non-traditional instructional formats (such as online and distance learning, and combined baccalaureate/MD or DO programs) to determine if cost savings to medical schools and to medical students could be realized without jeopardizing the quality of medical education;
    b. engage in fundraising activities to increase the availability of scholarship support, with the support of the Federation, medical schools, and state and specialty medical societies, and develop or enhance financial aid opportunities for medical students, such as self-managed, low-interest loan programs;
    c. cooperate with postsecondary institutions to establish collaborative debt counseling for entering first-year medical students;
    d. allow for flexible scheduling for medical students who encounter financial difficulties that can be remedied only by employment, and consider creating opportunities for paid employment for medical students;
    e. counsel individual medical student borrowers on the status of their indebtedness and payment schedules prior to their graduation;
    f. inform students of all government loan opportunities and disclose the reasons that preferred lenders were chosen;
    g. ensure that all medical student fees are earmarked for specific and well-defined purposes, and avoid charging any overly broad and ill-defined fees, such as but not limited to professional fees;
    h. use their collective purchasing power to obtain discounts for their students on necessary medical equipment, textbooks, and other educational supplies;
    i. work to ensure stable funding, to eliminate the need for increases in tuition and fees to compensate for unanticipated decreases in other sources of revenue; mid-year and retroactive tuition increases should be opposed.
13. Support and encourage state medical societies to support further expansion of state loan repayment programs, particularly those that encompass physicians in non-primary care specialties.
14. Take an active advocacy role during reauthorization of the Higher Education Act and similar legislation, to achieve the following goals:
    a. Eliminating the single holder rule.
    b. Making the availability of loan deferment more flexible, including broadening the definition of economic hardship and expanding the period for loan deferment to include the entire length of residency and fellowship training.
    c. Retaining the option of loan forbearance for residents ineligible for loan deferment.
    d. Including, explicitly, dependent care expenses in the definition of the “cost of attendance.”
    e. Including room and board expenses in the definition of tax-exempt scholarship income.
    f. Continuing the federal Direct Loan Consolidation program, including the ability to “lock in” a fixed interest rate, and giving consideration to grace periods in renewals of federal loan programs.
    g. Adding the ability to refinance Federal Consolidation Loans.
    h. Eliminating the cap on the student loan interest deduction.
    i. Increasing the income limits for taking the interest deduction.
    j. Making permanent the education tax incentives that our AMA successfully lobbied for as part of Economic Growth and Tax Relief Reconciliation Act of 2001.
    k. Ensuring that loan repayment programs do not place greater burdens upon married couples than for similarly situated couples who are cohabitating.
    l. Increasing efforts to collect overdue debts from the present medical student loan programs in a manner that would not interfere with the provision of future loan funds to medical students.

15. Continue to work with state and county medical societies to advocate for adequate levels of medical school funding and to oppose legislative or regulatory provisions that would result in significant or unplanned tuition increases.
16. Continue to study medical education financing, so as to identify long-term strategies to mitigate the debt burden of medical students, and monitor the short-and long-term impact of the economic environment on the availability of institutional and external sources of financial aid for medical students, as well as on choice of specialty and practice location.
17. Collect and disseminate information on successful strategies used by medical schools to cap or reduce tuition.
18. Continue to monitor the availability of and encourage medical schools and residency/fellowship programs to:
    a. provide financial aid opportunities and financial planning/debt management counseling to medical students and resident/fellow physicians;
    b. work with key stakeholders to develop and disseminate standardized information on these topics for use by medical students, resident/fellow physicians, and young physicians; and
    c. share innovative approaches with the medical education community.
19. Seek federal legislation or rule changes that would stop Medicare and Medicaid decertification of physicians due to unpaid student loan debt. Our AMA believes that it is improper for physicians not to repay their educational loans, but assistance should be available to those physicians who are experiencing hardship in meeting their obligations.
20. Related to the Public Service Loan Forgiveness (PSLF) Program, our AMA supports increased medical student and physician participation in the program, and will:
    a. Advocate that all resident/fellow physicians have access to PSLF during their training years.
    b. Advocate against a monetary cap on PSLF and other federal loan forgiveness programs.
    c. Work with the United States Department of Education to ensure that any cap on loan forgiveness under PSLF be at least equal to the principal amount borrowed.
    d. Ask the United States Department of Education to include all terms of PSLF in the contractual obligations of the Master Promissory Note.
    e. Encourage the Accreditation Council for Graduate Medical Education (ACGME) to require residency/fellowship programs to include within the terms, conditions, and benefits of program appointment information on the employer's PSLF program qualifying status.
    f. Advocate that the profit status of a physician's training institution not be a factor for PSLF eligibility,
    g. Encourage medical school financial advisors to counsel wise borrowing by medical students, in the event that the PSLF program is eliminated or severely curtailed.
    h. Encourage medical school financial advisors to increase medical student engagement in service-based loan repayment options, and other federal and military programs, as an attractive alternative to the PSLF in terms of financial prospects as well as providing the opportunity to provide care in medically underserved areas.
    i. Strongly advocate that the terms of the PSLF that existed at the time of the agreement remain unchanged for any program participant in the event of any future restrictive changes.
    j. Monitor the denial rates for physician applicants to the PSLF.
    k. Undertake expanded federal advocacy, in the event denial rates for physician applicants are unexpectedly high, to encourage release of information on the basis for the high denial rates, increased transparency and streamlining of program requirements, consistent and accurate communication between loan servicers and borrowers, and clear expectations regarding oversight and accountability of the loan servicers responsible for the program.
    l. Work with the United States Department of Education to ensure that applicants to the PSLF and its supplemental extensions, such as Temporary Expanded Public Service Loan Forgiveness (TEPSLF), are provided with the necessary information to successfully complete the program(s) in a timely manner.
    m. Work with the United States Department of Education to ensure that individuals who would otherwise qualify for PSLF and its supplemental extensions, such as TEPSLF, are not disqualified from the program(s).
21. Advocate for continued funding of programs including Income-Driven Repayment plans for the benefit of reducing medical student load burden.

22. Strongly advocate for the passage of legislation to allow medical students, residents and fellows who have education loans to qualify for interest-free deferment on their student loans while serving in a medical internship, residency, or fellowship program, as well as permitting the conversion of currently unsubsidized Stafford and Graduate Plus loans to interest free status for the duration of undergraduate and graduate medical education.
23. Continue to monitor opportunities to reduce additional expense burden upon medical students including reduced-cost or free programs for residency applications, virtual or hybrid interviews, and other cost-reduction initiatives aimed at reducing non-educational debt.
24. Encourage medical students, residents, fellows and physicians in practice to take advantage of available loan forgiveness programs and grants and scholarships that have been historically underutilized, as well as financial information and resources available through the Association of American Medical Colleges and American Association of Colleges of Osteopathic Medicine, as required by the Liaison Committee on Medical Education and Commission on Osteopathic College Accreditation, and resources available at the federal, state and local levels.
25. Support federal efforts to forgive debt incurred during medical school and other higher education by physicians and medical students, including educational and cost of attendance debt.
26. Support that residency and fellowship application services grant fee assistance to applicants who previously received fee assistance from medical school application services or are determined to have financial need through another formal mechanism.

Educational Strategies for Meeting Rural Health Physician Shortage H-465.988

1. In light of the data available from the current literature as well as ongoing studies being conducted by staff, our American Medical Association recommends that:
    a. Our AMA encourage medical schools and residency programs to develop educationally sound rural clinical preceptorships and rotations consistent with educational and training requirements, and to provide early and continuing exposure to those programs for medical students and residents.
    b. Our AMA encourage medical schools to develop educationally sound primary care residencies in smaller communities with the goal of educating and recruiting more rural physicians.
    c. Our AMA encourage state and county medical societies to support state legislative efforts toward developing scholarship and loan programs for future rural physicians.
    d. Our AMA encourage state and county medical societies and local medical schools to develop outreach and recruitment programs in rural counties to attract promising high school and college students to medicine and the other health professions.
    e. Our AMA urge continued federal and state legislative support for funding of Area Health Education Centers (AHECs) for rural and other underserved areas.
    f. Our AMA continue to support full appropriation for the National Health Service Corps Scholarship Program, with the proviso that medical schools serving states with large rural underserved populations have a priority and significant voice in the selection of recipients for those scholarships.
    g. Our AMA support full funding of the new federal National Health Service Corps loan repayment program.
    h. Our AMA encourage continued legislative support of the research studies being conducted by the Rural Health Research Centers funded by the National Office of Rural Health in the Department of Health and Human Services.
    i. Our AMA continue its research investigation into the impact of educational programs on the supply of rural physicians.
    j. Our AMA continue to conduct research and monitor other progress in development of educational strategies for alleviating rural physician shortages.
    k. Our AMA reaffirm its support for legislation making interest payments on student debt tax deductible.
    l. Our AMA encourage state and county medical societies to develop programs to enhance work opportunities and social support systems for spouses of rural practitioners.
2. Our AMA will work with state and specialty societies, medical schools, teaching hospitals, the Accreditation Council for Graduate Medical Education (ACGME), the Centers for Medicare and Medicaid Services (CMS) and other interested stakeholders to identify, encourage and incentivize qualified rural physicians to serve as preceptors and volunteer faculty for rural rotations in residency.

3. Our AMA will:
    a. work with interested stakeholders to identify strategies to increase residency training opportunities in rural areas with a report back to the House of Delegates; and
    b. work with interested stakeholders to formulate an actionable plan of advocacy with the goal of increasing residency training in rural areas.
    4. Our AMA will encourage ACGME review committees to consider adding exposure to rural medicine as appropriate, to encourage the development of rural program tracks in training programs and increase physician awareness of the conditions that pose challenges and lack of resources in rural areas.
    5. Our AMA will encourage adding educational webinars, workshops and other didactics via remote learning formats to enhance the educational needs of smaller training programs.

Difficulties in the Fulfillment of National Health Service Corps Contractual Obligations H-200.991
1. The AMA strongly urges the NHSC to provide intensive and frequent counseling to NHSC scholars as they enter and then proceed through the NHSC program. Through such briefings, as well as frequent written communications, the NHSC Administration should emphasize: (a) the dynamic nature of the HMSA Placement Opportunity List and the possibility of changes in placement options at any time; (b) the extent of any financial commitments that a scholar may have to incur to develop a Private Practice Option opportunity; and (c) the future possibilities of obtaining a Private Practice Option and/or a federal placement.
2. The AMA urges the NHSC to make particular effort to minimize, to the degree possible, the imposition of changes in assignment options during the last year of the obligee's education, so as to avoid disruption of personal and family plans.

Access to and Quality of Rural Health Care H-465.997
(1) Our AMA believes that solutions to access problems in rural areas should be developed through the efforts of voluntary local health planning groups, coordinated at the regional or state level by a similar voluntary health planning entity. Regional or statewide coordination of local efforts will not only help to remedy a particular community's problems, but will also help to avoid and, if necessary, resolve existing duplication of health care resources. (2) In addition to local solutions, our AMA believes that on a national level, the implementation of Association policy for providing the uninsured and underinsured with adequate protection against health care expense would be an effective way to help maintain and improve access to care for residents of economically depressed rural areas who lack adequate health insurance coverage. Efforts to place National Health Service Corps physicians in underserved areas of the country should also be continued.

Primary Care Physicians in Underserved Areas H-200.972
1. Our American Medical Association should pursue the following plan to improve the recruitment and retention of physicians in underserved areas:
    a. encourage the creation and pilot-testing of school-based, faith-based, and community-based urban/rural family health clinics, with an emphasis on health education, prevention, primary care, and prenatal care;
    b. encourage the affiliation of these family health clinics with local medical schools and teaching hospitals;
    c. advocate for the implementation of AMA policy that supports extension of the rural health clinic concept to urban areas with appropriate federal agencies;
    d. encourage the AMA Senior Physicians Section to consider the involvement of retired physicians in underserved settings, with appropriate mechanisms to ensure their competence;
    e. urge hospitals and medical societies to develop opportunities for physicians to work part-time to staff health clinics that help meet the needs of underserved patient populations;
    f. encourage the AMA and state medical associations to incorporate into state and federal health system reform legislative relief or immunity from professional liability for senior, part-time, or other physicians who help meet the needs of underserved patient populations and
    g. urge hospitals and medical centers to seek out the use of available military health care resources and personnel, which can be used to help meet the needs of underserved patient populations.
2. Our AMA supports efforts to:
    a. expand opportunities to retain international medical graduates after the expiration of allocated periods under current law; and
    b. increase the recruitment and retention of physicians practicing in federally designated health professional shortage areas.

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REPORT 11 OF THE BOARD OF TRUSTEES (I-24)
Carbon Pricing to Address Climate Change

EXECUTIVE SUMMARY

BACKGROUND. Resolution 601-I-23, introduced by the Medical Student Section, proposed modifying current House of Delegate policy D-135.966, "Declaring Climate Change a Public Health Crisis," to include language calling for the American Medical Association (AMA) to advocate for federal and state carbon pricing systems, for U.S. support of international carbon pricing, and for the AMA to work with the World Medical Association and interested countries' medical associations on international carbon pricing and other ways to address climate change. The resolution was referred for study, to better understand the benefits and pitfalls of carbon pricing, including the possible consequences of our AMA endorsing a specific climate-saving alternative.

METHODS. English-language reports were selected from a PubMed and Google Scholar search of the literature using the search terms "carbon pricing" or "carbon tax" or "carbon pricing policy" in combination with "evaluation," "benefits," "challenges," and "health impacts." Additionally, the websites of relevant organizations and agencies, such as the Environmental Protection Agency, the United Nations, the Intergovernmental Panel on Climate Change, the World Bank, and the Center for Climate and Energy Solutions were reviewed for applicable resources and information.

DISCUSSION. Climate change is a growing concern as global surface temperatures have significantly increased over the past 150 years.[1] Human contributions to climate change are primarily caused by increases in global greenhouse gas (GHG) emissions released as a result of the burning of fossil fuels.[1,2] One policy solution to reduce GHG emissions that has gained popularity is carbon pricing. Carbon pricing places a specific price on emitting carbon dioxide and passes the cost of emitting carbon emissions to the emitters.[3] The two primary mechanisms employed are through a tax on carbon, in which a fee is charged for the amount of carbon emitted wherever fossil fuels enter the economy, or through an emission trading scheme (ETS).[4,5] As of 2024, more than 70 carbon pricing schemes have been implemented globally and they vary widely.[5,6] The U.S. and Australia are currently the only countries with developed economies who do not have a nationwide carbon pricing system.[4] A recent systematic review and meta-analysis found consistent evidence that across the globe, carbon pricing policies (including both cap-and-trade and carbon tax policies) were effective at reducing GHG emissions between 5 to 21 percent.[6]

While there are many challenges with implementing carbon pricing policies, including carbon leakage, fairness and equity, economic competitiveness, market manipulation, public acceptability, and administrative burden, there are also many potential health benefits.[5,7,8] One of the most direct ways that carbon pricing can improve health is through improvements in air quality through lower air pollution, resulting in improved respiratory health outcomes and health care savings.[9] Funding from carbon pricing programs could also support active transportations options, such as walking, bicycling and public transportation which are associated with more physical activity.[7,10] Improved public health outcomes are also most likely to impact communities that have been historically marginalized and therefore improve overall health inequities.[11,12]

CONCLUSION. The threat of catastrophic climate change is becoming increasingly likely if aggressive measures to reduce GHG emissions are not taken. Despite challenges and concerns with carbon pricing, existing programs have been found to be effective at reducing GHG emissions and generating funding for clean energy programs, energy efficiency projects, subsidizing energy costs for low-income households, and improving public health outcomes.

REPORT OF THE BOARED OF TRUSTEES

B of T Report 11-I-24

Subject: Carbon Pricing to Address Climate Change (Resolution 601-I-23)

Presented by: Michael Suk, MD, JD, MPH, MBA, Chair

INTRODUCTION

Resolution 601-I-23, introduced by the Medical Student Section, proposed modifying current HOD policy D-135.966, "Declaring Climate Change a Public Health Crisis," to include the following language:

> 6. Our AMA will advocate for federal and state carbon pricing systems and for US support of international carbon pricing.
>
> 7. Our AMA will work with the World Medical Association and interested countries' medical associations on international carbon pricing and other ways to address climate change.

The resolution was referred for study to gain a better understanding of the benefits and pitfalls of carbon pricing, including the possible consequences of our AMA endorsing a specific climate-saving alternative.

BACKGROUND

According to the Intergovernmental Panel on Climate Change (IPCC), global surface temperatures from 2011-2020 are approximately 1.1 degrees Celsius higher on average than in the period between 1850-1900.[1] Further, the U.S. Fifth National Climate Assessment states, "the evidence for warming across multiple aspects of the Earth system is incontrovertible, and the science is unequivocal that increases in atmospheric greenhouse gases (GHG) are driving many observed trends and changes."[13] Anthropogenic (i.e., human caused) increases in global GHG emissions are primarily a result of the burning of fossil fuels for electricity generation and transportation, deforestation, and unsustainable agricultural practices.[1,2,13] Recent research has demonstrated that human activities are responsible for 92 percent of observed warming.[14] Atmospheric concentrations of several GHG are at historically high levels within human history; with carbon dioxide (CO2) concentrations at 419 parts per million, higher than at any time in at least two million years.[14] Additionally, concentrations of methane are at 1,923 parts per billion, and nitrous oxide are at 337 parts per billion, higher than at any time in at least 800,000 years.[1,14] The year 2023 was the planet's hottest calendar year on record, surpassing the 1.5 degree Celsius threshold set by the Paris Agreement and 2024 is on track to be as hot or hotter than 2023, with 1,400 heat records broken by June 2024.[15,16]

As concern over anthropogenic climate change has increased over the past few decades, several international agreements have been established to address the issue. The United Nations (UN) Framework Convention of Climate Change, adopted in 1992, was the first international treaty to explicitly address climate change and was ratified by 197 countries, including the U.S.[17] A key component of this framework was the establishment of an annual forum known as the Conference

of the Parties, or COP, aimed at facilitating international discussions on establishing the concentration of GHG in the atmosphere.
Five years later, the Kyoto Protocol was adopted, establishing the first legally binding climate treaty aimed at reducing signatory country emissions by an average of five percent below 1990 levels as well as a system to monitor process.[17] While adopted in 1997, the treaty went into effect in 2005. While the U.S. signed the agreement, it was never ratified, and the U.S. later withdrew its signature. In 2015, the Paris Accord agreement was adopted, requiring all signatory countries to set emission-reduction pledges with the goal of preventing global average temperatures from rising two degrees Celsius above preindustrial levels but with the real aim of keeping temperature increases below 1.5 degrees Celsius.[17] The U.S. withdrew from the accord under former President Donald Trump although President Biden reentered the U.S. into agreement upon entering office. As part of the Paris Agreement, National Determined Contributions (NDCs) are supposed to be submitted. NDCs form the basis for how countries are supposed to achieve the objectives of the Paris agreement and include information on targets, mitigation policies, and measures for reducing emissions.[18] "Mitigation" refers to efforts that aim to reduce emissions directly or reduce the current concentration of GHG in the atmosphere by enhancing carbon dioxide sinks (e.g. increasing the area of forests, which absorb carbon dioxide).[19] The U.S. NDC target is an economy-wide reduction of GHG emissions by 50-52 percent below 2005 levels by 2030.[20]

At the COP 2023 UN Climate Summit in Dubai, it was concluded that governments are not doing enough to prevent the global average temperature from rising by 1.5 degrees Celsius.[21] The significance of this global temperature target is that scientists warn that with consistent warming above 1.5 degrees Celsius, the Earth will experience catastrophic environmental consequences with dire impacts for human health and settlements as well as mass animal and plant species loss. While a recent analysis found U.S. GHG emission reductions have accelerated in the past few years, primarily due to the passage of the Inflation Reduction Act and Infrastructure Investment and Jobs Act, the adoption of a suite of federal regulations aimed at driving down emissions, and ambitious state action, it is still not enough to achieve the Paris Agreement climate commitment of a 50-52 percent reduction by 2030.[22]

There are many potential mitigation policies countries can adopt to address GHG emissions from multiple sectors. One policy solution that has gained popularity is carbon pricing. The following report describes what carbon pricing is, examines the economic logic behind it and summarizes available evidence of how effective existing programs are in terms of reducing GHG emissions. Lastly, the report reviews the challenges and benefits of carbon pricing, with a specific focus on potential health benefits, and outlines alternative policies for reducing GHG emissions.

METHODS

English-language reports were selected from a PubMed and Google Scholar search of the literature using the search terms "carbon pricing" or "carbon tax" or "carbon pricing policy" in combination with "evaluation," "benefits," "challenges," and "health impacts." Additionally, the websites of relevant organizations and agencies, such as the Environmental Protection Agency, the United Nations, the Intergovernmental Panel on Climate Change, the World Bank, and the Center for Climate and Energy Solutions were reviewed for applicable resources and information.

DISCUSSION

What is carbon pricing?

In the broadest sense, carbon pricing places a specific price on emitting carbon dioxide and passes the cost of emitting carbon emissions to the emitters.[3] The two primary mechanisms employed are through a tax on carbon, in which a fee is charged for the amount of carbon emitted wherever fossil fuels enter the economy, or through an emission trading scheme (ETS).[4,5] Within ETS, a limit is set for total emissions allowed and companies can buy or sell carbon emission allotments. For example, companies that produce less carbon emissions can sell shares of their carbon allotment to other companies that are higher carbon emitters.[5] ETS – also known as cap and trade - limits the total GHG permitted within a specific region and can help facilitate gradual emission decreases and keep total emissions within a designated amount.[5,23] As gains are made in terms of improved energy efficiency and technologies, the cap can continue to be lowered over time.

Carbon taxes, however, do not predetermine the total amount of allowable emissions, but rather, are focused on establishing a set price for carbon. In either form of carbon pricing, the policy follows a basic economic argument and logic – "faced with a price on carbon, economic agents will avail themselves to opportunities to abate emissions that are cheaper than paying the price."[7] Less well-known carbon pricing instruments include crediting mechanisms, a results-based climate finance framework, and internal carbon pricing schemes.[3] (See Table 1) There are also several indirect methods of pricing carbon, including fuel taxes, the removal of fossil fuel subsidies, and regulations that incorporate a social cost of carbon, which is intended to reflect the cost of effects created by generating one or more ton of emissions at any given period.[5,24]

As a policy solution, carbon pricing is not without historical precedent. For example, the sulfur dioxide cap and trade program for power plants in the U.S. was established under Title IV of the 1990 Clean Air Act Amendments; the world's first large-scale pollutant cap-and-trade system, in response to widespread environmental concern over acid rain.[25] Despite industry opposition to the policy, this program was immensely successful at lowering sulfur dioxide levels and it led to such rapid technological advancements in controlling sulfur dioxide emissions that the marginal abatement costs fell to less than half of what had been predicted.[7] To be effective, many proponents believe carbon pricing should be implemented at a global scale and while this may seem unrealistic, successful international agreements on environmental action have been implemented and achieved their goals. For example, the Montreal Protocol, adopted in 1987, is an example of a successful international environmental agreement brought about by concern over the growing hole in our planet's ozone layer, which led to the phasing out of chlorofluorocarbons from industrial and pharmaceutical uses, and the ozone layer has since recovered.[26,27]

One of the most compelling reasons for carbon pricing, particularly a cap-and-trade model, is to guarantee emission targets are met.[7] Additionally, cap-and-trade programs provide economic incentives for reducing GHG emissions through the reinvestment of profits made through the program into renewable energy sources, changing consumption patterns, and improving energy efficiency.[7,23] Other considerations for a carbon tax versus a cap-and-trade model is the price elasticity of electricity generation.[7] Price elasticity is a term used to describe how responsive consumer demand is for a product based on its price. When something is price elastic, consumer demand is very sensitive to fluctuations in price (these tend to be pure commodities), versus price inelastic, meaning consumers will not change their usage much as price changes.[28] Energy and fuel consumption is generally a necessity versus a luxury, lending itself to being price inelastic. For many people, they will still power their homes, keep it at comfortable temperature, or drive their car no matter what the price of electricity or fuel, particularly those who do not have alternative methods of transportation. A main argument against a carbon tax is that it is regressive and will be passed down to consumers, with lower-income households being disproportionately impacted.[7,28] Proponents of ETS based carbon pricing policies argue that these systems are less likely to be subject to political intervention and pressure during periods of economic stress and are better able

to respond to fluctuations in the economy overall.[23] Solutions to address these concerns are described further below.

Proponents of a carbon price argue the cap-and-trade approach requires additional bureaucracy to implement it and provides polluters with loopholes and options to buy their way out of penalties or regulation, versus implementing real change to reduce pollution.[4] A carbon tax is considered the most upstream approach to pricing carbon by defining a set price (versus a total limit) that is spread across all sectors of the economy that emit fossil fuels.[7,24] In essence, a carbon tax treats all fossil carbon equally, regardless of where it enters the system.[7] This approach greatly minimizes administrative burden and costs associated with a cap-and-trade model for carbon pricing.

Examples of carbon pricing programs and evidence of effectiveness

As of 2024, more than 70 carbon pricing schemes have been implemented globally and they vary widely.[5,6] The U.S. and Australia are currently the only countries with developed economies who do not have a nationwide carbon pricing system.[4] A recent systematic review and meta-analysis found consistent evidence that across the globe, carbon pricing policies (including both cap-and-trade and carbon tax policies) were effective at reducing GHG emissions between 5 to 21 percent.[6] As carbon ETS systems have been in effect for nearly twenty years and examples of their implementation exist in the U.S., a few of these programs are described in further detail below.

The European Union (EU) was the first to establish a cap-and-trade emissions system in 2005, and it remains the largest carbon market in the world.[29] The EU Emissions Trading System (EU ETS) primarily covers emissions created by the energy sector, manufacturing industry, as well as aircraft operators within the EU, which represents around 40 percent of the EU's emissions.[30] Based on a 2023 report by the European Commission, the EU ETS has thus far helped lower GHG emissions from the power and energy sectors by about 37 percent below 2005 levels.[31] Additionally, since the adoption of the EU ETS, there has been an increase in patent activity in low-carbon technologies.[7] In 2023, the EU developed a new separate emissions trading system (ETS2), which addresses the carbon dioxide emissions from fuel combustion in buildings, road transport and additional sectors (mainly small industry not covered by the existing ETS).[32] As this new trading scheme was recently established, there is no available data on its implementation and effectiveness.

While there is no nationwide carbon pricing policy, within the U.S., there are three active carbon ETS initiatives: (1) the Regional Greenhouse Gas Initiative (RGGI), which includes eleven participating states in the Northeast region of the U.S., (2) California, and (3) Washington. The RGGI was the first mandatory cap-and-trade program in the U.S. aimed at reducing carbon dioxide emissions from power plants within each participating state. Similar to the EU program, RGGI was established in 2005 and administered its first auction of carbon dioxide emissions allowances in 2008.[33] As a result of this program, annual average carbon dioxide emissions from electric generation sources decreased by 48 percent within a ten-year period (from 2006-2008 to 2016-2018).[33] Between 2009-2018, participating RGGI states have seen a net economic benefit of $4.7 billion, which has been reinvested by states back into their participating communities and has included funding for clean energy programs, energy efficiency, and energy bill assistance programs to local business and communities.[33,34] Additional analyses of the program have found the RGGI has added 48,000 job-years (equivalent of one full-time job for the duration of one year) and contributed to positive health impacts in the form of avoided adverse child health outcomes from lower pollution levels.[9,35]

California's Cap-and-Trade program was initiated by the California legislature's approval of Assembly Bill 32 (AB 32) in 2006, which established the State's 2020 GHG reduction target and authorized the California Air Resources Board (CARB) to include a cap-and-trade program as one

tool to help achieve the target.[36] After attempts to delay the implementation of the program, the defeat of a 2010 ballot initiative paved the way for the program to move forward and it began in 2013. A 2023 inventory report by the CARB indicates GHG emissions within the state have demonstrated a consistent decline between the years 2000 and 2021.[37]

Within the past five years, both Washington and Oregon passed legislation enabling the creation of carbon pricing initiatives. However, the Oregon Climate Protection Program was invalidated by the Oregon Court of Appeals in 2023 and a new regulatory process is underway to reestablish the program.[38–40] Washington state's cap-and-invest program was passed by the state legislature in 2021 under the Climate Commitment Act and the program officially started in January 2023.[41] The goal of this program, in addition to other clean energy initiatives in the state, is to reduce GHG emissions to 45 percent below 1990 levels by 2030, 70 percent below 1990 levels by 2040, and 95 percent below 1990 levels by 2050.[38] As Washington's program just started last year, there is no available data on its implementation and effectiveness.

As noted, there is no national carbon pricing scheme in place in the U.S. However, in 2023, legislation was introduced in the House of Representatives, H.R.5744 - Energy Innovation and Carbon Dividend Act of 2023, which would impose a fee on the carbon content of fuels, including crude oil, natural gas, coal, or any other product derived from those fuels and the revenue from those fees would be deposited into a Carbon Dividend Trust Fund and used for administrative expenses and dividend payments to U.S. citizens or lawful residents.[42] This proposed legislation is not likely to move forward this legislative session.

Implementation Challenges

There are several challenges with implementing carbon pricing schemes, which include carbon leakage (defined below), fairness and equity, public acceptance, competitiveness, market manipulation, and administrative burden. A well-designed carbon pricing mechanism should address carbon leakage - the phenomenon by which carbon-intensive industries or firms shift operations to lower-cost jurisdictions - resulting from geographically inconsistent policies and regulations. The lack of international agreement (or even national agreement within the U.S.) and/or implementation on carbon pricing has resulted in nonuniform pricing across the world resulting in the issue of carbon leakage. As one author noted, a uniform carbon pricing scheme across all global countries would be most ideal, to prevent certain "bad actors" simply moving their operations to an area of the world with less stringent environmental standards.[5] The Carbon Pricing Leadership Coalition – a group of leaders from government, private sector, academia, and civil society who aim to expand the use of carbon pricing policies – recommends that carbon pricing mechanisms be expanded and coordinated across countries to cover a higher proportion of global emissions.[3]

Another challenge for carbon pricing schemes is figuring out how generated revenue will be used and distributed. Critics of carbon pricing policies have argued that increased costs of fossil fuels will disproportionately impact low-income populations as well as fragile industries, who are more susceptible to energy price increases.[5,11] Customizing programs to be responsive to vulnerable populations who are most susceptible to energy price increases is crucial.[46] Strategies to reduce negative impacts on disadvantaged communities as well as address fairness and competitiveness concerns include targeting funds from carbon pricing to energy efficiency projects, supporting cleaner energy production technologies, carbon dividends, funding public transportation systems, and protecting or subsidizing energy costs for lower-income households.[5,8]

Carbon dividends, otherwise known as carbon cashback, is one potential strategy for reducing the economic burden of carbon pricing on households with low incomes that has gained popularity.[4,7,47] Carbon dividends is when a proportion of revenues from a carbon tax are returned to households impacted by the policy, as opposed to transferring this money to firms (as in a cap-and-trade system with free permits) or to the government (as would happen if permit auction or carbon tax revenue goes to the treasury).[7,47] Multiple studies have projected that a carbon tax program implemented with a cashback option for U.S. citizens would provide an economic boost for many low-income households.[47] How revenues from carbon pricing are used also impact public acceptability and support for the policy, which has been a challenge. Carbon pricing policy has met considerable resistance in terms of general public acceptance, exemplified by the cancellation of a carbon pricing scheme in Australia after only two years and rejection of various ballot initiatives in the U.S.[7,48] A study on perceived fairness and public acceptability of carbon pricing found that the general population demonstrated little trust in the ability of governments to put the funds to good use but there were clear preferences for using funds to ensure fair outcomes and for environmental projects of various kinds.[48]

Another major challenge in developing and implementing carbon pricing policy is opposition from influential stakeholders whom the policy may negatively impact, such as fossil fuel companies and the energy sector more broadly.[5,36] Industry stakeholders have pushed back on carbon pricing policies citing potential impacts to competitiveness and predicting that it would hinder economic growth and job creation.[49] However, as cited above, the RGGI and EU ETS have generated net economic benefit of billions of dollars, have spurred job creation in the green energy sector, and prompted research and development funding into new green technologies leading to an increase in new patents in this area, calling into question the economic logic behind industry fears.[5,35]

Other challenges with cap-and-trade programs have been market manipulation and speculation, lack of transparency, and the possibility of being overly bureaucratic and administratively burdensome. Similar to other trading systems and capital markets, the ability to manipulate the market in your favor is a risk.[50] A way to avoid this issue is by creating a transparent, secure registry to track transactions and prevent manipulative tactics.[51] The issue of "greenwashing," the process of conveying false or misleading impression intended to deceive consumers into believing that a product or service is environmentally friendly or preferable to alternatives, has been raised as a concern with California's cap-and-trade program.[52] In response, California recently passed AB 1305, which went into effect in January 2024, requiring businesses marketing or selling voluntary carbon offsets (VCOs) or marketing products as having significantly reduced emissions within California to disclose on their website certain information concerning the projects that generated the VCOs and emission reductions.[53] This law represents California's attempt to hold businesses accountable for claims concerning GHG emission reductions and intensify transparency within the VCOs market.

Other potential solutions to minimize issues of market manipulation and lack of transparency include using technology to monitor and report emissions efficiently, establishing clear and transparent guidelines, and involving impacted stakeholders and citizen groups early in the formation process.[5] A 2018 review of existing ETS carbon pricing systems also found that more recently implemented programs demonstrated significant institutional learning from previous systems (like the EU ETS), thus making the administrative and regulatory structures easier to establish as the new programs are implemented.[54] Therefore, administrative hurdles may become less of a challenge as more programs are established. Lastly, these challenges are primarily of concern with a cap-and-trade mechanism of carbon pricing, thus could be reduced with the use of a broader carbon tax mechanism.

Another key consideration of any carbon pricing policy is how to define a reasonable and effective price for carbon. The Carbon Pricing Leadership Coalition noted in their most recent report that "Carbon prices must … be high enough to provide effective signals to society, which will drive the level of investment and technological changes necessary to reach net-zero and be taken in conjunction with complementary policy actions to make carbon pricing relevant across company value chains."[55] One strategy to define a reasonable and effective price for carbon is to calculate the social cost of carbon (SCC).[5] The SCC is an "economic metric intended to provide a comprehensive estimate of the net damages - that is, the monetized value of the net impacts, both negative and positive - from the global climate change that results from a small (1-metric ton) increase in carbon-dioxide emissions."[56] In the U.S., existing Executive Orders requiring the use of the SCC to determine regulatory impact have been in place since 2008.[56] Methods for estimating the SCC using integrated assessment models have been developed by an Interagency Working Group on the Social Cost of Carbon, set up in 2010, and continues to be refined as new data becomes available and models are updated.[56] However, there are still many challenges in calculating total risk and associated costs from carbon and SCC estimates have varied depending on political leadership at the federal level, ranging from $3-5 to $190 as determined by the U.S. Environmental Protection Agency in 2022.[5,7]

Potential Benefits

Despite the challenges, there are many benefits to carbon pricing policies, particularly health benefits. Overall, fossil fuel extraction and consumption have many negative environmental consequences that also lead to poor health outcomes, including contamination of drinking and recreational water sources, pipeline leaks or spills, gas leaks leading to explosions, and air pollution.[11,57,58] These health impacts do not include those that are directly or indirectly related to climate change. Direct health impacts from climate change include heatwaves and other extreme weather events such as hurricanes, forest fires, floods, or droughts. Indirect impacts are those mediated through the effects of climate change on ecosystems, such as agricultural losses and changing patterns of disease, economies, and social structures (such as displacement and conflict).[59] Additionally, climate change also poses risks to health care infrastructure, which threatens community health and the financial viability of health care organizations.[60] Climate change impacts are also already causing billions of dollars in economic losses.[61] To provide one example, economic losses from extreme weather events increased by 23 percent from 2010-14 to 2018-22, equaling $254 billion in 2022 alone.[62] For more detailed information on climate change and its health impacts, see AMA's Council on Science and Public Health report on climate change and health, written and adopted in 2022.[63] In short, the adverse health impacts and health care costs from climate change are already staggering and are only predicted to get worse.[62]

One of the most direct ways that carbon pricing can improve health is through improvements in air quality through lower air pollution. For example, based on evaluations of the RGGI, the program is estimated to have avoided several adverse child health outcomes, including 537 asthma cases, 112 preterm births, 98 cases of autism spectrum disorder, and 56 cases of term low birth weight.[9] These avoided adverse health outcomes are associated with an avoided cost estimated at $191 to $350 million. A study on a proposed carbon fee in Massachusetts estimated the program would yield nearly $3 billion in health benefits.[11,64] A report by CalEPA's Office of Environmental Health Hazard Assessment notes that reductions in co-pollutant emissions from California's carbon cap-and-trade program has resulted in major health benefits, including a reduction in premature pollution-related deaths, particularly in communities of color and disadvantaged communities.[12] Additionally, a 2021 study of potential impacts based on different mitigation scenarios in the U.S. found that nationwide health benefits from cleaner air-quality could be realized very rapidly from

emission reductions and the cost savings from these benefits would exceed the costs of implementation within the first decade after going into effect.[65]

Higher fuel prices and funding from carbon pricing programs could also encourage and support alternative, active transportations options, such as walking, bicycling and public transportation. The use of active transportation modes, versus automobiles, is associated with greater levels of daily physical activity and lower air pollution.[59,66] Increased daily physical activity is associated with many health benefits, including reduced high blood pressure and risk of heart disease and stroke, reduced risk of type 2 diabetes, reduced risk of osteoporosis and falls, reduced symptoms of depression and anxiety, and improved sleep quality.[10]

Another potential impact from carbon pricing is the price of food, with carbon pricing most likely making the cost of some foods more expensive, namely red meat. Livestock production, and particularly cattle, is a major contributor to methane gas emissions, contributing almost 80 percent of agricultural GHG emissions.[67] It has been estimated that animal products with even the lowest environmental impacts generally exceed the environmental impacts related to all vegetable substitutes.[68] In general, plant-based diets (for example, Mediterranean, pescatarian, vegetarian, vegan) are associated with reduced disease risk compared with conventional Western diets and the widespread adoption of a healthy diet that emphasizes plants foods over red meat and dairy has been projected to prevent globally an estimated 10.8 million to 11.6 million deaths annually.[69,70] Carbon pricing could incentivize a transition to more plant-based diets, which would help reduce agricultural emissions, promote health, and generate financial savings.[69,71] One study in Australia estimated changes to food consumption habits and potential resulting health outcomes resulting from a carbon pricing scheme. The study estimated lower consumption of red and processed meats, with an increase in fruit consumption, resulting in lower body weight and decreased overweight and obesity prevalence.[71] The study concluded that carbon pricing on food commodities in Australia could have overall public health benefits.

Lastly, carbon pricing has the potential to improve health equity in several ways.[11] First, climate change impacts on health are disproportionately experienced by the most vulnerable and disadvantaged communities, including ethnic and racial minorities, communities of low-income, children, women, migrants and displaced communities, people with disabilities and existing health conditions, and indigenous populations.[61,72] Therefore, mitigating the future harmful impacts of climate change will most benefit these vulnerable communities. Additionally, the public health benefits of reduced air pollution that could be achieved by the phasing out of fossil fuels would be greatest for low-income communities of color that experience disproportionately high exposure to air pollution.[73,74] While there have been concerns raised that the California cap-and-trade program has worsened local air quality within environmental justice communities, several studies have found the opposite to be true. In communities of color, there have been improvements in local air pollution and a reduction in exposure to toxic air pollutants from facilities covered by the cap-and-trade program.[12,36]

Alternatives

There are several other available strategies to meaningfully reduce GHG emissions outside of carbon pricing policies. Stricter regulations on CO2 and other greenhouse gases from electricity generation facilities as well as higher fuel efficiency standards for cars and trucks are policy options which push industry to make meaningful emission reductions.[7,11] Within the past few years, the AMA has joined with organizational partners urging federal agencies to pass such policies.[75,76] Another strategy is to invest and promote more renewable and sustainable energy sources.[11] The Inflation Reduction Act, enacted in 2022, has done just that, leading to $110 billion in new clean

energy manufacturing investments within just 12 months of the bill being signed into law.[77] Investing in public transportation infrastructure, as well as sidewalks and bike lanes, and promoting their use over automobiles is another critical strategy to shift a general overreliance on personal vehicles for everyday trips.[7] Ultimately, in order to achieve current GHG emission reduction targets, all of these policies should be pursued as part of a holistic approach to reducing carbon emissions.

EXISTING AMA POLICY

The AMA has several existing policies on climate change and health (D-135.966 and H-135.938). D-135.966 is most relevant in regard to carbon pricing in that it calls on AMA to advocate for policies that: "(a) limit global warming to no more than 1.5 degrees Celsius, (b) reduce US greenhouse gas emissions aimed at a 50 percent reduction in emissions by 2030 and carbon neutrality by 2050, and (c) support rapid implementation and incentivization of clean energy solutions and significant investments in climate resilience through a climate justice lens."[78] At the 2024 Annual Meeting, the Board of Trustee's Report 25 Environmental Sustainability of AMA National Meetings was adopted with the recommendations that AMA is committed to make progress towards net zero emissions for its business operations by 2030 and to work with appropriate entities to encourage the U.S. health care system to decrease emissions to half of 2010 levels by 2030, achieve net zero by 2050, and remain net zero or negative.[79]

POSITION OF OTHER HEALTH CARE ORGANIZATIONS

Carbon pricing has been supported by other organizations within the health care sector. In October 2021, 100 leaders from the National Academy of Medicine signed a petition stating their strong support for a carbon pollution fee.[80] Additionally, the 2015 Lancet Commission on Health and Climate Change recommended that governments establish a framework for an international carbon pricing mechanism as a key policy strategy to protect public health.[59]

CONCLUSIONS

The threat of catastrophic climate change is becoming increasingly likely if the global community does not enact aggressive measures to reduce GHG emissions. As stated by a recent article, "Human-induced warming has been increasing at a rate that is unprecedented in the instrumental record, reaching 0.26 [0.2–0.4] °C per decade over 2014–2023."[14] This increasing rate of warming is directly tied to persistently high global GHG emissions. Despite existing challenges and concerns with carbon pricing, it is imperative that all GHG reduction strategies be on the table to meet reduction targets established by the Paris Agreement. While carbon pricing initiatives can be challenging to implement and must be thoughtfully designed, existing programs have been found to be effective at reducing GHG emissions and generating money to fund clean energy programs, energy efficiency projects, and subsidizing energy costs for low-income households. Despite challenges, there are many potential health benefits of carbon pricing initiatives that could result from a decrease in the extraction, processing, and use of fossil fuels, which could also result in health care cost savings.

RECOMMENDATIONS

The Board of Trustees recommends that the following be adopted and the remainder of the report be filed.

1. Amend current HOD policy, D-135.966: Declaring Climate Change a Public Health Crisis, by addition to read as follows:

1. Our AMA declares climate change a public health crisis that threatens the health and well-being of all individuals.

2. Our AMA will protect patients by advocating for policies that: (a) limit global warming to no more than 1.5 degrees Celsius, (b) reduce US greenhouse gas emissions aimed at a 50 percent reduction in emissions by 2030 and carbon neutrality by 2050, and (c) support rapid implementation and incentivization of clean energy solutions and significant investments in climate resilience through a climate justice lens.

3. Our AMA will consider signing on to the Department of Health and Human Services Health Care Pledge and ~~or~~ making a ~~similar~~ commitment to lower its own greenhouse gas emissions.

4. Our AMA encourages the health sector to lead by example in committing to carbon neutrality by 2050.

5. Our AMA will develop a strategic plan for how we will enact our climate change policies including advocacy priorities and strategies to decarbonize physician practices and the health sector with report back to the House of Delegates at the 2023 Annual Meeting.

6. Our AMA supports the use of international, federal, regional, and state carbon pricing systems as an important tool to reduce global greenhouse gas emissions and achieve net-zero targets. Our AMA recommends that carbon dividends or energy subsidies for low-income households be a key component of any established carbon pricing system, to reduce the potential economic burden on households with lower incomes.

Fiscal Note: Less than $1,000

TABLES AND FIGURES

Table 1: Different Carbon Pricing instruments[3]

Carbon tax	Creates a direct price on GHG emissions and requires economic actors to pay for every ton of carbon pollution emitted.
Emission Trading System (ETS)	Also known as a cap-and-trade system, this instrument sets a limit on total direct GHG emissions from specific sectors and sets up a market where the rights to emit (in the form of carbon permits or allowances) are traded.
Crediting Mechanism	Emissions reductions that occur from a project, either by a business, government, or policy, are assigned credits, which can then be bought or sold. Entities seeking to lower their emissions can buy the credits as a way to offset their actual emissions.
Results-based climate finance framework	Entities, such as businesses, receive funds when they meet pre-defined climate-related goals, such as emissions reductions.
Internal carbon pricing	Governments, firms, and other entities assign their own internal price to carbon use and factor this into their investment decisions. These internal prices generally take two forms: a shadow price or an internal carbon fee.

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REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

Subject: Cannabis Therapeutic Claims in Marketing and Advertising

Presented by: John T. Carlo, MD, Chair

Referred to: Reference Committee K

At the 2023 American Medical Association (AMA) Interim Meeting, the House of Delegates (HOD) referred recommendation 6 of the Council on Science and Public Health (CSAPH) Report 6-I-23, "Marketing Guardrails for the 'Over-Medicalization' of Cannabis Use." Recommendation 6 asked that "[o]ur AMA support and encourage state regulation of therapeutic claims in cannabis advertising." This report represents the Council's findings and recommendations.

CSAPH has issued seven previous reports that include research on cannabis including synthetic cannabinoids:

1. CSAPH Report 6-A-01, "Medical Marijuana"
2. CSAPH Report 3-I-09, "Use of Cannabis for Medical Purposes"
3. CSAPH Report 2-A-17, "Emerging Drugs of Abuse Are a Public Health Threat"
4. CSAPH Report 5-I-17, "Clinical Implications and Policy Considerations of Cannabis Use"
5. CSAPH Report 3-I-19, "Patient Use of Non-FDA Approved Cannabis and Cannabinoid Products in Hospitals"
6. CSAPH Report 5-I-20, "Public Health Impacts of Cannabis Legalization"
7. CSAPH Report 6-I-23, "Marketing Guardrails for the 'Over-Medicalization' of Cannabis Use"

In CSAPH Report 6-I-23, the Council studied the marketing practices of cannabis companies. The policies that stemmed from the report state that our AMA will request more direct oversight from the Food and Drug Administration (FDA) and the Federal Trade Commission (FTC) on the marketing of cannabis, generate a letter for use by state medical societies requesting more oversight by state governments, and support research on the effects of cannabis marketing to identify best practices (D-95.958). The report also explained the categories of cannabis marketing regulations, including medium restrictions (e.g., radio, television, print media, internet) and physical restrictions (e.g., proximity to schools, signs visible to the public, signs on public transportation).

Generally, cannabis content restrictions can be divided into six categories: (1) therapeutic claims, (2) safety claims, (3) content targeting children, (4) validity of statements, (5) gifts, and (6) product warnings.[4] This report will focus on health claim content restrictions, with an emphasis on therapeutic and curative claims, addressing the specifications and limitations placed on content within cannabis advertisements. While the Council is aware of additional cannabis content restrictions such as product warnings and prohibitions on content targeting children, these are outside the scope of this report and already included in AMA policy.

METHODS

English-language reports, peer-reviewed articles, white papers, government publications, and grey literature was selected from PubMed and an Internet search, using the text terms "cannabis," "marijuana," "claims," "advertising," and "marketing." Additional information was obtained from

state government websites and organizations that specialize in public health law or cannabis regulation to identify current cannabis marketing and advertising laws.

BACKGROUND

Marketing is categorized as "any commercial communication or other activity, including advertising, promotion, and sponsorship, that is designed to increase the recognition, appeal and/or consumption" of the product being marketed.[1] States have varying approaches to the marketing of cannabis and tetrahydrocannabinol (THC) containing products. While federal regulatory agencies oversee the marketing and advertising of hemp (including cannabidiol or CBD), the regulation of cannabis and cannabis-derived products varies by state. The challenges of cannabis products are accentuated by the lack of research and guidance on dosing and adverse effects, leading consumers to rely on potentially inaccurate marketing sources like dispensary staff or online sites, emphasizing the need to ensure accurate and consistent information in marketing.

In most states where the adult-use or medical use of cannabis is legal, states have established regulatory bodies, officers, and/or departments that provide licensing and industry oversight to ensure compliance with existing cannabis laws, the development of marketing and advertising guidelines, and the enforcement of violation penalties. However, there are no federal standardized regulations, guidelines, or laws for non-FDA-approved cannabis or cannabis-based products. The marketing and advertising landscape has changed over time as states have implemented legislation granting state-based regulatory bodies the authority to enforce cannabis marketing guardrails.

Marketing can lead to changes in patient or consumer attitudes, beliefs, and behavior. In some cases a "positive halo effect" can be seen when medical benefits are highlighted, leading consumers to perceive all cannabis products as beneficial, safe, and health-promoting, even in adult use contexts.[2] Conversely, a "negative halo effect" may occur following negative press or reports on cannabis-related incidents, causing consumers to view all cannabis products or uses as harmful or risky, regardless of the specific circumstances or evidence.[3] This psychological phenomenon is one of many broader public health and regulatory concerns.

DISCUSSION

According to the FDA, a claim says something about the advertised drug or what it does.[5] Claims usually relate to benefits and are made directly by stating, for example, "Brand X treats heartburn." Claims also can be made indirectly by the use of pictures or other graphics."[5] Additionally, "the truthfulness of claims must be supported by 'substantial evidence' or substantial clinical experience."[5] However, because cannabis companies are not regulated by the FDA, they may make claims that are not supported by rigorous research (as required by the FDA). Therapeutic claims are usually made in relation to the products usefulness, are supported by expert medical opinion or controlled clinical studies, and encompass phrases such as "for," "in the treatment of," and "indicated."[6] FDA's drug approval process includes an analysis of the benefits and risks from clinical data, and strategies for managing risks.[7] AMA policy details our support of the FDA evaluation and approval process based on sound scientific and medical evidence derived from controlled trials (H-100.992, "FDA").

In early 2017, the National Academies of Sciences, Engineering, and Medicine released a report based on over 10,000 scientific abstracts from cannabis health research.[8] In an evaluation of the therapeutic effects of cannabis and cannabinoids, they conclude there is evidence to support the therapeutic effect of cannabis and cannabinoids in several conditions (See Table 1), but this evidence relates to the FDA approved cannabinoid products (dronabinol, nabilone, and

nabiximols).[8] There is limited evidence to support claims for non-FDA approved cannabis products.[8–10] Uncertainty about the appropriate use, risks, and benefits of cannabis necessitates ongoing research to support claims and inform clinical practice. As varying cannabis products and consumption methods remain under-studied, making evidence-based recommendations on cannabis is challenging.

Cannabis Therapeutic Claims Research

While cannabis claims are regulated on a state-by-state basis, the FDA has noted common drug promotion issues that could potentially relate to marketing and advertising of cannabis therapeutic claims. Common drug promotion issues include, exaggerating the drug's benefit, missing or de-emphasizing risk, failing to offer a "fair balance: of risk and benefit information, misrepresenting data from the studies, creating claims that are not appropriately backed, omitting material facts about the drug, misbranding and investigational medication, and making misleading medication comparisons."[11] Current research on cannabis therapeutic claims, including industry practices, state regulations, and enforcement, is limited in both scope and content.

A 2015-2016 cross-sectional study examined recreational dispensary compliance with advertising regulations in Washington state (i.e., Washington Administrative Code (WAC) § 314-55-155).[12] The law states advertising must not contain any statement or illustration that is false or misleading, promotes overconsumption, represents the use of cannabis as having curative or therapeutic effects, or depicts a person under legal age consuming cannabis.[13] The study analyzed 1,027 posts from 12 cannabis business pages on Facebook and Twitter, representing six companies equally across rural and urban areas.[12] Out of the 1,027 posts, 137 (13.3 percent) highlighted curative or therapeutic benefits, with 121 (11.8 percent) focusing on stress relief and 16 (1.6 percent) promoting treatment for medical conditions.[12] Examples included posts like "#Cannabis Used To Ease PTSD." Notably, a majority (69 percent) came from one company.[12]

A separate state-based analysis compared 94 cannabis medical and adult-use dispensary websites across Nevada, Oregon, Arizona, California, Colorado, Illinois, Michigan, Montana, New Mexico, and Washington.[14] Of the 94 dispensaries, 63 (67 percent) included health claims related to medical conditions treatable by cannabis products on their menus.[14] Over half of the 94 dispensaries claimed their products could address issues such as pain, stress/relaxation, appetite, anxiety/panic attacks, insomnia/sleep problems, depression, nausea/stomach ailments, and muscle spasms (See Table 2).[14] Additionally, 35 dispensaries (37 percent) made health claims on other than the menu page.[14] Claims made by at least 20 percent of dispensaries on these pages included treatment for pain, appetite, anxiety/panic attacks, insomnia/sleep problems, depression, nausea, muscle spasms, and epilepsy/seizures.[14] Less common health claims included treatments for autism, Hepatitis C, Alzheimer's disease, AIDS, and autoimmune disorders.[14] The prevalence of health claims did not significantly differ based on whether the dispensary was medical only or adult-use and medical (54/70, 77 percent vs. 19/23, 83 percent; p=0.772).[14] A small percentage of dispensaries (8/94, 9 percent) included specific comparisons of cannabis to other prescription or over-the-counter drugs, such as prescription painkillers.[14]

In a similar study researchers found that 23 out of 94 (24 percent) of dispensaries provided citations from scientific journals, links to medical literature (18 dispensaries), and/or endorsements from medical professionals (eight dispensaries) to support their health claims.[14] This practice was more common among medical dispensaries compared to those offering both medical and adult-use cannabis (23/70, 33 percent vs. 0/23, 0 percent; p=0.001).[14] The authors concluded that most dispensaries made health claims pertaining to medical conditions that could be treated by their cannabis products.[8,14] However, claims regarding the treatment of symptoms related to epilepsy,

anorexia, Parkinson's Disease, and ALS have limited or insufficient scientific evidence.[8,14] While these health claims may align with state-approved conditions for cannabis use for medical purposes, it is important for dispensaries to distinguish between scientifically validated treatments and those not yet supported by empirical evidence to avoid misleading patients.[14]

From 2022-2023, researchers examined the online practices of 175 non-medical cannabis retailers in five cities (Denver, Colorado; Seattle, Washington; Portland, Oregon; Las Vegas, Nevada; Los Angeles, California).[15] They found that content claiming any health benefits of cannabis use declined from 105 (60 percent) in 2022 to 93 (47.4 percent) in 2023.[15] Of the total online cannabis retailers reviewed, 93 retailers (52.6 percent) had no health claims. Conversely, 83 retailers (47.4 percent) included health claims; among these seven retailers (4 percent) specified only medical claims, 14 retailers (eight percent) specified only mental health claims, and 62 retailers (35.4 percent) contained both medical and mental health claims (See Table 3).[15] In 2022, a similar study came to the same conclusions finding that among 195 cannabis retailers, 59.0 percent posted some unsubstantiated health claims, and 44.6 percent indicated physical and mental health benefits.[16] Although Colorado, Washington, and Oregon prohibit health claims, 51.2–53.8 percent of retailers posted them in these states.[16]

Overall, online cannabis retail presents health risks by emphasizing health benefit claims that lack sufficient evidence. In a 2022 mystery shopper study of 140 cannabis retailers in Denver, Seattle, Portland, Las Vegas, and Los Angeles researchers found despite health claim prohibitions in Colorado, Washington, and Oregon, over 90 percent of retailers in these states endorsed cannabis for anxiety, insomnia, and pain. Additionally, 54.3 percent endorsed its use for pregnancy-related nausea (ranging from 23.3 percent in Denver to 76.7 percent in Seattle), while 26.4 percent warned against use during pregnancy (most often in Denver at 46.7 percent, and least often in Seattle and Portland at 13.3 percent).[17] Likewise, a study conducting point-of-sale audits found that among 150 cannabis retailers in the same cities 28.7 percent posted health claims, 72 percent posted pregnancy/breastfeeding warnings, and 38 percent posted health risks.[18] Findings emerging from cannabis research show associations between exposure to marketing and use.[14,17,19,20] As the cannabis retail market expands in the U.S., surveillance of retail practices is crucial to inform regulations and protect consumers..

Cannabis Therapeutic Claims in Marketing and Advertising: Regulatory Landscape

It is important to understand how jurisdictions utilize laws to regulate cannabis therapeutic claims in both adult-use and medical use programs. Thirty-three states and territories have some law either on claim restrictions or untrue statements in cannabis marketing and advertising; however, there are 11 states and one territory that have no laws prohibiting false claims or statements. Further, nine states have claim restrictions where the evidence standard is stated in the law. State's cannabis regulatory authority can be found in Table 4.

Cannabis therapeutic claim laws can be split broadly into five categories (See Table 5). The description below gives an overview of the varying laws across U.S states and territories:

<u>No Claim Restrictions</u>. Eleven states do not have a law on cannabis advertising/marketing claim restrictions. *State Examples:* Arizona, Vermont, and Montana have laws on cannabis advertising; however, the laws do not mention claims. Neither Arizona nor Montana laws detail claim restrictions, false or untrue statements, or any evidence standard. Vermont's law states that advertisements must be submitted to the state Cannabis Control Board prior to dissemination of the advertisement. The Board then determines if the advertisement requires a specific disclosure based

on if the advertisement would be "false or misleading without such a disclosure," or they may require changes that are "necessary to protect the public health, safety, and welfare."

Claim Restrictions. Sixteen states have cannabis advertising/marketing claim restrictions or false/unsubstantiated statement prohibitions, but do not detail any evidence standard. *State Examples*: New York law notes "explicit rules prohibiting advertising that makes medical claims or promotes adult-use cannabis for a medical or wellness purpose." Washington, D.C. (D.C.) law prohibits false or misleading health benefit statements. California law specifically prohibits false or misleading therapeutic claims.

Claims are Restricted and Substantiated**.** Nine states have cannabis advertising/marketing claim restrictions with additional details to substantiate the claim restriction such as scientific evidence. *State Examples:* New Mexico law requires claims to be supported by evidence and data. Oregon law requires any claim to be supported by "the totality of publicly available scientific evidence." On the other hand, New Jersey law states that claims must be demonstrated by substantial scientific or clinical evidence consisting of two or more studies; there is no specification regarding which type of study counts towards this requirement.

Claim Restrictions Refer to Federal Law or Agency. Four states have cannabis laws that refer to federal agency standards or federal law on drugs. *State Examples:* Utah law states no statement, claim, or information that would violate the Food, Drug, and Cosmetic Act, while Missouri law states that unverified claims cannot be made unless the statement has been evaluated and approved by the FDA.

Not Applicable (N/A). Eleven states have no law on cannabis advertising/marketing because medical and adult-use cannabis are illegal.

Furthermore, forty-six states/territories have a regulatory body to oversee state cannabis policies. Generally, state law either dictates who should be appointed to the regulatory body or leaves the appointment rules to the regulatory body; however, not every state requires a physician to be on the board. In 13 states, the Department of Health (DOH) or a body within the DOH is designated as the cannabis regulatory body. In 17 states and three territories there is a cannabis commission, board, or administration that typically encompass individuals with varied expertise in health, policy, and medicine. Four states and D.C. have a duo alcohol and cannabis regulatory body, and seven states have relegated control to agencies outside the state DOH. For example, in New Mexico, the regulatory body designated is the Regulation and Licensing Department and in Utah the regulatory body is the Department of Government Operations (Table 6). Overall, every state with medical or adult-use cannabis has a regulatory body that may oversee therapeutic claims in marketing and advertising.

EXISTING AMA POLICY

Our AMA has significant policy on cannabis, including encouraging state regulatory bodies to enforce cannabis marketing laws, social media platforms to set a threshold age of 21 for exposure to advertising and support physician education on the health risks of cannabis (D-95.958, "Marketing Guardrails for the 'Over-Medicalization' of Cannabis Use"). AMA policy supports the traditional federal drug approval process for assessing the safety and efficacy of cannabis-based products for medical use and notes that cannabis products that have not been approved by the FDA, but are marketed for human ingestion in many states, should carry a warning label that this product has not been approved by the FDA for preventing or treating any disease process (D-95.969, "Cannabis Legalization for Medicinal Use").

Our AMA also has policy on cannabis addressing marketing and advertising, public health and safety messaging, prevention, harm reduction, education, treatment, research, regulation, and claims related to FDA-approved drugs. In 2022, AMA submitted a letter to the FDA and FTC relaying concern of the lack of federal regulation of cannabis and encouraging additional action to protect consumers by combating marketing of unapproved medical claims.[23] The AMA is currently working on a letter to request more oversight by state regulators. On May 16, 2024, the Drug Enforcement Administration (DEA) submitted a notice of proposed rulemaking to consider rescheduling cannabis from Schedule I to Schedule III under the Controlled Substances Act. In response, our AMA submitted a letter to the DEA highlighting several key considerations including the need to ensure public health and safety, additional research and data, consistent regulatory oversight, and protective measures for historically vulnerable populations.[24] Emphasis is placed on the clear need for more effective regulatory boundaries and guidelines concerning cannabis marketing and promotion.

CONCLUSION

There is a vast range of how states address health or medical claims for cannabis, including therapeutic claims, misleading statements, and substantial evidence. In some cases, the therapeutic claims for certain state-legalized cannabis products are unsupported, misleading, or false. In other cases, therapeutic claims are marketed by cannabis companies with sparse evidence and without medical consensus. These practices extend to both states with medical use only and both medical and adult use cannabis.

False and inaccurate claims can confuse consumers about the safety and effectiveness of cannabis products, misleading many that cannabis products (whether purchased from medical or non-medical legal markets or from illicit sellers) are less risky and more beneficial than they actually are.[21] Cannabis companies that promote the medical benefits of cannabis through these claims can create this "health halo effect," which leads to positive perceptions of adult use.[2] Such misinterpretations could increase medical and adult-use of cannabis, and prompt patients to use cannabis products to treat certain medical conditions when there is either no evidence of benefit, clear evidence that they will do more harm than good, or when conventional medicines or treatments would be safer or more effective.[8,21,22] Lastly, the lack of consistent marketing guidelines could expose youth and populations made vulnerable to false and misleading cannabis advertisements.

RECOMMENDATIONS

The Council on Science and Public Health recommends that the following be adopted, and the remainder of the report be filed.

1. That our AMA:
    a. Oppose cannabis and cannabis-based product advertising that includes claims or statements that are not supported by scientific evidence.
    b. Will continue to monitor regulatory approaches to cannabis marketing. (New HOD Policy)

Fiscal Note: less than $1,000

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TABLE 1. NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE REPORT BOX 4-1 SUMMARY OF CHAPTER CONCLUSIONS

National Academies of Sciences, Engineering, and Medicine. 2017. *The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research*. Washington, D.C.: The National Academies Press. https://doi.org/10.17226/24625.

BOX 4-1
Summary of Chapter Conclusions*

There is conclusive or substantial evidence that cannabis or cannabinoids are effective:

- For the treatment of chronic pain in adults (cannabis) (4-1)
- As antiemetics in the treatment of chemotherapy-induced nausea and vomiting (oral cannabinoids) (4-3)
- For improving patient-reported multiple sclerosis spasticity symptoms (oral cannabinoids) (4-7a)

There is moderate evidence that cannabis or cannabinoids are effective for:

- Improving short-term sleep outcomes in individuals with sleep disturbance associated with obstructive sleep apnea syndrome, fibromyalgia, chronic pain, and multiple sclerosis (cannabinoids, primarily nabiximols) (4-19)

There is limited evidence that cannabis or cannabinoids are effective for:

- Increasing appetite and decreasing weight loss associated with HIV/AIDS (cannabis and oral cannabinoids) (4-4a)
- Improving clinician-measured multiple sclerosis spasticity symptoms (oral cannabinoids) (4-7a)
- Improving symptoms of Tourette syndrome (THC capsules) (4-8)
- Improving anxiety symptoms, as assessed by a public speaking test, in individuals with social anxiety disorders (cannabidiol) (4-17)
- Improving symptoms of posttraumatic stress disorder (nabilone; a single, small fair-quality trial) (4-20)

There is limited evidence of a statistical association between cannabinoids and:

- Better outcomes (i.e., mortality, disability) after a traumatic brain injury or intracranial hemorrhage (4-15)

There is limited evidence that cannabis or cannabinoids are *ineffective* for:

- Improving symptoms associated with dementia (cannabinoids) (4-13)
- Improving intraocular pressure associated with glaucoma (cannabinoids) (4-14)
- Reducing depressive symptoms in individuals with chronic pain or multiple sclerosis (nabiximols, dronabinol, and nabilone) (4-18)

There is no or insufficient evidence to support or refute the conclusion that cannabis or cannabinoids are an effective treatment for:

- Cancers, including glioma (cannabinoids) (4-2)
- Cancer-associated anorexia cachexia syndrome and anorexia nervosa (cannabinoids) (4-4b)
- Symptoms of irritable bowel syndrome (dronabinol) (4-5)
- Epilepsy (cannabinoids) (4-6)
- Spasticity in patients with paralysis due to spinal cord injury (cannabinoids) (4-7b)
- Symptoms associated with amyotrophic lateral sclerosis (cannabinoids) (4-9)
- Chorea and certain neuropsychiatric symptoms associated with Huntington's disease (oral cannabinoids) (4-10)
- Motor system symptoms associated with Parkinson's disease or the levodopa-induced dyskinesia (cannabinoids) (4-11)
- Dystonia (nabilone and dronabinol) (4-12)
- Achieving abstinence in the use of addictive substances (cannabinoids) (4-16)
- Mental health outcomes in individuals with schizophrenia or schizophreniform psychosis (cannabidiol) (4-21)

* Numbers in parentheses correspond to chapter conclusion numbers.

TABLE 2. HEALTH CLAIMS MADE ABOUT CANNABIS WHEN DESCRIBING THE EFFECTS OF THEIR PRODUCTS

Cavazos-Rehg PA, Krauss MJ, Cahn E, et al. Marijuana Promotion Online: An Investigation of Dispensary Practices. Prev Sci. 2019;20(2):280-290. doi:10.1007/s11121-018-0889-2

Table 2 Health claims made about marijuana when describing the effects of their products ($N = 94$)

Health claims made within menu

≥ 50% of dispensaries	11–49% of dispensaries		≤ 10% of dispensaries	
Anxiety/Panic attacks	ADHD	Glaucoma	Alzheimer's disease	Fibromyalgia
Appetite[b]	Arthritis	Inflammation	AIDS	Hepatitis C
Depression	Cancer	Mental illness	Anorexia nervosa	Menstrual problems
Insomnia	Epilepsy	Migraine/Headaches	Asthma	Neuropathy
Muscle spasms[a]	Fatigue	***Multiple sclerosis***	Autism	Parkinson's disease
Nausea	Gastrointestinal disorders	PTSD	Autoimmune disorders	Sjögren's syndrome
Pain			Colitis	Trauma
Stress/Relaxation			Crohn's disease	Urinary systems condition

Health claims observed within the website, but outside of their menu

≥ 20% of dispensaries	11–19% of dispensaries		≤ 10% of dispensaries	
Anxiety/Panic Attacks	ADHD	Glaucoma	ALS	High blood pressure
Appetite[b]	*AIDS*	Inflammation	Alzheimer's disease	Hydrocephalus
Depression	Anorexia nervosa	Mental illness	Asthma	Menstrual problems
Epilepsy	Arthritis	Migraine/Headaches	Autism	Neuropathy
Insomnia	Cancer	Multiple sclerosis	Autoimmune disorders	Opioid dependence
Muscle Spasms[a]	Fatigue	Stress/Relaxation	Colitis	Parkinson's disease
Nausea	Gastrointestinal disorders		Crohn's disease	*PTSD*
Pain			Diabetes	*Tourette syndrome*
			Fibromyalgia	Trauma
			Hepatitis C	Urinary systems condition

Italics and bold represent conditions that have conclusive/substantial evidence or moderate evidence. *Italics* represent conditions that have limited evidence associated with marijuana therapies. Non-italics represent conditions that have little or no evidence associated with marijuana therapies (National Academies of Sciences, Engineering, and Medicine 2017)

ADHD attention-deficit/hyperactivity disorder, *PTSD* post-traumatic stress disorder, *AIDS* acquired immunodeficiency syndrome, *ALS* amyotrophic lateral sclerosis, Lou Gehrig's disease

[a] Evidence for muscle spasms as a symptom of Multiple Sclerosis

[b] Evidence for increasing appetite in individuals with HIV/AIDS

TABLE 3: SUPPLEMENTAL TABLE 5 MARKETING STRATEGIES AMONG CANNABIS RETAILER WEBSITES IN 5 US CITIES

Cui Y, Duan Z, LoParco CR, et al. Changes in online marketing and sales practices among non-medical cannabis retailers in 5 US cities, 2022 to 2023. *Preventive Medicine Reports*. 2024;42:102755. doi:10.1016/j.pmedr.2024.102755

Supplementary Table 5. Marketing strategies among cannabis retail websites in 5 US cities in 2023, N=175

	Total N=175 (100%)	**Denver N=31 17.7%)**	**Seattle N=37 (21.1%)**	**Portland N=36 (20.6%)**	**Las Vegas N=34 (19.4%)**	**LA N=37 (21.1%)**	
Variable	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**p-value**
Content claiming health benefits of cannabis use							
Not indicated	92 (52.6)	9 (29.0)	27 (73.0)	21 (58.3)	10 (29.4)	25 (67.6)	**<.001**
Any benefits indicated	83 (47.4)	22 (71.0)	10 (27.0)	15 (41.7)	24 (70.6)	12 (32.4)	
Medical benefits only	7 (4.0)	1 (3.2)	3 (8.1)	0 (0.0)	2 (5.9)	1 (2.7)	
Mental health benefits only	14 (8.0)	1 (3.2)	1 (2.7)	7 (19.4)	5 (14.7)	0 (0.0)	
Both medical and mental health benefits	62 (35.4)	20 (64.5)	6 (16.2)	8 (22.2)	17 (50.0)	11 (29.7)	
Content targeting/representing specific populations							
Youth or young adults	53 (30.3)	23 (74.2)	4 (10.8)	6 (16.7)	17 (50.0)	3 (8.1)	**<.001**
Veterans	39 (22.3)	11 (35.5)	4 (10.8)	3 (8.3)	15 (44.1)	6 (16.2)	**.001**
LGBTQ+	10 (5.7)	7 (22.6)	0 (0.0)	1 (2.8)	1 (2.9)	1 (2.7)	**.001**
Racial/ethnic minorities	37 (21.1)	9 (29.0)	2 (5.4)	4 (11.1)	16 (47.1)	6 (16.2)	**<.001**
Content themes							
Party/cool/popularity imagery	62 (35.4)	23 (74.2)	6 (16.2)	7 (19.4)	22 (64.7)	4 (10.8)	**<.001**
Celebrity/influencer endorsement	36 (20.6)	11 (35.5)	4 (10.8)	0 (0.0)	14 (41.2)	7 (18.9)	**<.001**
Exclusivity/luxury imagery	66 (37.7)	25 (80.6)	2 (5.4)	10 (27.8)	18 (52.9)	11 (29.7)	**<.001**

TABLE 4. STATE LAW GOVERNING CANNABIS CLAIM RESTRICTIONS EXCEL SHEET

State	Medical	Adult-Use	Claim Restrictions	State Regulator	Marketing/Advertising Law
Alabama	Yes	No	Restricted unless supported by substantial clinical data	Alabama Medical Cannabis Commission	Ala. Admin. Code r. 538-X-4-.17
Alaska	Yes	Yes	Restricted	The director, an enforcement agent, an employee of the board, or a peace officer acting in an official capacity	Alaska Admin. Code tit. 3, § 306.770
American Samoa	No	No	N/A	N/A	N/A
Arizona	Yes	Yes	No Restriction	Arizona Department of Health Services	Ariz. Rev. Stat. § 36-2859
Arkansas	Yes	No	Restriction on false statements	Arkansas Alcoholic Beverage Control Board	Arkansas Medical Marijuana Amendment of 2016
California	Yes	Yes	Prohibits false or misleading therapeutic claims	Department of Cannabis Control	Cal. Bus. & Prof. Code § 26150
Colorado	Yes	Yes	Restricted	Colorado Marijuana Enforcement Division	1 Colo. Code Regs. § 212-3
Connecticut	Yes	Yes	Restricted unless substantiated or conveyed by medical professional	The Department of Consumer Protection	Conn. Gen. Stat. § 21a-421bb
Delaware	Yes	Yes	No Restriction	The Marijuana Commissioner	Delaware Marijuana Control Act
District of Columbia	Yes	Yes	Prohibits false or misleading health benefit statements	Alcoholic Beverage and Cannabis Administration	D.C Municipal Regulations Title 22-C 5801.2
Florida	Yes	No	No Restriction	Florida Department of Health	381.986. Medical Use of Marijuana
Georgia	Yes*	No	No Restriction	Georgia Access to Medical Cannabis Commission	Ga. Comp. R. & Regs. 351-6-.07
Guam	Yes	No	Cannot represent a curative or therapeutic effect	Guam Cannabis Control Board	11 Guam Code §§ 8101 - 8120
Hawaii	Yes	No	No unsubstantiated, false, or misleading claims	Director of the Hawaii Department of Health	Haw. Code R. § 11-850-145
Idaho	No	No	N/A	N/A	N/A

State	Medical	Adult-Use	Claim Restrictions	State Regulator	Marketing/Advertising Law
Illinois	Yes	Yes	Restricted	Illinois Department of Public Health	410 Ill. Comp. Stat. Ann. 705/55-20
Indiana	No*	No	N/A	N/A	N/A
Iowa	Yes*	No	Prohibits unsubstantiated medical claims and business website false, misleading, or unsubstantiated statements.	Iowa Department of Public Health	Iowa Admin. Code R.641-154.44
Kansas	No	No	N/A	N/A	N/A
Kentucky	No*	No	N/A	N/A	N/A
Louisiana	Yes	No	No Restriction	Louisiana Department of Health	Louisiana HB 524
Maine	Yes	Yes	Restricted	Maine Department of Administrative and Financial Services - Office of Cannabis Policy	CMR 18-691-001
Maryland	Yes	Yes	Claims must be supported by competent and reliable scientific evidence	Maryland Cannabis Administration	2023 Md. ALS 254, 2023 Md. Laws 254, 2023 Md. Chap. 254, 2023 Md. HB 556
Massachusetts	Yes	Yes	Claims must be supported by substantial evidence or substantial clinical data with reasonable scientific rigor	Massachusetts Cannabis Control Commission	935 CMR 500.105
Michigan	Yes	Yes	Restricted unless complies with FDA Letter of Enforcement Discretion or other FDA approval	The Marijuana Regulatory Agency	Mich. Admin. Code r. 420.507
Minnesota	Yes	Yes	Cannot make unverified claims	The Office of Cannabis Management	Chapter 121, Article 2, Section 131
Mississippi	Yes	No	Restricted	Mississippi State Department of Health	15 Miss. Code R. § 22-6.1
Missouri	Yes	Yes	Cannot make unverified claims unless such statement has been evaluated and approved by the FDA	Missouri Department of Health and Senior Services	19 CSR 100-1.010
Montana	Yes	Yes	No Restriction	Montana Cannabis Control Division	Mont. Admin. R. 42.39.123
Nebraska	No	No	N/A	N/A	N/A
Nevada	Yes	Yes	No Restriction	NV Cannabis Compliance Board	Nev. Rev. Stat. Ann. § 678B.520

State	Medical	Adult-Use	Claim Restrictions	State Regulator	Marketing/Advertising Law
New Hampshire	Yes	No	Prohibition on Misrepresentation	NH Department of Health and Human Services	Section 126-X:6
New Jersey	Yes	Yes	Claim must be demonstrated by substantial scientific or clinical evidence consisting of two or more studies.	New Jersey Cannabis Regulatory Commission	N.J. Admin. Code § 17:30-17.2
New Mexico	Yes	Yes	Cannot make unproven claims. Claims must be supported by substantial evidence or substantial clinical data	New Mexico Regulation and Licensing Department, Cannabis Control Division	N.M. Code R. § 16.8.3.8
New York	Yes	Yes	Restricted	NY Cannabis Control Board	N.Y. Can. 86
North Carolina	No	No	N/A	N/A	N/A
North Dakota	Yes	No	No Restriction	ND Department of Health	N.D. Admin. Code 33-44-01-23
Northern Mariana Islands	Yes	Yes	No false or misleading statements	Commonwealth of the Northern Mariana Islands Cannabis Commission	§ 180-10.1-1110
Ohio	Yes	No	Under medical marijuana laws, cannot make therapeutic claims about recreational marijuana	Ohio Department of Commerce	Ohio Admin. Code Rule 3796:5-7-01
Oklahoma	Yes	No	No statements that are statements that are deceptive, false, or misleading, or "represents that the use of marijuana has curative or therapeutic effects"	Oklahoma Medical Marijuana Authority	Okla. Admin. Code § 442:10-7-3
Oregon	Yes	Yes	Claim must be supported by the totality of publicly available scientific evidence.	The Oregon Liquor and Cannabis Commission	OAR 845-025-8040

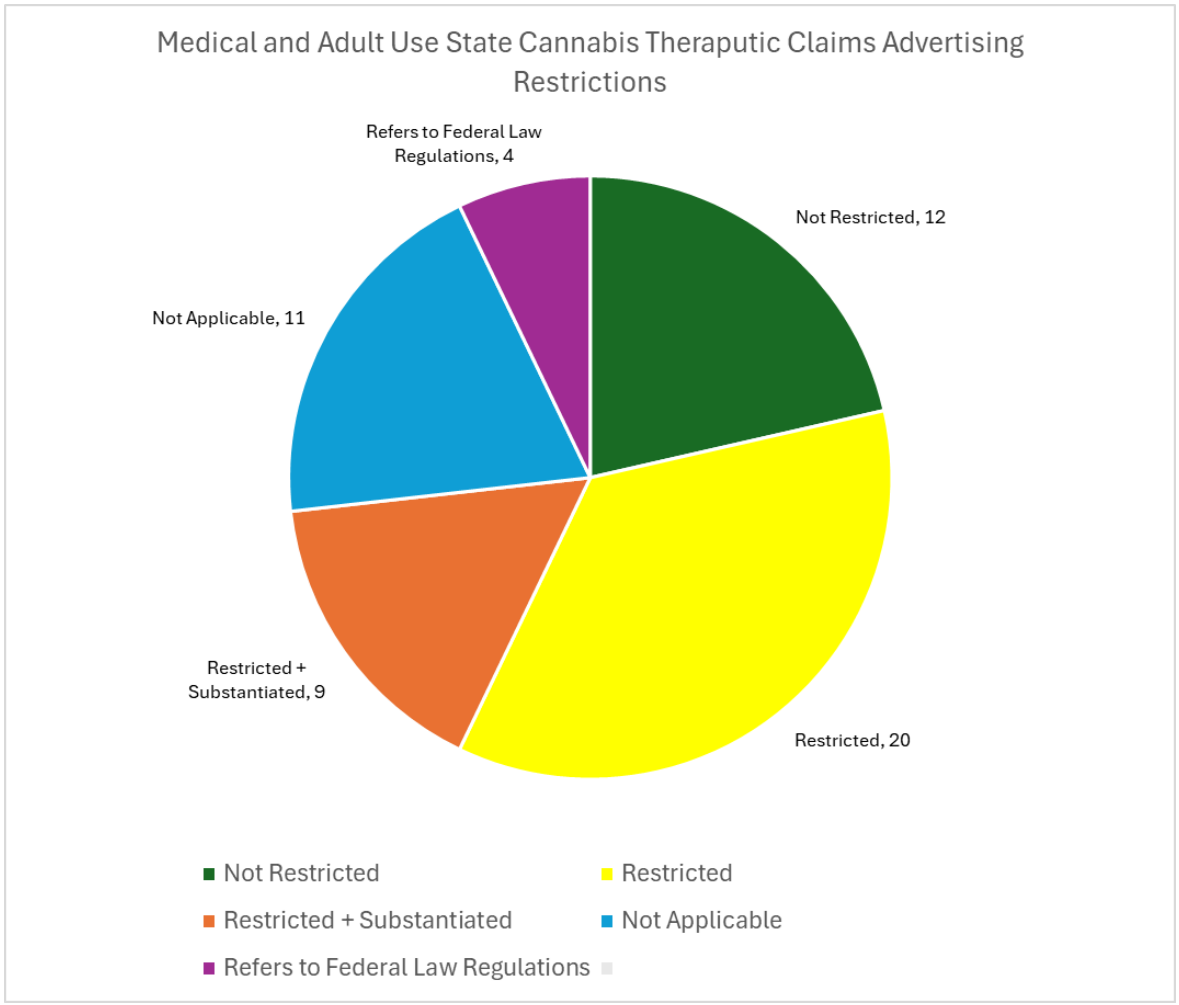
State	Medical	Adult-Use	Claim Restrictions	State Regulator	Marketing/Advertising Law
Pennsylvania	Yes	No	Advertising and Marketing must be consistent with federal regulations governing prescription drug advertising and marketing in 21 CFR 202.1 (relating to prescription-drug advertisements)	Pennsylvania Department of Health	28 Pa. Code § 1141a.50
Puerto Rico	Yes	No	No Restriction	The Medicinal Cannabis Regulatory Board within Puerto Rico's Department of Health	§ 2625 Regulations
Rhode Island	Yes	Yes	No Restriction	An Independent Three Member Commission	R.I. Gen. Laws Section 21-28.11-5
South Carolina	No	No	N/A	N/A	N/A
South Dakota	Yes	No	Prohibits deceptive false or misleading statements. Prohibits curative or therapeutic effect claims. Cannot claim any health or physical benefits	South Dakota Department of Health	Admin. Code R. ARSD 44:90:10:17-19
Tennessee	No*	No	N/A	N/A	N/A
Texas	Yes*	No	No Restriction	Texas Department of Public Safety	37 Tex. Admin. Code 1, Chap.12
Utah	Yes	No	No statement, claim, or information that would violate the federal Food, Drug, and Cosmetic Act, 21 U.S.C. Sec. 301	Department of Government Operations	4-41a-403
Vermont	Yes	Yes	No Restriction	Cannabis Control Board	Vt. Stat. Ann. tit. 7, § 864
Virgin Islands	Yes	Yes	No false or misleading statements	Office of Cannabis Regulation	2024 VICUA
Virginia	Yes	Yes	No advertisements that are "misleading, deceptive, or false"	Virginia Cannabis Control	Virginia § 4.1-1401

State	Medical	Adult-Use	Claim Restrictions	State Regulator Authority	Marketing/Advertising Law
Washington	Yes	Yes	Restricted	Washington State Liquor and Cannabis Board	Wash. Admin. Code § 314-55-155
West Virginia	Yes	No	No statements that are statements that are deceptive, false, or misleading	West Virginia Bureau for Public Health within the WV Department of Health and Human Resources	W. Va. Code R. § 64-109-23
Wisconsin	No	No	N/A	N/A	N/A
Wyoming	No	No	N/A	N/A	N/A

* As of July 3, 2024, CBD Oil with THC has an ingredient is illegal, but subject to state limits e.g., CBD oil may be legal to 0.5% THC.

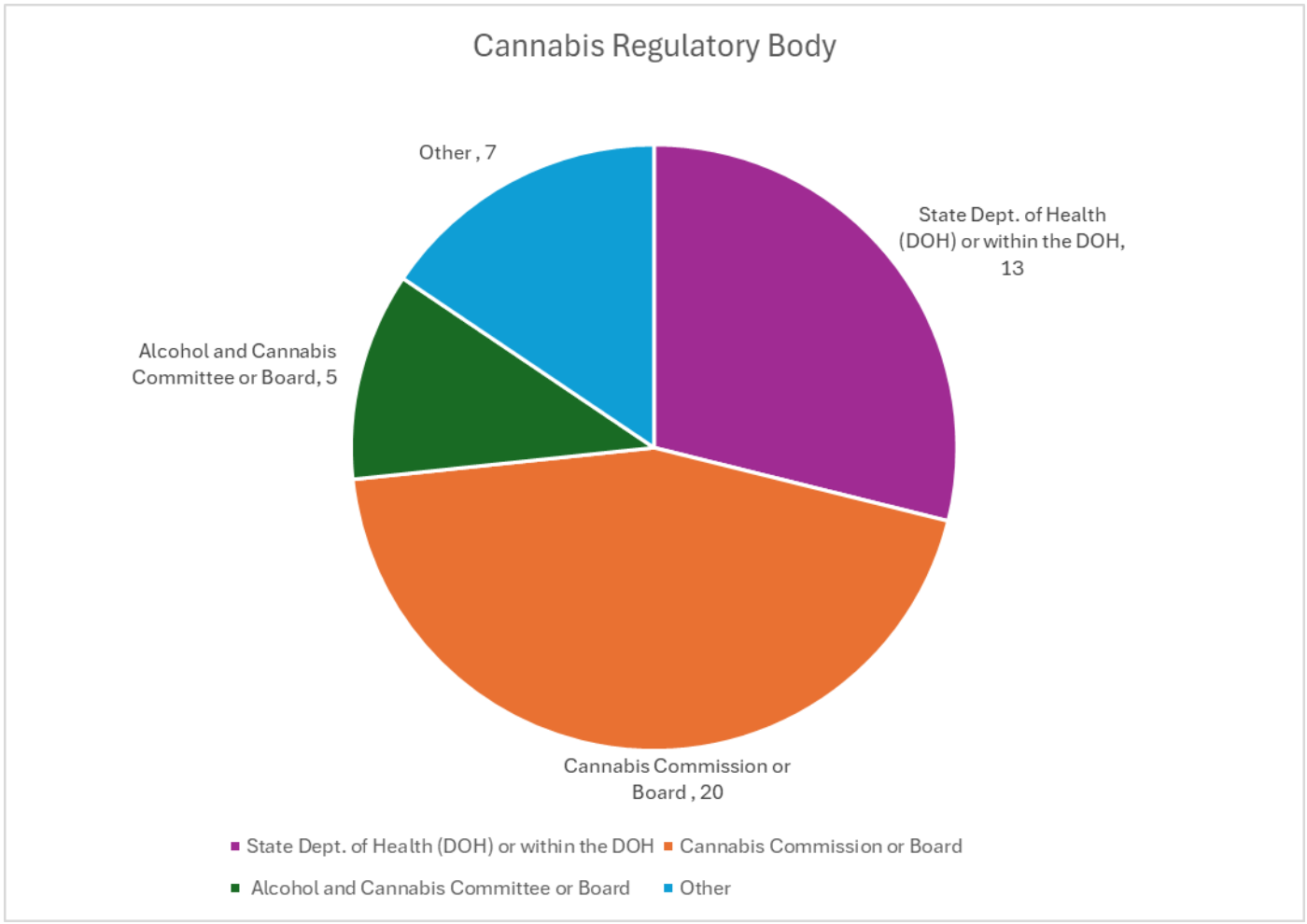
** Medical Cannabis Legal in 2025

TABLE 5. STATE CLAIM RESTRICTION DATA CHART



Not Restricted	Restricted	Restricted + Substantiated	Not Applicable	Refers to Federal Law Regulations
Arizona	Alaska	Alabama	American Samoa	Michigan
Delaware	Colorado	Connecticut	Idaho	Missouri
Florida	Guam	Iowa	Indiana	Pennsylvania
Georgia	Illinois	Maryland	Kansas	Utah
Louisiana	Maine	Massachusetts	Kentucky	
Montana	Mississippi	Minnesota	Nebraska	
Nevada	New York	New Jersey	North Carolina	
North Dakota	Ohio	New Mexico	South Carolina	
Puerto Rico	Oklahoma	Oregon	Tennessee	
Rhode Island	Washington		Wisconsin	
Vermont	Arkansas		Wyoming	
Texas	California			
	District of Columbia			
	Hawaii			
	New Hampshire			
	Northern Mariana Islands			
	South Dakota			
	US Virgin Islands			
	Virginia			
	West Virginia			

TABLE 6. STATE CANNABIS REGULATORY BODY DATA CHART



State Dept. of Health (w/i) Department of Health	Cannabis Commission or Board	Alcohol and Cannabis Committee or Board	Other
Arizona	Alabama	Alaska	Connecticut
Florida	California	Arkansas	Maine
Hawaii	Colorado	District of Columbia	New Mexico*
Illinois	Delaware	Oregon	Ohio
Iowa	Georgia	Washington	Rhode Island**
Louisiana	Guam		Utah
Mississippi	Maryland		Texas*****
Missouri	Massachusetts		
New Hampshire	Michigan		
North Dakota	Minnesota		
Pennsylvania	Montana		
South Dakota	Nevada		
West Virginia***	New Jersey		
	New York		
	Northern Mariana Islands		
	Oklahoma		
	Puerto Rico****		
	Vermont		
	US Virgin Islands		
	Virginia		

*New Mexico Regulation and Licensing Department, Cannabis Control Division
**R.I. Gen. Laws § 21-28.11-2
***West Virginia Bureau for Public Health within the WV Department of Health and Human Resources
**** The Medicinal Cannabis Regulatory Board within Puerto Rico's Department of Health
***** Texas Department of Public Safety

REPORT 2 OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH (I-24)
Drug Shortages: 2024 Update
(Reference Committee K)

EXECUTIVE SUMMARY

BACKGROUND. American Medical Association (AMA) Policy H-100.956, "National Drug Shortages," directs the Council on Science and Public Health (CSAPH) 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 (U.S.). Drug shortages are defined by the Food and Drug Administration (FDA) as "a period of time when the demand or projected demand for the drug within the United States exceeds the supply of the drug." 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. Additionally, Resolution 922-I-23, "Prescription Drug Shortages and Pharmacy Inventories" was referred for study. Due to the similarity of their subject matter, these two reports have been combined.

METHODS. English-language reports were selected from a PubMed and Google Scholar search from September 2021 to June 2024, using the text terms "drug shortages" and "prescription transfers". Additional articles were identified by manual review of the references cited in these publications. Further information was obtained from the Internet sites of the FDA, National Academies of Sciences, Engineering, and Medicine, U.S. Department of Health and Human Services, American Society of Health-System Pharmacists, and Duke Margolis Center for Health Policy, and contemporary media reporting.

DISCUSSION. Drug shortages remain an ongoing and complex public health concern in the United States and the AMA continues to monitor the situation and act when appropriate. Overall, drug shortages are the highest they have been in a decade, including many instances of high-profile drug shortages with visibility in the public sphere, including amphetamine/dextroamphetamine salts (trade name Adderall or Mydayis) and semaglutide (trade name Ozempic, Wegovy, or Rybelsus). This report examines three categories of drugs in shortage, controlled substances, generic drugs, and on-patent drugs as well as proposed government actions to address them.

CONCLUSION. Drug shortages continue to be a complicated, multi-factorial issue which directly impacts patient care in the U.S. The AMA's policy regarding drug shortages is timely and comprehensive, and updates are proposed to align with the topics discussed. New policy is also recommended for regulations or market practices which limit access to drugs even if there is adequate supply, functioning as an artificial shortage.

REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 2-I-24

Subject: Drug Shortages: 2024 Update
(H-100.956 and Resolution 922-I-23)

Presented by: John T. Carlo, MD, Chair

Referred to: Reference Committee K

American Medical Association (AMA) Policy H-100.956, "National Drug Shortages," directs the Council on Science and Public Health (CSAPH) 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. Drug shortages are defined by the Food and Drug Administration (FDA) as "a period of time when the demand or projected demand for the drug within the United States (U.S.) exceeds the supply of the drug." 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.

Additionally, Resolution 922-I-23, "Prescription Drug Shortages and Pharmacy Inventories" was referred for study. Resolution 922-I-23 asked that our AMA:

> work with the pharmacy industry to develop and implement a mechanism to transfer prescriptions without requiring a new prescription [and] advocate for legislation and/or regulations permitting pharmacies to transfer prescriptions to other pharmacies when prescription medications are unavailable at the original pharmacy or the patient requests the prescription be transferred.

Due to the similarity of their subject matter, these two reports have been combined.

CSAPH has issued 14 reports on drug shortages, with the most recent being at the 2023 Interim Meeting of the HOD. As such, this report will focus on developments that have occurred primarily in the last year and the near horizon.

METHODS

English-language reports were selected from a PubMed and Google Scholar search from September 2021 to June 2024, using the text terms "drug shortages" and "prescription transfers". Additional articles were identified by manual review of the references cited in these publications. Further information was obtained from the Internet sites of the U.S. Food and Drug Administration (FDA), National Academies of Sciences, Engineering, and Medicine, U.S. Department of Health and Human Services (HHS), American Society of Health-System Pharmacists (ASHP), and Duke Margolis Center for Health Policy, and contemporary media reporting.

DISCUSSION

Current Trends in Drug Shortages

The year 2024 marked the worst year on record for drug shortages, with 323 individual drug shortages reported in Q1, more than any year with data collected.[1] Several drugs in shortage received significant media attention, such as mixed amphetamine salts (MAS) for the treatment of attention-deficit hyperactivity disorders, where only approximately 42 percent of prescriptions were filled in 2023.[2] While there appears to be some positive movement on this front, such as reports that brand-name MAS products are in-stock, problems sourcing lower cost generic medications still persist.[3] Similarly, a National Comprehensive Cancer Network study found that platinum-based chemotherapy shortages were easing, with only seven percent of surveyed centers reporting a shortage of cisplatin, down from 70 percent in 2023.[4] However, that same report found that 89 percent of cancer centers reported a shortage of at least one critical anti-cancer agent, demonstrating that while progress can be made on individual drug shortages, systemic issues in drug procurement remain.[4]

According to ASHP statistics (see Appendix 1), trends in drug shortages have gotten worse in the last year.[5] Continuing the trend from 2023, new drug shortages are continuing to rise, and existing drug shortages take longer to resolve. When combined, these two factors have resulted in the worst year of drug shortages recorded. For the first quarter of 2024, there have been 48 new drugs in shortage. If that trend were to continue for the remainder of the calendar year, 2024 would have the most new drug shortages since 2012. So far in 2024, the five classes of drugs facing the largest number of shortages are: central nervous system therapies (66), antimicrobials (43), hormones (34), chemotherapies (32), and fluids/electrolytes (25), placing significant burden on physicians and patients across all health care settings, including urban, rural, and outpatient and inpatient.

More optimistically, the number of high-profile drugs, such as chemotherapy agents, and overall severity of current shortages has resulted in a marked increase in activity from lawmakers, regulators, and stakeholder groups, including the AMA, in addressing and alleviating drug shortages. Drug shortage developments in the past year can broadly be divided into three categories described in this report: controlled substances, generic drugs, and on-patent drugs.

Controlled Substances and Artificial Shortages

Controlled substances, such as MAS and opioids, have been a topic of interest in several of the past drug shortages reports, and persist as a class of interest. In previous reports, the Council has described how manufacturing quotas from the Drug Enforcement Administration (DEA) have unnecessarily created drug shortages for some controlled substances, including MAS. The AMA continues to monitor this issue and act where appropriate, as described later in this report.

The national opioid litigation settlement agreements have created issues for accessing controlled substances. In 2021, nationwide settlements were reached between state attorneys general and a series of opioid manufacturers and distributors. In 2022, additional settlements were reached with several pharmacy chains. These settlements represented significant negotiations and included billions of dollars in payments and substantial changes to policies regarding the production, distribution, and marketing of opioids and other controlled substances. While most of the topics covered by the settlements are outside the scope of this report, there have been changes to distributors' risk mitigation and suspicious order surveillance and reporting which may have artificially created or otherwise exacerbated drug shortages.

Under the distributors settlement agreement, Exhibit P requires, among other things, that distributors and pharmacies abide by a series of new "red flag" regulations regarding the fulfillment, ordering, and dispensing of controlled substances.[6] These red flag policies include requirements to monitor and identify pharmacies and prescribers' "ordering ratio" of controlled

substances to non-controlled substances, "excessive" ordering of controlled substances, orders to fill prescriptions of patients traveling more than 50 miles from the pharmacy, and multiple different metrics for "top prescribers" of controlled substances. Any one of these metrics (or others) are further influenced by—and most relevant to this report—extensive requirements for distributors to set "thresholds" on the amount and type of medication it will supply to a pharmacy. In the event a pharmacy exceeds its threshold limit for the procurement of controlled substances, its orders of controlled substances may be canceled, held for further inquiry or reported to the DEA as a suspicious order report. Unlike production quotas which are calculated by the DEA and made public, distributors and pharmacies implementing the red flag and threshold policies are not subject to any measure of transparency or review of implications on patients' access to care. Further, these thresholds may vary widely between distributors, impacting some pharmacies more than others, which is of particular concern when patients may have limited choice for pharmacies they can utilize.

In May 2024, the AMA joined the American Pharmacists Association (APhA), the American Society of Addiction Medicine, and ASHP in writing to the DEA and other federal stakeholders with concerns about this approach.[7] The letter described reports of pharmacies choosing not to keep adequate stock of controlled substance medications out of fear that suspicious order reports will be filed against them, or that they will be cut off from purchasing other critical controlled substance medications. As such, individual pharmacies are unable to fill prescriptions not due to a lack of supply or demand, but rather an artificial barrier that acts like a shortage for patients and physicians. Through its work with these and other physician and pharmacy organizations, the AMA has learned of physicians and/or pharmacies being cut off from ordering medication or being able to prescribe medication, including opioids, stimulants, and medications for opioid use disorder, in multiple states.

These pharmacy-specific shortages are further amplified by the electronic prescription regulatory landscape. Historically, when prescriptions were handwritten, the transference of a prescription from one pharmacy to another was a simple affair – if there was a lack of stock at one pharmacy, the patient could simply bring their written prescription to a new pharmacy. With the ubiquity of electronic prescriptions, however, concerns over multiple fillings (either accidental or intentional) of a single prescription by different locations has hampered this process. For example, if an electronic prescription has been received and begun to be processed by a pharmacy after it has closed for the day, it cannot be transferred to another, open pharmacy and the patient would be required to go back to their original prescriber to cancel the current prescription and then file a new one. Additionally, some pharmacies maintain policies where they do not disclose to patients if they have controlled substances in stock, meaning that the prescribing physician can often be further tasked with calling the pharmacy directly to inquire if a prescription can be filled.

Prior to August 28th, 2023, it was also illegal to transfer any prescription from one pharmacy to another for a Schedule II through V controlled substance. This rule was only recently modified to allow a single, one-time-only transfer for the initial filling for these drugs. The entire prescription, including any authorized refills, must all be filled at the same pharmacy, and must otherwise comply with state laws. It should be noted that some states may have stricter laws around pharmacy transfers than those proposed by the DEA, and as such would not benefit from this rule-change. Additionally, prescriptions may be required to be transferred by other entities, such as payers who have changed their in-network requirements for coverage. In those instances, a patient may have a prescription already filled at one pharmacy, but are unable to pay for it, meaning it may be impossible to re-prescribe, and then have payers cover a new prescription.

Currently, our AMA maintains two policies on prescription transfers: H-120.923, "Legalization of Interpharmacy Transfer of Electronic Controlled Substance Prescriptions" and H-120.920, "Access to Medications" (full text available at the end of this report). Briefly, they outline our AMA's support for legislative and regulatory changes which increase the ease of transferring prescriptions, particularly when prescriptions are for controlled substances. When combined with policy changes from the opioid settlement, these restrictions on prescription transfers can result in wholly artificial, localized drug shortages that prevent patients from accessing critical medications, even if the manufacturers have adequate supply.

Pharmacy Benefit Managers

Artificial drug shortages are further exacerbated by the increasing consolidation of power in intermediaries, such as pharmacy benefit managers (PBMs), who use their purchasing power to dictate the drugs patients can access. In last year's report, the practice of PBMs only including drugs in shortage on their formularies, while excluding available alternatives, was discussed. AMA policy opposes this practice. In July of this year, the Federal Trade Commission (FTC) released an interim report into their investigation into PBM practices.[8]

While much of the focus was on PBMs increasing prices for costly, branded medications, several alarming trends emerged regarding PBM practices creating artificial drug shortages. For example, CVS Caremark, the largest PBM in the country, processed 34 percent of U.S. prescriptions in 2023, and owns its own chain of retail pharmacies. In their report, the FTC found that CVS Caremark forced patients to use CVS pharmacies, which causes smaller pharmacies to become financially unviable. This lack of choice further ingrains artificial drug shortages, particularly when an individual pharmacy may be choosing to not stock a certain drug, or prescription transfers are blocked. While CVS Caremark was the only PBM with a retail pharmacy chain, all major PBMs analyzed utilized their own pharmacies for mail-order and specialty products.

Of particular relevance to this report is the experience described by a patient's public comment received by the FTC, which describes their experience being required to utilize a PBM-owned pharmacy:

> *I generally have to place around 20 phone calls, often spending upwards of 10 hours on the phone with Accredo, before my medication finally gets shipped. In total I am waiting 3+ weeks to receive my medication [...] I have explained to my insurance company that the requirement to use Accredo results in delays receiving my medication, but they refuse to authorize me to use an alternative pharmacy […] in my community that could provide me my medication the same day.*[9]

Similarly, manufacturer GSK halted production of its asthma medication Flovent (fluticasone propionate) in January 2024.[10] The company claimed that due to restrictions on sudden price increases, the product was no longer financially viable, but they only left the market once a generic version was available. However, reporting suggests that these generic products are not available on formularies, in part due to the inability for generic manufacturers to provide rebates to PBMs, effectively removing access to these critical medications.[11]

These changes coincided with the removal of the cap on Medicaid rebates in the American Rescue Plan Act of 2021. Previously, Medicaid drug rebates were calculated based on a percentage of the historic average price. For example, Flovent (fluticasone) HFA and Diskus, which had recently

been increasing prices at a much higher rate than inflation, were thus faced with significantly higher rebates owed.[12] By authorizing a new generic product that did not have the same pricing history as the original branded product, GSK was able to escape paying these higher Medicaid rebates. As a result, PBMs may choose to not add the generic to their formulary despite its lower list price due to its net price (list price minus rebate) being higher than the previously available branded product.

In response to the FTC's report, members of Congress have indicated support for PBM regulations to address vertical consolidation and several of the practices which lead to artificial drug shortages, such as the skirting of Medicaid rebates.[13,14]

GENERIC DRUGS, COST CONTROL, AND STOCKPILES

Congressional Proposals

As described in detail in previous drug shortage reports, one of the persistent sources of drug shortages are poor manufacturer incentives to produce low-cost generic drugs. One of the leading risk factors for a drug being under shortage is the age of the drug.[15] This may seem counterintuitive – the longer a drug has been on the market, the better understanding we should have of expected demand, and have had more time to improve manufacturing yields. However, age has a significant impact on profit margins and thus market supply. Since cisplatin and carboplatin are available as generic medications, the profit incentives for their manufacturing dramatically decreases. The unit price of cisplatin and carboplatin are estimated to be $15 and $23 USD, respectively.[16] For several generic drugs, there may only be one or two manufacturers that have been able to produce the drug with a razor-thin profit margin, and any disruption, such as an FDA quality inspection, a natural disaster, or a change in ingredient prices, may cause manufacturers to halt manufacturing entirely rather than invest further.

One of the proposed legislative solutions is to require hospitals or other procurers to pay more for generic drugs. For example, the currently proposed version of the Drug Shortage Prevention and Mitigation Act contains provisions which would exclude generic drugs in shortage from the 340B Drug Pricing Program, and/or waive inflation rebates under the Medicaid Drug Rebate Program if it were to pass.[17] Under the proposed law, generic drugs in shortage would see their purchasing prices increase, with the intention of incentivizing more manufacturers to begin producing the generic drug in question at increased profit.

However, by increasing profit margins only on drugs in shortage, it creates a financial incentive for manufacturers to allow for their drugs to slip into dangerously short supply rather than invest in more efficient manufacturing practices. If the drug supply is then stabilized and the financial incentive goes away, there is no guarantee that the same manufacturers will simply again choose to opt-out of manufacturing a low-profit drug, creating the shortage all over again. The AMA has sent comment on record to the Senate Finance Committee expressing concerns over the bill and a willingness to work towards actionable legislation addressing drug shortages.[18]

To incentivize manufacturers to invest in efficient manufacturing, the FDA maintains an Advanced Manufacturing Technologies (AMT) Designation program.[19] In the AMT program, manufacturers can obtain this initial designation by demonstrating to the FDA that their drug manufacturing uses new technologies, or utilizes older technologies in innovative ways to increase quality and/or quantity of drugs produced. Beyond improvements in yield, the FDA details that manufacturers will gain other benefits, such as increased priority for communications, although these benefits are more targeted to New Drug Applications, with lesser benefit to those seeking to upgrade ongoing

processes or generic drug manufacturing. As such, a financial incentive, either through direct grant or adjustment of user fees, may be necessary for those manufacturing generic medications to increase uptake of AMT. The initial guidance for the AMT Designation program is anticipated to be finalized in late 2024 or early 2025 and will be continued to be monitored for its impact on mitigating drug shortages.

Health and Human Services Proposal

A separate approach to stabilizing the generic medication supply chain has gained traction over the last few years, as described in a white paper released from the HHS, "Policy Considerations to Prevent Drug Shortages and Mitigate Supply Chain Vulnerabilities in the United States".[20] The HHS white paper outlines two major policy proposals: (1) the Manufacturer Resiliency Assessment Program (MRAP), and (2) the Hospital Resilient Supply Program (HRSP).

Under MRAP, HHS would contract with a private entity to evaluate manufacturers based on their expected resilience against shortages and provide a publicly available "scorecard." The criteria manufacturers will be judged upon has not been decided but could include the ability to acquire ingredients from multiple sources, regional geopolitical stability, level of investment in innovation, and frequency of communication with U.S. regulators. It is believed that by having the scorecard available, hospitals and group purchasing organizations would be able to evaluate multiple manufacturers and may be willing to pay a premium for drugs that come from facilities with a lower risk of supply disruption. This approach is aligned with current AMA policy H-100.956, "National Drug Shortages," regarding manufacturer quality.

HRSP, however, would focus on rewarding and penalizing hospitals for their purchasing behaviors. Briefly, health systems, hospitals or even individual practices, would be incentivized to enter into longer-term, fixed volume purchasing agreements, and thus maintain an individual stockpile of drugs that are at high risk for having a shortage. Theoretically, these stockpiles would minimize disruptions to care during an active shortage, while also giving manufacturers a steadier, more reliable stream of income by entering into longer-term contracts with easily anticipated demand. In its current proposal, HHS seeks to emulate the Promoting Interoperability program they leveraged for electronic health record uptake.[21] Briefly, the Promoting Interoperability program scores participants on a number of criteria regarding their use of electronic medical records, such as electronic prescriptions, provider-to-patient information communication, and information exchange with public health and other clinical entities. To encourage initial uptake, eligible participants received incentive payments for achieving a certain score, but those incentives have since been phased out and instead replaced with a penalty in Medicare payment for non-participation. Under HRSP, hospitals would have Medicare payments and penalties linked to activities intended to promote a healthier generic drug manufacturing ecosystem. For example, hospitals would be rewarded for (or punished for not) maintaining their own stockpiles of essential medicines, entering in longer-term contracts, having minimum volume purchasing requirements, or purchasing from entities with higher MRAP-administered scores.

Under the current proposal, HRSP would only apply to inpatient hospitals. Incentives and penalties would apply for the first five years of the program and would aim to move to a penalty-only model after year six. While there is no current AMA policy describing an approach such as that described in HSRP, when a similar punitive approach was taken towards EHR interoperability, the AMA opposed it in part due to the physician's inability to control the EHR products on the market.[22] Similarly, physicians may have limited influence on the contracts which drug manufacturers are willing to enter into, particularly for smaller practices with limited purchasing power.

Beyond the punitive approach the proposed HSRP would have on physicians and hospitals, it is also not necessarily a proven strategy for addressing many common causes of drug shortages. For example, penicillin is currently experiencing a shortage in part due to a surge of syphilis cases.[23] While stockpiles may help initially with lapses in supply, they do little to buffer against surges in demand. HRSP is currently very narrowly targeted at generic sterile injectables, in part to address this. Additionally, buffer supplies may place a significant administrative burden on hospitals for managing a drug stockpile, promote waste, and could exacerbate the stark divide between well-funded academic centers and rural hospitals competing for essential medicines.

ON-PATENT DRUGS AND QUESTIONABLE MARKET PRACTICES

By contrast, drugs which are on-patent and highly profitable but otherwise experiencing a shortage have the inverse problem to generic drugs: it is so enticing for market actors to source these drugs that they may skirt regulations or best practices.

For example, in previous versions of this report, the advertising practices of semaglutide and other glucagon-like peptide-1 (GLP-1) agonists were discussed. Unlike many other drugs under shortage, semaglutide's increase in popularity can largely be attributed to a massive advertising presence, particularly through social media. For example, one report suggests that by November 2022, one hashtag (#Ozempic) was viewed over 273 million times on the social media platform TikTok.[24] Since then, the semaglutide shortage has persisted, with demand expected to continue to grow as more uses for GLP-1 agonists emerge. Prolonged shortages combined with ultra-high demand have attracted several bad actors, including significant concerns over counterfeit products being sold to pharmacies struggling to keep up with patient needs.[25]

Due to the highly profitable nature of semaglutide sales, several online companies, such as Hims & Hers Health, have begun to utilize a rule in the Food, Drug & Cosmetics Act which allows for compounding pharmacies to prepare compounded forms of drugs experiencing a shortage, even if they are not the patent holder.[26] This rule was intended for instances where the precursors or active ingredients for these drugs are readily available on the market, but the manufacturers are experiencing difficulty with final-stage processes, commonly known as fill-finish. In those instances, compounding pharmacies could serve as a valuable, temporary stop-gap solution to getting patients a useable form of the drug.

However, the FDA has reported that compounders may be using non-approved forms of semaglutide, such as its salts, which are a different active ingredient, have a different safety profile, and have not been evaluated for safety and efficacy by the FDA.[27] In July 2024, the FDA released a warning around compounded semaglutide and an increased risk for overdose.[28] Additionally, marketing these products designed for continuous, chronic use, to new patients amidst a shortage may be irresponsible. In its report to investors, Hims & Hers Health disclosed that in the quarter after they started offering compounded semaglutide, they saw a 45 percent increase in online revenue, a record 172,000 new subscribers to their platform, and expect their weight loss offerings to result in over $100 million in sales.[29]

When utilized appropriately, rules that allow for compounders to bolster the supply of drugs in shortage are a useful tool for ensuring that patients have continuous access to the medications they need. However, when they are utilized as an attempt to accrue market share for popular drugs that still retain patent protections, patient safety and unfair market practices should be investigated.

Telemedicine prescribing, particularly for controlled substances, has been an area of increased scrutiny from federal regulators in the past years. Since COVID-19 flexibilities allowed for

expanded access and comfort with telemedicine, there have been increases in demand for some medications, particularly for those which may carry stigma such as MAS. In some instances, telemedicine companies have abused these new flexibilities for profit rather than for patient wellbeing. In June 2024, a telehealth company CEO was indicted by the Department of Justice for fraudulent reimbursement claims for prescriptions of MAS.[30] In the indictment, the company was accused of using deceptive marketing practices to drive individuals to their service, where they would prescribe MAS even when not medically necessary, resulting in an estimated $100 million in profit and flooding the market with unnecessary demand, exacerbating shortages. The resulting surge in demand resulted in the Centers for Disease Control and Prevention issuing a Health Advisory Notice for potential treatment disruptions.[31]

Newly utilized and expanded flexibilities on telemedicine and prescribing have been an ongoing tension between access and drug shortages. Bad actors have utilized deceptive marketing practices to drive profits over patient wellbeing and made it challenging for patients with valid prescriptions to source the medications they need. The AMA has been in regular communication with the DEA and other regulators overseeing telemedicine prescribing flexibilities, including a 2023 letter on prescriptions for patients that have not had an in-person examination with their physician.[32] Amongst its other recommendations, the AMA recommended that the DEA focus its enforcement efforts on outlier practices, such as companies using deceptive advertising, rather than placing additional barriers to care on legitimate telemedicine encounters.

ADDITIONAL AMA ACTIVITIES

The AMA has been active in combatting drug shortages. Advocacy efforts have been targeted at both legislators and regulators to create impactful policies that could help alleviate drug shortages. The AMA also served as a subject matter expert for the Government Accountability Office's ongoing review of the federal government's response to drug shortages.

Beyond advocacy, the AMA is a founding member of the Task Force on Preventing and Mitigating Drug Shortages, a national group including the US Pharmacopeia, the Association for Clinical Oncology, APhA, ASHP, the American Cancer Society Action Network, the National Consumers League, the Susan G. Komen Foundation, and more. For drug-specific shortages, such as those observed with buprenorphine, other AMA groups such as the Substance Use and Pain Care Taskforce, which includes many members from the Federation of Medicine, have also convened to discuss challenges and engaged in advocacy outreach. The AMA continues to build upon its profile as a thought leader and advocate in this space, including initiating new research projects on the impacts of drug shortages on physician practices, and speaking at academic conferences on the subject.

As drug shortages will continue to be studied and reported on with an annual cadence, some topics relevant to drug shortages are currently being monitored but may be included in a future report, such as Section 804 importation programs, wherein individual states may directly contract with Canadian manufacturers for drug importation, a recently announced study by the Department of Commerce on the health of the precursor supply chain, and the roll-out of compulsory licensing and march-in rights for drugs developed with significant public investment.[33-35]

CONCLUSIONS

Drug shortages continue to be a persistent problem for patient safety and the quality of health care patients receive. Due to the increase in highly visible drugs experiencing a shortage, along with advocacy from groups such as the AMA, there has been an increase in both urgency and action

from legislators and regulators. In the past year, new proposals have included a report-card system for drug manufacturers, an emphasis on buffer supplies, and multiple strategies for stabilizing the generic drug supply chain. However, given the significant implications of some of the proposed programs, a more nuanced approach may be required to achieve the desired outcomes. To that end, updates have been recommended to the AMA's existing drug shortage policy to reflect the current landscape. Additionally, artificial barriers to drug access, procurement thresholds and restrictions on pharmacy choice, were examined. Given the subtle distinction between these practices and a traditional drug shortage, in which supply does not meet demand, a new standalone policy is recommended. Finally, existing AMA policy regarding inter-pharmacy prescription transfers and pharmacy benefit managers was reviewed and found to be supportive and synergistic with current drug shortage policy and is thus recommended for reaffirmation.

RECOMMENDATIONS

The Council on Science and Public Health recommends that the following be adopted in lieu of Resolution 922-I-23, and that the remainder of the report be filed:

1. That Policy H-100.956, "National Drug Shortages," be amended by addition and deletion to read as follows:

1. Our American Medical Association 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 U.S. 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 and pharmacy benefit managers 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 continued analysis of the root causes of drug shortages that includes consideration of federal actions, evaluation of manufacturer, Group Purchasing Organization (GPO), pharmacy benefit managers, and distributor practices, contracting practices by market participants on competition, access to drugs, pricing, and analysis of economic drivers, and supports efforts by the Federal Trade Commission (FTC) to oversee and regulate such forces.
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 or caused to stop

production 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 FTC 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 and distributors to provide greater transparency regarding the pharmaceutical product supply chain, including production locations of drugs, any unpredicted changes in product demand, and provide more detailed information regarding the causes and anticipated duration of drug shortages.
12. Our AMA supports the collection and standardization of pharmaceutical supply chain data in order to determine the data indicators to identify potential supply chain issues, such as drug shortages.
13. Our AMA encourages global implementation of guidelines related to pharmaceutical product supply chains, quality systems, and management of product lifecycles, as well as expansion of global reporting requirements for indicators of drug shortages.
14. Our AMA urges drug manufacturers to accelerate the adoption of advanced manufacturing technologies such as continuous pharmaceutical manufacturing~~.~~, and supports the use of incentives such as prioritized regulatory review, reduction of user fees, and direct grant opportunities for manufacturers seeking to invest in manufacturing processes.
15. Our AMA supports the concept of creating a rating system to provide information about the quality management maturity, resiliency and redundancy, and shortage mitigation plans, of pharmaceutical manufacturing facilities to increase visibility and transparency and provide incentive to manufacturers. Additionally, our AMA encourages GPOs and purchasers to contractually require manufacturers to disclose their quality rating, when available, on product labeling.
16. Our AMA encourages electronic health records vendors to make changes to their systems to ease the burden of making drug product changes.
17. Our AMA urges the FDA to evaluate and provide current information regarding the quality of outsourcer compounding facilities.
18. Our AMA urges DHHS and the U.S. Department of Homeland Security to examine and consider drug shortages as a national security initiative and include vital drug production sites in the critical infrastructure plan.
19. Our AMA urges the Drug Enforcement Agency and other federal agencies to regularly communicate and consult with the FDA regarding regulatory actions which may impact the manufacturing, sourcing, and distribution of drugs and their ingredients.
20. Our AMA supports innovative approaches for diversifying the generic drug manufacturing base to move away from single-site manufacturing, increasing redundancy, and maintaining a minimum number of manufacturers for essential medicines.
21. Our AMA supports the public availability of FDA facility inspection reports to allow purchasers to better assess supply chain risk.
22. Our AMA opposes the practice of preferring drugs experiencing a shortage on approved pharmacy formularies when other, similarly effective drugs are available in adequate supply but otherwise excluded from formularies or coverage plans.

23. Our AMA shall continue to monitor proposed methodologies for and the implications of a buffer supply model for the purposes of reducing drug shortages and will report its findings as necessary.
24. Our AMA opposes increasing drug prices or waiving fee exemptions in a manner that incentivizes a drug manufacturer to have its drug be declared in shortage.
25. Our AMA opposes the use of punitive fees on physician practices that do not maintain buffer supplies of drugs.
26. Our AMA encourages the FDA, the FTC, or other relevant oversight entities, to examine the practice of compounding pharmacies advertising drugs actively in shortage, particularly when targeted to new patients. (Modify Current Policy)

2. That the following new HOD policy be adopted:

Artificial Drug Shortages Limiting Access to Medications

Our AMA will:
1. Oppose laws, regulations, or business practices which create artificial scarcity of drugs, such as limitations on pharmacy procurement or restrictions on which pharmacies a patient can use, which prevent the filling of an otherwise valid prescription from their physician;
2. Advocate for pharmacies and distributors subject to the national opioid litigation settlement to make public the specific metrics, formulas, data sources, algorithms, thresholds and other policies and analyses that are used to delay or deny orders to pharmacies, restrict physicians' prescribing privileges and other actions that impede patients' access to medication; and
3. Advocate for pharmacies and distributors to provide physicians with all due process rights and opportunities to contest any decision to restrict a physician's prescribing privileges based on a pharmacy or distributor metric, formula, algorithm or other policy before such restriction is put into effect. (New HOD Policy)

3. That policies H-120.923, "Legalization of Interpharmacy Transfer of Electronic Controlled Substance Prescriptions", H-120.920, "Access to Medications", and D-110.987, "The Impact of Pharmacy Benefit Managers on Patients and Physicians" be reaffirmed. (Reaffirm HOD Policy)

Fiscal Note: less than $1,000

CITED POLICIES

Legalization of Interpharmacy Transfer of Electronic Controlled Substance Prescriptions H-120.923
Our AMA will advocate for the removal of state, federal and other barriers that impede interpharmacy transfers of valid electronic prescriptions for Schedule II-V medications.

Access to Medication H-120.920
Our AMA will advocate against pharmacy practices that interfere with patient access to medications by refusing or discouraging legitimate requests to transfer prescriptions to a new pharmacy, to include transfer of prescriptions from mail-order to local retail pharmacies.

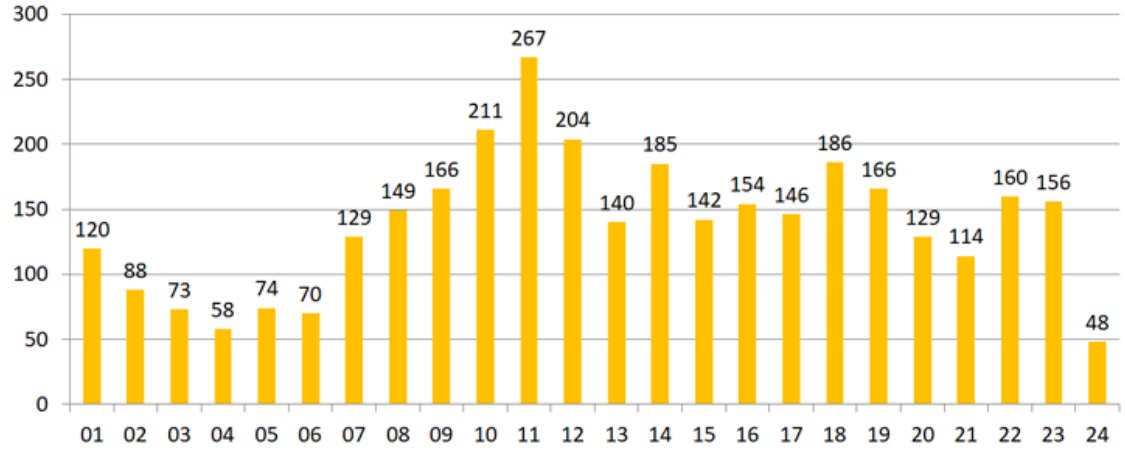
The Impact of Pharmacy Benefit Managers on Patients and Physicians D-110.987
1. Our AMA supports the active regulation of pharmacy benefit managers (PBMs) under state departments of insurance.
2. Our AMA will develop model state legislation addressing the state regulation of PBMs, which shall include provisions to maximize the number of PBMs under state regulatory oversight.
3. Our AMA supports requiring the application of manufacturer rebates and pharmacy price concessions, including direct and indirect remuneration (DIR) fees, to drug prices at the point-of-sale.
4. Our AMA supports efforts to ensure that PBMs are subject to state and federal laws that prevent discrimination against patients, including those related to discriminatory benefit design and mental health and substance use disorder parity.
5. Our AMA supports improved transparency of PBM operations, including disclosing:
- Utilization information;
- Rebate and discount information;
- Financial incentive information;
- Pharmacy and therapeutics (P&T) committee information, including records describing why a medication is chosen for or removed in the P&T committee's formulary, whether P&T committee members have a financial or other conflict of interest, and decisions related to tiering, prior authorization and step therapy;
- Formulary information, specifically information as to whether certain drugs are preferred over others and patient cost-sharing responsibilities, made available to patients and to prescribers at the point-of-care in electronic health records;
- Methodology and sources utilized to determine drug classification and multiple source generic pricing; and
- Percentage of sole source contracts awarded annually.
6. Our AMA encourages increased transparency in how DIR fees are determined and calculated.

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

1. ASHP Resource Center
2. ASHP list of current shortages
3. FDA Drug Shortages Page (includes current shortages list, extended use dates, mobile app, and additional information)

APPENDIX 1

Figure 1. National Drug Shortages: New Shortages by Year: January 2001 to March 31, 2024

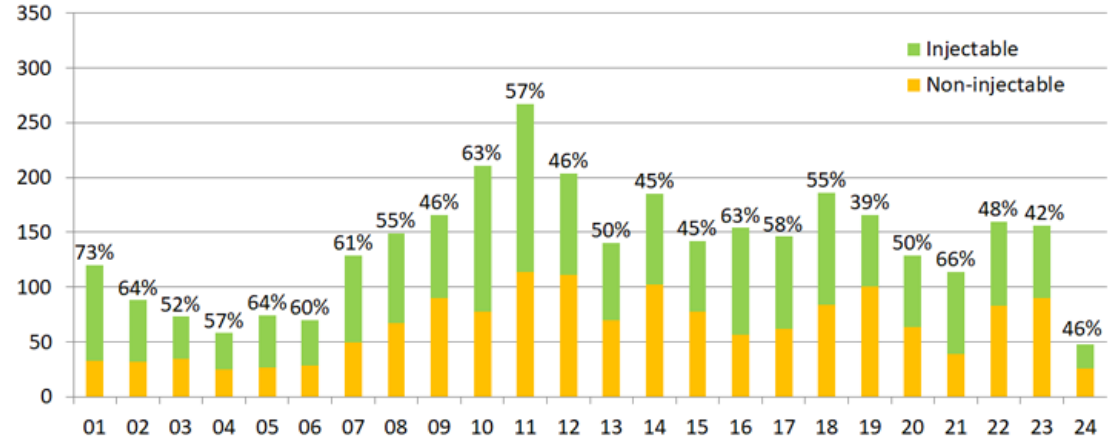


Note: Each column represents the number of new shortages identified during that year.

University of Utah Drug Information Service

Contact: Erin.Fox@hsc.utah.edu, @foxerinr for more information.

Figure 2. National Drug Shortages: New Shortages by Year
Percent Injectable: January 2001 to March 31, 2024, % Injectable



Note: Each column represents the number of new shortages identified during that year.

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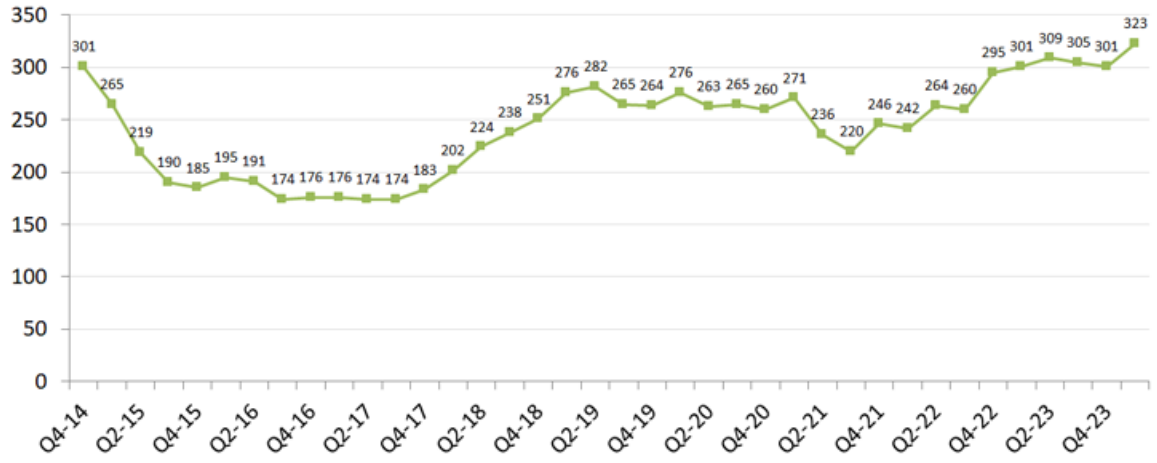
Figure 3. National Drug Shortages: Active Shortages by Quarter: 5 Year Trend



Note: Each point represents the number of active shortages at the end of each quarter.

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Figure 4. National Drug Shortages: Active Shortages Top 5 Drug Classes

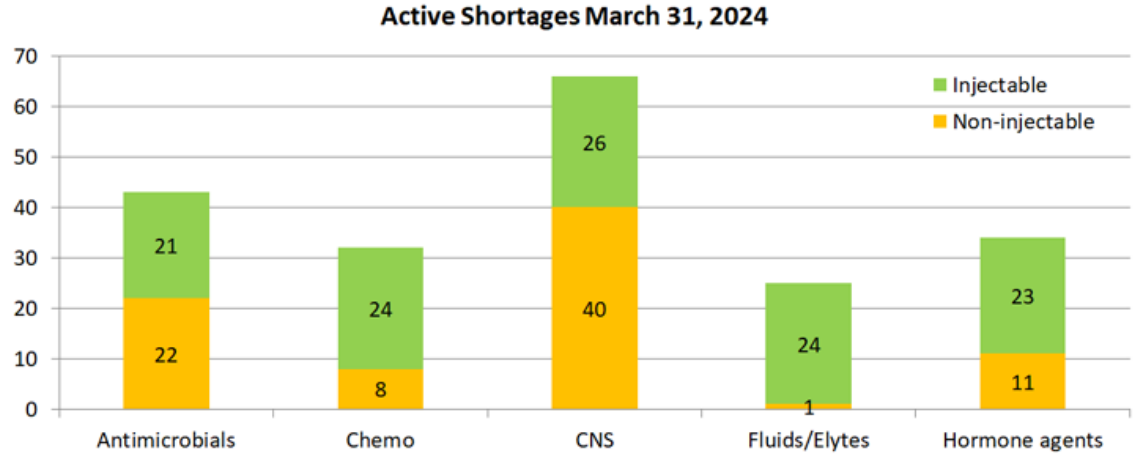

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Figure 5. National Drug Shortages: Common Drug Classes in Short Supply: 5 Year Trend

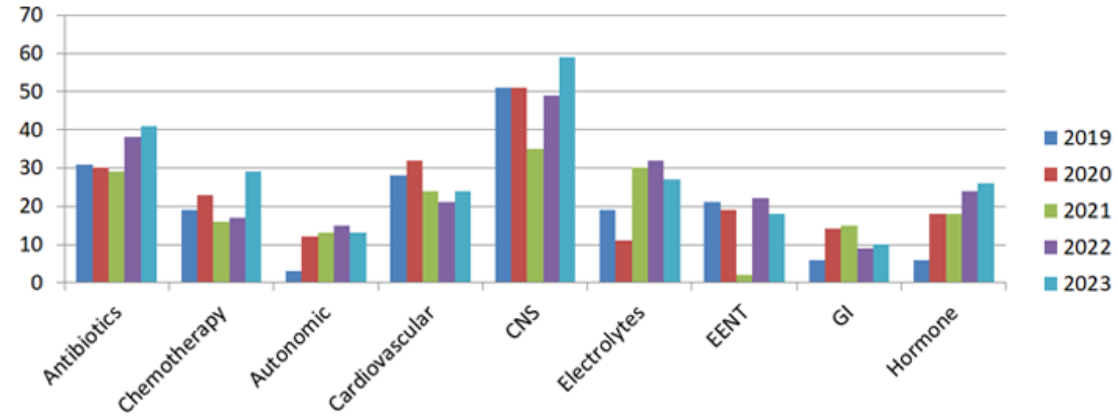

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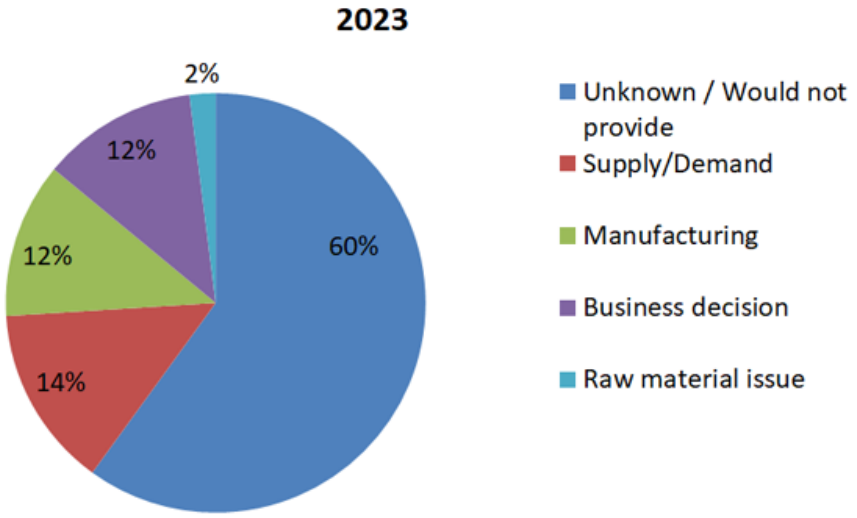
Figure 6. National Drug Shortages: Reasons for Shortages as Reported by Manufacturers During UUDIS Investigation — 2023



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REPORT 3 OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH (I-24)
HPV-Associated Cancer Prevention
(Reference Committee K)

EXECUTIVE SUMMARY

BACKGROUND. American Medical Association (AMA) Policy H-440.872 "HPV-Associated Cancer Prevention," asked that our AMA study requiring human papillomavirus (HPV) vaccination for school attendance and report its findings to the AMA House of Delegates by the 2023 Interim Meeting. CSAPH Report 3-I-23, which reported the findings and recommendations of that study, was referred for further study.

METHODS. English language articles were selected from searches of PubMed and Google Scholar using the search terms "HPV vaccination", "HPV vaccine mandates," "HPV vaccine requirement," "mandated vaccines AND schools" and "school attendance AND HPV vaccine mandate". Additional articles were identified by manual review of the reference lists of pertinent publications. Web sites managed by government agencies; applicable organizations were also reviewed for relevant information.

DISCUSSION. HPV vaccination remains the best method for preventing cancer-causing infections and precancers. HPV infections and cervical precancers have dropped since 2006, when HPV vaccines were first used in the United States. Among teen girls, infections with HPV types that cause most HPV cancers and genital warts have dropped 88 percent and among young adult women, they have dropped 81 percent. Among vaccinated women, the percentage of cervical precancers caused by the HPV types most often linked to cervical cancer have dropped by 40 percent. HPV vaccination is recommended for male and female adolescents and young adults by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices.

Few states require the HPV vaccine for school attendance in part because HPV is a sexually transmitted infection, and it is not likely to be transmitted in schools. Adding vaccines to the list required for attendance is viewed by some as putting up unnecessary roadblocks for school attendance. Opponents have also expressed moral objections related to a vaccination requirement for a STI. However, proponents of HPV vaccine requirements for school entry argue that it is important to promote immunization when the vaccine is most effective – before the initiation of sexual activity and exposure to HPV. Those already infected with HPV can also benefit from the vaccine because it can prevent infection against HPV strains that they may not have contracted. Additionally, the vaccine elicits a higher immune response in adolescents ages 11 to 12 than in older teens.

CONCLUSION. Currently available evidence shows that the efficacy of HPV vaccine requirements is state-specific. School-entry HPV vaccine requirements, on their own, are limited in their ability to encourage HPV vaccine initiation and series completion. Without widespread public support, monitoring, funding, enforcement for noncompliance, and changes to strengthen lenient opt-out policies, HPV vaccine requirements have not improved vaccine completion rates. Other efficacious practices to improve vaccination rates include in-depth discussions with vaccine hesitant parents or caregivers and establishing vaccination as the default health care practice. This report is focused on the history of vaccine requirements for school entry, the legality of vaccine requirements, public health ethical considerations, assessment on the effectiveness of HPV vaccine requirements on HPV vaccination rates, and other interventions to increase HPV vaccination rates.

REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 3-I-24

Subject: HPV-Associated Cancer Prevention

Presented by: John T. Carlo, MD, Chair

Referred to: Reference Committee K

INTRODUCTION

American Medical Association (AMA) Policy H-440.872 "HPV-Associated Cancer Prevention," asked that our AMA study requiring HPV vaccination for school attendance and report its findings to the AMA House of Delegates by the 2023 Interim Meeting. CSAPH Report 3-I-23, which reported the findings and recommendations of that study, was referred for further study.

BACKGROUND

Human papillomavirus (HPV) is a group of more than 200 related viruses, some of which are spread through vaginal, anal, or oral sex.[1] The majority of HPV infections are self-limited and are asymptomatic. Sexually transmitted HPV types fall into two groups, low and high risk.[6] Low-risk HPVs generally cause no disease.[6] However, a few low-risk HPV types can cause warts on or around the genitals, anus, mouth, or throat. High-risk HPVs can cause several types of cancer.[6] There are about 14 high-risk HPV types including HPV16 and HPV18, which are responsible for most HPV-related cancers.[6] Nearly all people are infected with HPV, with low malignant potential, within months to a few years after becoming sexually active. Around half of these infections are with a high-risk HPV type.[6] HPV can infect anyone regardless of their sex, gender identity, or sexual orientation. HPV vaccination is the best method to prevent infection with disease-causing HPV types, preventing many HPV-related cancers and cases of genital warts. Before HPV vaccines were introduced, approximately 355,000 new cases of ano-genital warts occurred every year.[2]

Prevalence of HPV-associated cancers

Long-lasting infections with high-risk HPVs can cause cancer in parts of the body where HPV infects cells, such as in the cervix, oropharynx, anus, penis, vagina, and vulva.[6] HPV infects the squamous cells that line the inner surfaces of these organs. For this reason, most HPV-related cancers are squamous cell carcinomas. Some cervical cancers come from HPV infection of gland cells in the cervix and are adenocarcinomas.[6] Each year, there are about 45,000 new cases of cancers in parts of the body where HPV is often found, and HPV is estimated to cause about 36,000 of these.[6]

Background on HPV Vaccines and Recommendations for Vaccination

The Food and Drug Administration (FDA) approved first-generation Gardasil®, produced by Merck, in 2006, which prevented infection of four strains of HPV – 6, 11, 16, and 18.[3] In December 2014, Gardasil®9 was approved by the FDA.[8] This vaccine protects against nine strains of HPV: the four strains approved in the previous Gardasil vaccine, as well as 31, 33, 45, 52, and

58.[8] These strains are associated with the majority of cervical cancer, anal cancer, and throat cancer cases as well as most genital warts cases and some other HPV-associated ano-genital diseases.[4] The vaccine was initially approved for cervical cancer prevention, but in 2020 the FDA broadened its approval to include the prevention of oropharyngeal cancer and other head and neck cancers.[5]

HPV vaccination is recommended at age 11 or 12 years but can be started at nine years of age. The Centers for Disease Control and Prevention (CDC) also recommends vaccination for everyone through age 26 years if not adequately vaccinated when younger.[15] For adults ages 27 through 45 years, health care professionals, using shared clinical decision-making, can consider discussing HPV vaccination with people who are most likely to benefit.[15] HPV vaccination is given as a series of either two or three doses, depending on age at initial vaccination.[15] HPV vaccines are currently not recommended for use in pregnant persons.[15] HPV vaccines can be administered regardless of history of ano-genital warts, abnormal Pap test or HPV test, or ano-genital precancer.[15]

With over 120 million doses of HPV vaccines distributed in the United States (U.S.), robust data demonstrate that HPV vaccines are safe.[6] There have been relatively few adverse events reported after HPV vaccination. Commonly reported symptoms include injection-site reactions such as pain, redness and swelling, as well as dizziness, fainting, nausea, and headache.[7] Current research suggests the vaccine protection is long-lasting: more than 10 years of follow-up data indicate the vaccines are still effective and there is no evidence of waning protection, although it is still unknown if recipients will need a booster.[8] Further, HPV vaccination has not been associated with decreased age in the initiation of sexual activity or sexual risk behaviors.[9]

HPV vaccination remains the best method for preventing cancer-causing infections and precancerous lesions. HPV infections and cervical precancers have dropped since 2006, when HPV vaccines were first used in the U.S. For example, among teen girls, infections with HPV types that cause most HPV cancers and genital warts have dropped 88 percent and among young adult women they dropped 81 percent.[10] Despite the benefits of vaccination, a 2022 analysis of data from the National Immunization Survey–Teen showed that for the first time since 2013, HPV vaccination initiation did not increase among adolescents aged 13–17 years.[11] Among all adolescents aged 13–17 years, 2022 HPV vaccination coverage levels did not differ from 2021 levels; however, initiation of the HPV vaccination series decreased among those who were insured by Medicaid.[35] In 2022, 89.9 percent of adolescents aged 13–17 years had received ≥1 HPV vaccine dose, and 62.6 percent were up to date with HPV vaccination (HPV UTD).[35] During 2015–2021, among adolescents aged 13–17 years, coverage with ≥1 HPV vaccine dose was higher among those insured by Medicaid than among those with private insurance; however, in 2022, coverage with ≥1 HPV vaccine dose among Medicaid beneficiaries declined by 3.3 percentage points compared with coverage in 2021, whereas ≥1-dose HPV coverage among those with private insurance was stable, resulting in similar coverage between the two groups in 2022.[35] Coverage with ≥1 HPV vaccine dose remains lowest among uninsured adolescents.[35]

HPV vaccination initiation fell among adolescents insured by Medicaid and remained lowest among the uninsured (two of the four groups that constitute the Vaccines for Children [VFC]–eligible population), highlighting the continued need for outreach among adolescents eligible for VFC.[35] VFC vaccine ordering data provide additional evidence that HPV vaccination coverage might be declining in VFC-eligible populations.[35] VFC provider orders for HPV vaccines decreased 24 percent during 2020, nine percent during 2021, and 12 percent during 2022 compared with 2019, while provider orders for non-HPV vaccines have rebounded to pre-pandemic levels.[35] The VFC program is vital to reach and administer vaccines to eligible adolescents to maintain vaccination coverage in underserved communities.[35] Children living in large central metropolitan areas (39.4 percent), large fringe metropolitan areas (41.1 percent), and medium and small

metropolitan areas (39.4 percent) were more likely to have received one or more HPV vaccine doses, compared with children living in nonmetropolitan areas (30.0 percent).[12] Hispanic children (34.4 percent) were less likely than White non-Hispanic children (39.9 percent) to have received one or more HPV vaccine doses.[36] All other observed differences between Asian non-Hispanic, Black non-Hispanic, White, and Hispanic children were not significant.[36]

CDC vaccine recommendations, as informed by the Advisory Committee on Immunization Practices (ACIP), provide clinical guidance on how to use vaccines to control diseases in the U.S. School vaccination requirements are generally determined by state legislatures or state health departments. Few states require the HPV vaccine for school attendance in part because HPV is considered a sexually transmitted infection (STI), and it is not likely to be transmitted in schools.[13] Adding vaccines to the list required for school entry is viewed by some as putting up unnecessary roadblocks for school attendance. For the HPV vaccine, some have expressed moral objections related to a vaccination requirement for a STI.[14] This report is specifically focused on the history of vaccine requirements for school entry, the legality of vaccine requirements, assessment on the effectiveness of HPV vaccine requirements on HPV vaccination rates, and other interventions to increase HPV vaccination rates.

METHODS

English language articles were selected from searches of PubMed and Google Scholar using the search terms “HPV vaccination”, “HPV vaccine mandates,” “HPV vaccine requirement,” “mandated vaccines AND schools” and “school attendance AND HPV vaccine mandate”. Additional articles were identified by manual review of the reference lists of pertinent publications. Web sites managed by government agencies and applicable organizations were also reviewed for relevant information.

VACCINE REQUIREMENTS

Legality of Vaccination Requirements

In the early 19th century, smallpox was one of the largest threats to public health. Amid frequent smallpox outbreaks, Massachusetts passed the nation’s first vaccine mandate in 1810. The Massachusetts law gave local health boards the authority to require vaccination when outbreaks occurred, imposing fines or quarantine for non-compliance.[15] In 1827, Boston enacted the first school vaccine requirement for smallpox; other cities and states soon followed.[16] Today, four common childhood vaccinations – DtaP, MMR, polio, and varicella – are required for children to enroll in kindergarten in every state,[1] with 44 states also requiring a hepatitis B vaccination before kindergarten and 30 states requiring a meningitis vaccination before entering later grades.[17] Until the COVID-19 pandemic, vaccine requirements in the U.S. had mostly been enacted by state and local governments in relation to public venues, schools, and health care facilities, with the military also requiring certain vaccines.[18] Vaccine mandates require that individuals be vaccinated against certain illnesses, usually as a condition of entry to or participation in certain activities. The most common vaccine requirements are applied to enrollment in schools. However, vaccine requirements are not absolute. School vaccine requirements in every state allow for exemptions.

The legal basis for vaccine requirements typically lies within the police powers of a state. Police powers encompass the broad power of a state to regulate matters affecting the health, safety, and general welfare of the public, housed within the Tenth Amendment of the Constitution.[2,19] While

[1] With the exception of Iowa, which does not require a mumps vaccine.

school vaccination requirements are framed as conditional, courts often view them as compulsory; however, these compulsory requirements have been widely accepted and judicially sanctioned.[16] The legitimacy of compulsory vaccination programs depends on both scientific factors and constitutional limits. Scientific factors include the prevalence, incidence, and severity of the contagious disease; the mode of transmission; the safety and effectiveness of any vaccine in preventing transmission; and the nature of any available treatment. Constitutional limits include protection against unjustified bodily intrusions, such as forcible vaccination of individuals at risk for adverse reactions, and physical restraints and unreasonable penalties for refusal.[20] Vaccination programs have been legally challenged as inconsistent with federal constitutional principles of individual liberty and due process, an unwarranted governmental interference with individual autonomy, and an infringement of personal religious beliefs under First Amendment principles.[2]

The U.S. Supreme Court has addressed vaccine requirements in two cases. In 1905, the Court upheld the constitutionality of vaccine requirements in the seminal case *Jacobson v. Massachusetts*.[21] Jacobson challenged the Massachusetts law mentioned earlier that gave local health boards the authority to require vaccination when outbreaks occurred. The Court held that a vaccine requirement was valid so long as there was a danger to public health and safety and the requirement had a real or substantial relation to the goal of protecting public health. In 1922, the Court upheld vaccine requirements as a condition of school attendance in *Zucht v. King*.[22] In its brief, three paragraph opinion, the Court reaffirmed the broad discretion of the states to employ police powers and states' authority to delegate those powers to municipalities to determine under which conditions health regulations become operative.

The most frequent arguments against compulsory vaccination are the religious clauses in the First Amendment. Supreme Court jurisprudence outside the realm of vaccination has clarified that the right of free exercise of religion does not relieve an individual of the obligation to comply with a valid and neutral law of general applicability.[2] The majority of states grant religious exemptions to school vaccine requirements, but even laws that do not provide for religious exemptions have been deemed constitutional.[23] Arguments have also been made under the Equal Protection Clause of the Fourteenth Amendment, but courts have rejected arguments that school vaccine requirements discriminate against school children to the exclusion of other groups because school children are not a constitutionally protected class.[2]

Other constitutional arguments have had less success. Constitutional rights are generally framed as the right to be free of some form of government intrusion or restriction. As such, courts have found that the Constitution does not guarantee "positive" rights, (e.g., any requirement that the government provide anything). This includes education, thus there is no limit on the sort of reasonable regulations that a state may choose to impose on the privilege of a public education.[2] Arguments that vaccine requirements are arbitrary, capricious, or unreasonable have also failed, as well as arguments that school vaccination laws constitute illegal searches and seizures that violate the Fourth Amendment.[2]

Vaccine Exemptions

Vaccine exemption laws vary by jurisdiction. All 50 states and Washington D.C. (D.C) allow for vaccine exemptions for medical reasons. There are 45 states and D.C. that grant religious exemptions.[24] Currently, 15 states allow philosophical exemptions for children whose parents object to immunizations because of personal, moral or other beliefs. How exemptions are enforced also varies among states. Examples of how states have addressed enforcement include: parental notarization or affidavit in the exemption process, and education about the benefits of vaccination and risk of being unvaccinated.[25] To reduce non-medical exemptions, the CDC recommends that

states strengthen the rigor of the application process, frequency of submission, and enforcement as strategies to improve vaccination rates.[25]

There is a growing body of evidence regarding the impact of state vaccination requirements for school age children on vaccination coverage and the association of non-medical exemption rates with increased disease incidence. The use of philosophical exemptions and under immunization tends to cluster geographically, putting some communities at greater risk for outbreaks. This geographic clustering of exemptions is associated with increased local risk of vaccine-preventable diseases, such as pertussis and measles.[25]

Many of the vaccine-related bills introduced in state legislatures in 2023 reflect similarities to legislation enacted in 2021 and 2022, such as limitations on COVID-19 requirements for public and private sector employees and in schools, as well as requirements for vaccine exemptions based on medical, religious, and philosophical reasons.[26] However, the vaccine-related bills enacted during the 2023 state legislative sessions have shifted in focus beyond COVID-19 to address routine immunizations and limitations on private entities.[28]

Possibility of HPV Vaccine Requirements

When discussion surrounding an HPV vaccine requirement first began, it was riddled with controversy. Being initially recommended only for females aged 11-12 years,[27] parents were uncomfortable with the idea of giving a vaccine for a STI to young girls, especially as the manufacturer mounted an expensive lobbying campaign to establish vaccine requirements.[28] The target age for vaccination was selected to capture youth prior to initiation of any sexual activity so that all children are protected.[29] However, a common misperception by parents is that the act of vaccination somehow conveys a message that sexual activity is permissible at that age.[30,31]

The traditional rationale of tying vaccination to school attendance, is to prevent the spread of a disease outbreak that would prevent large numbers of children from attending school. The traditional justification for tying vaccination to school entry not only fails to comprehensively weigh the risks and benefits of HPV vaccination, it also does not reflect the realities of vaccine requirements today. In *Boone v. Boozman*, an Arkansas court explained in the context of hepatitis B vaccines that the method of transmission is not the only factor by which a disease can be judged dangerous and thus require vaccination.[32] The caveat to *Boone* is that the court noted that the longevity of the virus on fomites added to the danger warranting a vaccination requirement for the high-traffic environment of a school setting, which may not be said of HPV. There is limited data assessing the role of fomites in the transmission of HPV, however HPV-DNA positivity has been reported in health care settings such as on transvaginal ultrasound probes and colposcopes after routine disinfection.[33]

LESSONS FROM JURISDICTIONS WITH HPV VACCINE REQUIREMENTS

Since 2006, 46 states, D.C. and Puerto Rico (P.R.) have proposed legislation to require the HPV vaccine for school entry, fund HPV vaccine administration programs, or educate the public or school children about the benefits of HPV vaccination.[34,35] However, only Virginia, D.C., and P.R. have enacted such legislation into law, with Rhode Island and Hawaii adopting the policy through an administrative ruling from their health departments.[38] In these five jurisdictions, the capacity to opt-out of HPV vaccination, and procedures to obtain an exemption vary by jurisdiction.[37,36,37] A limited number of studies have explored whether the enactment of school-entry requirement for HPV vaccine has impacted population-level vaccination rates, and these studies highlight the state-specific efforts that led to success or failures.[37] The findings suggest that sex-neutral, restrictive

HPV vaccination requirements for school entry are associated with increased vaccination initiation among adolescents aged 13 to 17 years, however it should be noted that initiation does not mean completion of the HPV vaccine series.[38,39,40,41] It should also be observed that most of the data collected from these studies do not assess the impact of the COVID-19 pandemic on HPV vaccination rates. Further, studies have cited that the socio-political differences, barriers and facilitators, including resources and political will, to adopt, implement, and enforce vaccine requirements may vary state by state.[42]

Rhode Island

Rhode Island continues to be a national leader in adolescent immunizations. In Rhode Island, teens are at or above the national averages for every vaccine type, due in large part to its unique infrastructure and vaccination funding.[43] Rhode Island is the smallest state and does not have individual county health departments. Instead, the Rhode Island Department of Health (RIDOH) coordinates health care directly within the state and works with Rhode Island Vaccine Advisory Committee (RIVAC) regarding vaccination.[44] Therefore, the RIDOH has the authority to set vaccination regulations without legislative action or approval. It should be noted that the recommendations made by RIVAC are subject to community review through a public hearing.[47] From start to finish, the process to include HPV vaccination in school requirements took about three years for the health department to implement, which is a little longer than normal due to the controversy surrounding the vaccine.[47] Even though Rhode Island was among the states with the highest levels of HPV vaccine coverage prior to enacting requirements, they still faced opposition.[45,46,47] It should be noted that it is unclear whether states with lower uptake than Rhode Island would have the same outcome.[48,50]

Further, Rhode Island is one of the universal purchase vaccine states, meaning federal and other funding sources are used to provide vaccines to all children regardless of insurance status. All childhood and adolescent vaccines, and most adult vaccines, recommended by the ACIP are purchased by RIDOH from the CDC federal contract at a reduced price and distributed to immunization providers at no cost to the providers.[47,48] Federal and private insurer funding covers the cost of vaccine purchased. This eliminates the financial burdens of providers purchasing their own vaccine supply, reduces barriers, and improves equal access to all vaccines.[47] Through this program, HPV vaccines have been provided for girls since 2006 and boys since 2011.[47] During early implementation, the state promoted vaccine education by employing a physician consultant who advised pediatricians and expanded the in-school vaccination program to include middle schools.[47] Through these educational efforts, the discounted vaccine cost, and the use of programs such as “Vaccinate Before You Graduate”, the state enjoyed the highest vaccination rates in the country in 2014.[47,49]

In October 2013, the RIVAC voted to recommend HPV vaccination as a school requirement over three years with a graduated approach beginning in 2015.[37] The graduated integration was intended to ensure progress in vaccination, while also slowly increasing the logistical and administrative burdens for parents, students, and clinicians. After the measure was approved, RIDOH implemented a combined media and educational approach to provide factual information and raise awareness.[37] Rhode Island was the first state to enact a school-entry requirement for HPV vaccination that did not allow special exemptions and that applies to both males and females.[37] Rhode Island was well positioned for this challenge as they were leading the nation in HPV vaccination rates: 77 percent initiation for girls and 69 percent for boys in 2013.[50,51] By including a HPV vaccine requirement after achieving high vaccination rates and broad public support, including having both males and females in the requirements, and not allowing opt-out provisions that do not apply to other vaccines, the Rhode Island HPV vaccine requirement succeeded. As a

result in 2015, it resulted in 68 percent of girls and 58 percent of boys aged 13 to 17 in Rhode Island having completed all three doses, up from 56.5 percent and 43.2 percent from 2013.[49,52] However, an analysis examining initiation rates identified an 11 percent increase in HPV vaccine initiation among boys in Rhode Island after the school-entry requirement was enacted, whereas no significant change was observed for girls.[53] This set of findings indicates that school-entry requirements may reduce gender disparities and close the gap in HPV vaccine uptake.[57] It was noted that significant differences in HPV vaccine initiation among girls might not have been seen because of their already high HPV vaccination initiation rate (87.9 percent) in 2015.[49]

Washington D.C.

HPV vaccination requirements for school entry were successfully implemented in D.C. in 2009, which included liberal opt-out language and resulted in less public backlash.[53] In the case of the HPV vaccine requirements in D.C., legislation moved rapidly through the Council of the District of Columbia.[53] In the absence of public consensus about the vaccine's benefits, there were widely publicized debates about concerns that HPV vaccines were too new to be considered safe and effective, that pharmaceutical companies were untrustworthy, that the media had exaggerated the worries that the HPV vaccine would promote promiscuity, and that requirements were impinging on parental rights to make decisions for their children and forcing them to have conversations about sexuality before they believed their children were ready.[53,54,55,56] The requirement called for sixth grade girls in D.C. to: (1) receive the HPV vaccine or (2) submit a one-time opt-out form.[57] According to an analysis of the 2009-2013 CDC National Immunization Survey (NIS)-Teen Vaccine Dataset, D.C.'s HPV vaccination school-entry policy was not associated with higher levels of HPV vaccination compared with non-policy jurisdictions.[58] However, in 2014, the requirement was expanded to 6th grade boys and all students up through 12th grade.[60] Additionally, all those not vaccinated were required to opt-out annually. As such, the implications for teen girls was not a move from "no requirement" to an "HPV vaccine requirement," but rather a change from a one-time opt-out in 6th grade to an annual opt-out requirement through 12th grade.[60]

The sex- and age-inclusive policy was associated with increased rates of HPV vaccination.[61] In 2017, the level of HPV vaccination was higher in D.C. compared with that in non-policy states.[61] In addition, D.C. had higher levels of HPV vaccination compared with Virginia (another state with broad opt-out provisions), suggesting that the former's more inclusive and stricter policy (i.e., annual exemption filing requirements) was associated with greater increases in vaccination initiation than the latter.[61] Furthermore, the jurisdiction's school-entry policy appeared to increase post-policy HPV vaccination initiation among boys and younger girls.[61]

The D.C. policy change offers broader insights into the importance of how vaccine requirements are implemented. While respondents view vaccine school requirements more favorably if they contain broad opt-out provisions, these provisions likely reduce the requirement's efficacy.[59]

Virginia

In April 2007, Virginia became the first state to enact a law requiring HPV vaccination of girls before entry into the sixth grade.[60] The requirement became effective in October 2008; however, given the timing of when the requirement went into effect, it did not change school admission requirements until the 2009 school year.[63] Virginia allows for both medical and religious exemptions for all vaccines recommended as part of the Advisory Committee on Immunization Practices recommended series. However, when the HPV requirement was added to the Code of Virginia, it allowed for an HPV-specific philosophic exemption.[63] The rationale for the exemption reads: "Because the human papillomavirus is not communicable in a school setting, a parent or

guardian, at the parent or guardian's sole discretion, may elect for their child not to receive the human papillomavirus vaccine, after having reviewed materials describing the link between the human papillomavirus and cervical cancer approved for such use by the Board." [63,61]

The HPV vaccine requirement in Virginia (similar to the pre-2014 requirement in D.C.) moved rapidly through the legislature without input from key stakeholders.[53] Interviews with Virginia parents indicated that many parents did "opt-out" of vaccinating their daughters, and the data in other studies corroborate low-levels of compliance with requirements.[53,62] Studies found there was no effect on the rate of HPV vaccination in the five years since its enactment in Virginia.[63,63] Among a cohort of girls who sought well-child care, HPV vaccine uptake was noted to be higher among minorities and those with public insurance than White girls or those who were privately insured.[63,64] These findings are concordant with the pre-requirement vaccination data and with the rates of HPV vaccine uptake, which was defined as ≥1 dose, within the NIS Teen Vaccine Dataset.[63,66] Understanding the implications of these findings requires a consideration of Virginia law against a broader context of compulsory vaccination in the U.S.[63] The philosophic exemption for HPV vaccination in Virginia is broad, easy to cite verbally, and is largely unenforced.[63] As a result, philosophic exemption was noted as likely a large contributor to the findings of these studies.[63] It was also noted that these findings are not explained entirely by the presence of a lax exemption.[63] Parental education and perceived susceptibility to HPV, physician recommendation, and the cost of vaccination are all factors involved in the parental decision to accept or opt-out of vaccination.[63]

Puerto Rico

In part due to P.R. having high HPV vaccination rates in adolescents ages 13-17, in June 2017, P.R.'s Department of Health (DOH) announced that the HPV vaccine would be added to the list of school-entry required vaccines for fall 2018.[45,65,66] Subsequently, in May 2018, the DOH formally announced that the HPV vaccine would be required for 11 to 12-year-old children starting during the 2018–2019 academic year.[45,68,69] As established by P.R.'s Immunization Law of 1983, only medical or religious exemptions are permitted. Similar to other vaccine school-entry requirements, not having the required vaccines would ultimately result in children not being permitted to attend school.[45,67] For the 2019–2020 academic year, the requirement was expanded to include adolescents up to 14 years old.[45,68] The adoption of this policy was influenced by stakeholders from medical professional organizations, academia, government staff, non-profit organizations, and the members of the private sector.[45,68] Adopting this policy took many years and much groundwork (i.e., legislation, education).[45] The epidemiologic impact of the disease was considered before the policy's adoption, as was the jurisdictions already high HPV vaccine initiation rates.[45] In 2016, before the implementation of the requirement, vaccination rates were 80.8 percent in girls and 71.1 percent in boys with one or more HPV vaccine doses.[68] Another consideration was the initial cohort chosen (i.e., children aged 11 to 12 years), which requires only two doses of the vaccine, resulting in a more cost-efficient approach.[69]

Previous studies have documented that parents, primarily Latino or Spanish-speaking parents, perceive that the age of 11 is too early for HPV vaccination and also express concern that this could promote sexual activity.[68,70] Hence, prior to implementation, most of those who initiated vaccination were between 13 to 17 years old.[68,73] Post-implementation studies found significant evidence of improvement in vaccination rates associated with the HPV school-entry vaccination requirement.[71] One year after implementation of the requirement, adolescents from 11 to 12 years old, , began to lead initiation rates (89.8 percent) compared to adolescents 13 to 17 years (82.6 percent).[74] Although adolescents aged 13 to 17 years lead HPV UTD vaccine coverage rates, the UTD vaccine coverage rates for adolescents between 11 and 12 years improved after policy

implementation.[74] These findings support the notion that the way the school-entry vaccine requirement policy is designed and implemented impacts HPV vaccination uptake.

In P.R., the adoption of the HPV vaccine school-entry requirement can be evaluated, in part, through a bottom-up approach to policy making (i.e., driven by diverse sectors of society, not necessarily starting with the top level of policy makers/politicians).[45,72] Using the bottom-up approach allowed a more thorough understanding of policy creation and implementation by evaluating the 'network of actors' that participated in the process and focusing on local factors.[45,75] Empowered with local data, stakeholders created multisectoral collaborations to combine limited resources. Moreover, educational efforts and the publicized case of Rhaiza (a mother of three who died from cervical cancer) facilitated the adoption process. Rhaiza's case was a catalyst for increasing HPV-related and cervical cancer knowledge among the public.[45] It served to create a public face and champion that was relatable, as a mother, spouse, and daughter. Champions, usually studied at the organizational level, have been highlighted as a need for effective implementation.[45,73] Moreover, humanizing the impacts of disease proved useful among certain segments of the population who might have otherwise been hesitant to be vaccinated.

Vaccine policy adoption and implementation in P.R. benefited from the assessment and consideration of context-specific factors to help build trust and confidence among communities.[45,74] For instance, Hispanics show higher odds of support for HPV vaccine school-entry requirements compared to non-Hispanic Whites in the U.S.[45,75] In the case of P.R., perspectives on the implementation of the HPV vaccine school-entry requirement from parents of unvaccinated children were reported as mixed.[45,72] Half of the parents supported the policy, while those who were uncertain mentioned concerns related to the early age of vaccine administration, vaccine safety, and parental autonomy.[45,72] Therefore, it was important for individuals and organizations involved in vaccination efforts, such as local health departments, to adapt and tailor to context, including the politico-cultural context, when considering vaccine policies and educational interventions.[45,76] In P.R., a broad coalition of individuals and organizations from multiple facets of society (i.e., physicians, non-profit organizations) convened to rally for support of the requirement.[45,72] Further, diverse perspectives were included when thinking about and implementing vaccine requirements that affect historically marginalized populations (e.g., groups with limited access to providers who can offer the required vaccine).[45] The HPV vaccine was also covered for eligible students, via the federal program Vaccines for Children, the government-funded insurance, or private insurance.[45,72]

BEST PRACTICES FOR IMPLEMENTING VACCINE REQUIREMENTS

Studies that examined school-entry requirements noted that they should be considered alongside other initiatives and policies for promoting HPV vaccine uptake.[56] In fact, it was found that a combination of policies, such as Medicaid expansion, policies allowing pharmacists to administer HPV vaccines, school-entry requirements, and sexual education requirements are associated with higher HPV vaccine uptake.[56,77] As seen through the successes in Rhode Island, P.R., and D.C., a multi-pronged approach that is state specific is necessary to ensure success.[45,47,61] This includes limiting broad opt-out provisions, collaborations with public health entities, schools, and the public, providing the HPV vaccine at no cost, understanding the socio-political differences, barriers and facilitators to adopt and implement vaccine requirements, educational efforts to address concerns about HPV vaccine safety and efficacy, and building confidence and trust with the public.[78]

In establishing a vaccine requirement, it is important to consider implementation with care and with regard to the context.[79] Overly strict vaccine requirements can result in parents finding ways to

avoid the vaccine, and selective requirements might damage the broader vaccination program.[82] Removing the choice of opting out entirely might simply induce parents to seek loopholes, and, worse, fuel negative attitudes towards vaccination.[82] For example, in 2015, California became the third U.S. state to eliminate all non-medical exemptions.[82] This change in the law was preceded by a 2014 administrative initiative to reduce the misuse of a school admission process involving 'conditional entrants' — children who have started the required vaccination schedule but have not completed it.[82,80] Following the elimination of non-medical exemptions, many parents with strong objections to vaccination simply acquired medical exemptions instead, educated their children at home, enrolled them in independent study programs that do not require classroom-based instruction, or found other loopholes.[82,83] Medical exemptions rose from 0.2 percent to 0.7 percent in the year following the bill.[81]

A requirement to vaccinate when the vaccine or primary-care service is difficult or impossible for many people to access creates further inequities.[81,82] Therefore, before even considering requirements, states must ensure that people from all sectors of society can get vaccines easily and safely. This includes ensuring a stable supply of vaccines. The following steps are considered essential best practices (also summarized in Appendix I Figure 1) before states assess if requirements are considered politically appropriate: (1) ensure access to the required vaccine which includes ensuring a stable supply of the vaccine at various locations of access; and (2) use multiple interventions to improve uptake which includes understanding the reasons for under-vaccination, using reminders, and providing vaccinations in communities.[81]

CURRENT BARRIERS TO IMPLEMENTING VACCINE REQUIREMENTS

The COVID-19 pandemic highlighted several barriers to vaccine requirements overall. There was speculation that rampant misinformation related to the COVID-19 vaccine would lead to a spillover of distrust into vaccination in general, potentially leading to a reduction in childhood vaccination rates.[35] Attitudes regarding school requirements for routine vaccinations became more negative, suggesting a spillover of anti-requirement sentiments more broadly.[83] During the 2020–21 school year, national coverage with state-required vaccines among kindergarten students declined from 95 percent to approximately 94 percent.[84] Despite widespread return to in-person learning, COVID-19–related disruptions continue to affect vaccination coverage, preventing a return to pre-pandemic coverage levels among kindergarten students and adolescents. Compounding matters, a recent study evaluated the prevalence of vaccine hesitancy among parents about specific vaccines, including HPV. That study found that 55.9 percent of children had a parent hesitant about COVID-19 vaccine, 30.9 percent hesitant about influenza vaccine, 30.1 percent hesitant about HPV vaccine, and 12.2 percent had a parent hesitant about other vaccines such as measles, polio, and tetanus.[85] Public support for school requirements for routine childhood vaccination dropped by 10 to 12 percentage points between 2019 and 2023 (down to only 70-74 percent support three years into the pandemic).[37] This left about one-quarter of U.S. adults (25-28 percent) opposed to vaccine requirements in 2023, which is the highest level of opposition to routine childhood vaccination requirements in recent history.[37] Notable drops in support during this time occurred among specific political parties, as well as among adults who are not vaccinated against COVID-19.[83]

The vaccine requirement tension can be highlighted by recent attempts to add required vaccines for school kids in Wisconsin and California.[86] AB 659 introduced during the California 2023-2024 legislative session originally required pupils to be fully immunized against HPV before admission or advancement to the 8th grade level of any private or public elementary or secondary school.[87] The bill passed after being amended by removal of the requirement for middle schoolers.[87,88] Lawmakers stripped out that provision without any debate, reflecting the contentious nature of school vaccine requirements even in a state with some of the nation's strictest immunization

laws.[87,88] Wisconsin is one of the only other states that attempted to enact any kind of vaccine requirement in 2023, through its health department.[87] What should have been a simple update — to put the state in line with federal recommendations requiring that 7th-graders be vaccinated against meningitis and 12th-graders be boosted for it — became a supercharged political issue as lawmakers blocked it from passing.[87]

INTERVENTIONS FOR INCREASING HPV VACCINATION RATES

One of the most effective interventions to increase vaccine uptake in individuals is strong recommendation for vaccination by their health care professional.[39,88] Research documenting HPV vaccination inequities suggests low-income and Black (vs. White) girls are less likely to receive a strong health care professional recommendation for vaccination and the racial gap in recommendations has waned, but not disappeared, over time.[89,90] Reminder-based interventions for health care professionals such as standing orders and social media campaigns have improved vaccination coverage.[91] In addition to campaigns and interventions to improve health care professional recommendations for the HPV vaccine, statewide policies can lead to downstream impact on HPV vaccination.[56,80] A recent analysis of Medicaid expansion and HPV vaccine uptake supports improvements in vaccination in states that expanded Medicaid.[56,92] Taking a comprehensive systems approach to HPV vaccination is needed. Further, a review of studies evaluating school entry requirements for other adolescent vaccines observed positive spillover effects for HPV vaccination. Federally funded programs related to VFC and Medicaid were consistently associated with higher HPV vaccination coverage.[93] Finally, studies have found that environmental interventions, particularly school-based and childcare center-based vaccination programs were most effective in increasing vaccination coverage.[94]

The Community Preventive Services Task Force has also released the following findings on what works in public health to improve vaccination rates based on available evidence. The following interventions could be applied to increasing HPV vaccination rates:

- Home visits to increase vaccination rates.[95]
- Vaccination programs in schools and organized child-care centers.[96]
- Vaccination programs in (Women, Infants, Children) WIC settings.[97]
- Immunization information systems set up to create or support effective interventions, such as client reminder and recall systems, provider assessment and feedback, and clinician reminders for vaccination or missed vaccination opportunities.[98]

EXISTING AMA POLICY

AMA policy H-440.872 “HPV-Associated Cancer Prevention” urges physicians to educate themselves and their patients about HPV and associated diseases, HPV vaccination, as well as routine HPV related cancer screening. This policy also states that the AMA will intensify efforts to improve awareness and understanding about HPV and associated diseases in all individuals, regardless of sex, such as, but not limited to, cervical cancer, head and neck cancer, anal cancer, and genital cancer, the availability and efficacy of HPV vaccinations, and the need for routine HPV related cancer screening in the general public. Further, it recommends HPV vaccination for all groups for whom the federal Advisory Committee on Immunization Practices recommends HPV vaccination and encourages interested parties to investigate means to increase HPV vaccination rates by facilitating administration of HPV vaccinations in community-based settings including school settings.

AMA policy H-440.970, “Nonmedical Exemptions from Immunizations” states that the AMA believes that nonmedical (religious, philosophic, or personal belief) exemptions from

immunizations endanger the health of the unvaccinated individual and the health of those in the community at large. It also supports the immunization recommendations of ACIP for all individuals without medical contraindications. It is of particular importance to note is that this policy recommends that states have in place an established mechanism, which includes the involvement of qualified public health physicians, of determining which vaccines will be mandatory for admission to school and other identified public venues based upon the recommendations of the ACIP and policies that permit immunization exemptions for medical reasons only.

The AMA has not singled out specific vaccines for school entry requirements, beyond outlining conditions that should be met before decisions to mandate COVID-19 vaccination for school attendance for children and college/university students. Those considerations included:

a. After a vaccine has received full approval from the U.S. Food and Drug Administration through a Biological Licenses Application.
b. In keeping with recommendations of the Advisory Committee on Immunization Practices for use in the population subject to the mandate as approved by the Director of the Centers for Disease Control and Prevention.
c. When individuals subject to the mandate have been given meaningful opportunity to voluntarily accept vaccination.
d. Implementation of the mandate minimizes the potential to exacerbate inequities or adversely affect already marginalized or minoritized populations.

The AMA also continues to develop material and publish new stories on how doctors can effectively communicate with patients to help build vaccine confidence.[99,100]

CONCLUSION

HPV is a common virus, some types of which spread through sexual contact.[101] Some sexually transmitted HPVs can cause genital warts, whereas others, called high-risk or oncogenic HPVs, can cause cancer.[102] High-risk HPVs cause virtually all cervical cancers, most anal cancers, and some vaginal, vulvar, penile, and oropharyngeal cancers.[6] Research has demonstrated that the HPV vaccine is a safe and effective way to decrease HPV-related cancers. However, the vaccination rate in the U.S. is suboptimal.

When first proposed, HPV school vaccine requirements were controversial. Some parents were uncomfortable with the idea of giving a vaccine for a STI to young girls age 11-12.[25] The U.S. has a long history of using school requirements to increase vaccination rates; these requirements have been consistently upheld by U.S. courts against claims that they violate individual rights.[102] Currently, Hawaii, Rhode Island, Virginia, P.R, and D.C. have laws that require HPV vaccination for school entry. The requirement and opt-out provisions vary by state/territory as well as the success of the school entry requirement on HPV vaccine series initiation and completion. Findings suggest that sex-neutral, restrictive HPV vaccination requirements for school entry are associated with increased vaccination initiation among adolescents aged 13 to 17 years.[41-44] However, it should be noted that initiation does not mean completion of the HPV vaccine series.

Data studying jurisdictions with HPV vaccine requirements have shown that broad opt-out provisions, low enforcement of—and adherence to—HPV vaccine requirements, and no mechanism to ensure completion of the HPV vaccine series have limited the success of requirements.[91] Moreover, without widespread public support, monitoring, sanctions for noncompliance, or changes to the method of vaccine administration, school-entry HPV vaccine requirements are limited in encouraging HPV vaccine initiation and completion alone.[39] Therefore

successful efforts have been attributed to limited opt-out provisions, funding efforts to provide HPV vaccines for free, educational campaigns, the route of enacting the HPV requirement, and involvement of a diverse group of interested parties prior to implementation of vaccine requirements.[45,47,61,81] Failed efforts have been attributed to broad opt-out provisions, lack of educational campaigns, and sex-specific requirements.[45,47,61,81] Further, studies have noted that the socio-political differences, barriers and facilitators, including resources and political will, to adopt and implement vaccine requirements are important to consider when evaluating the success of HPV vaccine requirements.[45,47,61,81]

Finally, strong recommendations from health care professionals, parent education, and school and childcare center-based vaccination programs are also effective ways to increase initiation of HPV vaccination and ensure completion of the HPV vaccine series.[103] Stronger health care practices such as more in-depth discussions with hesitant parents and establishing vaccination as the default are strategies that could also help improve vaccination coverage rates.[49]

Current AMA policy supports ACIP recommended vaccines and does not single out specific vaccines that should be required for school entry. Rather, AMA policy supports states to have in place an established mechanism, which includes the involvement of qualified public health physicians, of determining which vaccines will be mandatory for admission to school and other identified public venues based upon the recommendations of the ACIP and policies that permit immunization exemptions for medical reasons only.

RECOMMENDATIONS

The Council on Science and Public Health recommends that the following be adopted, and the remainder of the report be filed.

1. That our AMA amend policy H-440.872, "HPV-Associated Cancer Prevention" by addition and deletion to read as follows:

> HPV-Associated Cancer Prevention, H-440.872
> 1. Our AMA (a) strongly urges physicians and other health care professionals to educate themselves, appropriate patients, and patients' parents or caregivers when applicable, about HPV and associated diseases, the importance of initiating and completing HPV vaccination, as well as routine HPV related cancer screening; and (b) encourages the development and funding of programs targeted at HPV vaccine introduction and HPV related cancer screening in countries without organized HPV related cancer screening programs.
> 2. Our AMA will work with interested parties to intensify efforts to improve awareness and understanding about HPV and associated diseases in all individuals, regardless of sex, such as, but not limited to, cervical cancer, head and neck cancer, anal cancer, and genital cancer, the availability and efficacy of HPV vaccinations, and the need for routine HPV related cancer screening in the general public.
> 3. Our AMA supports legislation and funding for research aimed towards discovering screening methodology and early detection methods for other non-cervical HPV associated cancers.
> 4. Our AMA:
> (a) encourages the integration of HPV vaccination and ~~routine cervical~~ appropriate HPV-related cancer screening into all appropriate health care settings and visits,

(b) supports the availability of the HPV vaccine and routine cervical cancer screening to appropriate patient groups ~~that benefit most from preventive measures~~, including but not limited to low-income and pre-sexually active populations,
(c) recommends HPV vaccination for all groups for whom the federal Advisory Committee on Immunization Practices recommends HPV vaccination.
5. Our AMA supports ~~will encourage~~ efforts by states ~~appropriate stakeholders to investigate means~~ to increase HPV vaccine availability and accessibility, and HPV vaccination rates through a combination of policies such as ~~by~~ facilitating administration of HPV vaccinations in community-based settings ~~including school settings~~ including local health departments and schools, reminder-based interventions, school-entry requirements, and requirements for comprehensive and evidence-based sexual education.
~~6. Our AMA will study requiring HPV vaccination for school attendance.~~
6~~7~~. Our AMA encourages collaboration with interested parties to make available human papillomavirus vaccination, according to ACIP recommendations, to people who are incarcerated for the prevention of HPV-associated cancers.
7. Our AMA advocate that racial, ethnic, socioeconomic, and geographic differences in high-risk HPV subtype prevalence be taken into account during the development, clinical testing, and strategic distribution of next-generation HPV vaccines
8. Our AMA will encourage continued research into (a) interventions that equitably increase initiation of HPV vaccination and completion of the HPV vaccine series; (b) the impact of broad opt-out provisions on HPV vaccine uptake; and (c) the impact of the COVID-19 pandemic and vaccine misinformation on HPV vaccine uptake. (Modify Current HOD Policy)

2. That our AMA adopt the following new HOD policy.

IMMUNIZATON REQUIREMENTS

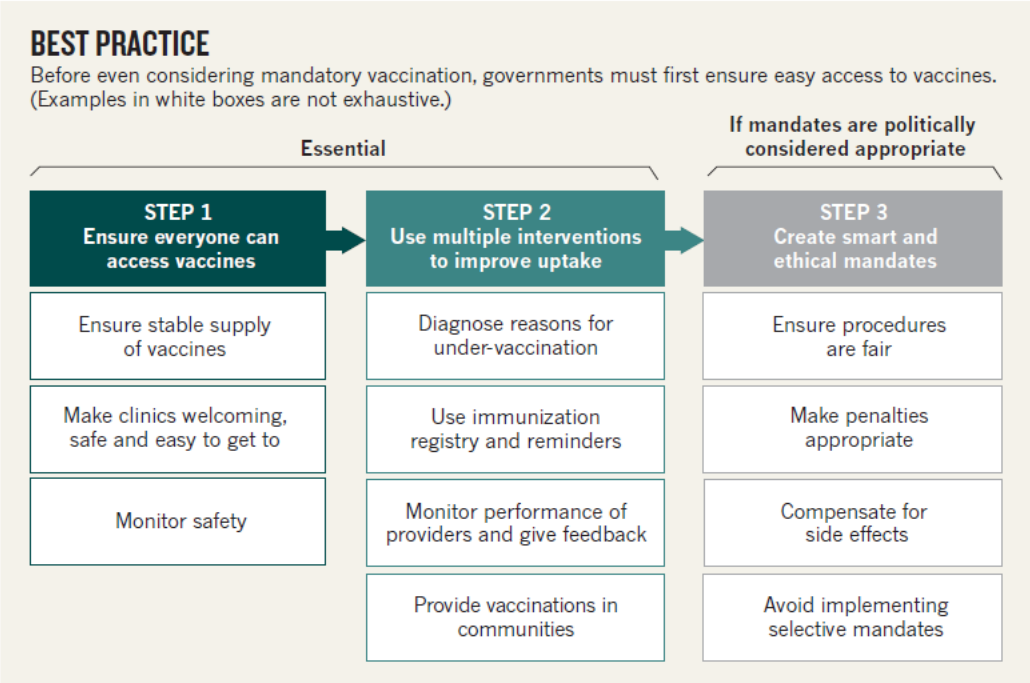
Our AMA recognizes that immunization requirements, including those for school attendance, serve as a strong motivator for parents and families to immunize their children according to the schedule recommended by the Centers for Disease Control and Prevention. (New HOD Policy)

3. That our AMA reaffirm Policy H-440.970, “Nonmedical Exemptions from Immunizations. (Reaffirm HOD Policy)

Fiscal Note: $5,000 - $10,000

APPENDIX I

Figure 1. Best Practices to Consider for Mandatory Vaccination



Source: Omer SB, Betsch C, Leask J. Mandate vaccination with care. Nature. 2019;571(7766):469-472. doi:10.1038/d41586-019-02232-0

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REPORT 4 OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH (I-24)
Reducing Sodium Intake to Improve Public Health
(Reference Committee K)

EXECUTIVE SUMMARY

BACKGROUND. At the 2023 Annual Meeting of the American Medical Association (AMA) House of Delegates, Resolution 423, "Reducing Sodium Intake to Improve Public Health," called for AMA to work with relevant partners to advocate and advise salt reduction through public outreach, which could include ad campaigns and educational programs. This resolution was referred for further study.

METHODS. English language studies and articles were selected from searches of PubMed and Google Scholar using the search terms "sodium and cardiovascular disease and/or hypertension", "sodium reduction", sodium chloride/*adverse effects", and sodium reduction policies", with a focus on articles published since 2010. Additionally, the Cochrane Database of Systematic Reviews and websites managed by government agencies and affinity organizations were searched for relevant information.

DISCUSSION. Hypertension is an important risk factor contributing to several poor health outcomes, including heart disease and stroke, vision impairment, cognitive decline, sexual dysfunction, complications in pregnancy, and kidney disease. One of the most important risk factors for hypertension is poor diet, and high sodium consumption has been described as the leading dietary risk factor for poor cardiovascular outcomes and mortality. The AMA's Council on Science and Public Health previously issued a report on reducing sodium intake to decrease the public health burden of cardiovascular disease, providing information on recommended target levels for population sodium intake, and identifying policy approaches to meet these goals. This report provides an update on the evidence regarding dietary sodium and its impact on blood pressure and cardiovascular disease as well as a summary of the effectiveness and evaluation of research on interventions and policies to reduce dietary sodium.

The overall strength of the evidence indicates a significant and linear relationship between increased sodium intake and hypertension. Interventions to reduce dietary sodium have consistently demonstrated a greater beneficial impact on those with hypertension and may have greater benefit for other subgroups, namely Black populations. High impact and effective strategies to reduce sodium intake include setting voluntary or mandatory reformulation targets for sodium in packaged food, front-of-pack labeling regulations, regulation of marketing of foods and nonalcoholic beverages to children, taxation of high-sodium food, and setting sodium limits in food served in institutional or organizational settings. Reducing sodium content in foods is feasible and should not be achieved through the addition of increased sugar content or artificial additives. While reductions in sodium must be considered with respect to the other important properties salt confers from a food technology perspective, including flavor, development of texture, fermentation, color development, and antimicrobial properties, successful international examples demonstrate that meaningful reductions are possible without noticeable changes in flavor or consumer acceptance. Additionally, sodium reduction is just one of many strategies to prevent and manage hypertension. There are multiple risk factors for hypertension and effective strategies for controlling blood pressure exist across individual, organization, community and policy levels.

CONCLUSION. Reducing dietary sodium is one of several important strategies to reduce hypertension and improve public health, and should be pursued alongside other important lifestyle, environmental, and community strategies.

REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 4-I-24

Subject: Reducing Sodium Intake to Improve Public Health (Resolution 423-A-23)

Presented by: John T. Carlo, MD, Chair

Referred to: Reference Committee K

INTRODUCTION

At the 2023 Annual Meeting of the American Medical Association (AMA) House of Delegates (HOD), Resolution 423, "Reducing Sodium Intake to Improve Public Health," called for our AMA to work with relevant partners to advocate and advise salt reduction through public outreach, which could include ad campaigns and educational programs. Further, the resolution asked for our AMA to study and report back to the AMA HOD on the effectiveness and feasibility of various salt reduction strategies. This resolution was referred for study. The Reference Committee asked our AMA to review trends in evidence-based strategies that are intended to improve health via sodium reduction in key populations and to report back to HOD.

In 2006, the Council on Science and Public Health (CSAPH) issued a report on reducing sodium intake to decrease the public health burden of cardiovascular disease, providing information on recommended target levels for population sodium intake, and identifying policy approaches to meet these goals. The report summarized the existing evidence on sodium intake and blood pressure, concluding that across populations, increases in blood pressure and the prevalence of hypertension are related to salt intake, with modest but consistent findings showing the effect of salt consumption on blood pressure. The report highlights the potential public health benefits from interventions and policies that could reduce population level sodium intake, but also notes that reduced salt intake "should be only one component of a comprehensive strategy to lower blood pressure. Increasing physical activity, consuming a diet high in fruits and vegetables and low in saturated and total fat, and moderation in alcohol intake," are recommended approaches to preventing and managing hypertension. The report's recommendations, which were adopted, called for a step-wise minimum 50 percent reduction in sodium in processed foods, fast food products, and restaurant meals to be achieved over the next decade. This report provides an update on the current evidence regarding dietary sodium and its impact on blood pressure and cardiovascular disease as well as a summary of the effectiveness and evaluation research on interventions and policies to reduce dietary sodium.

BACKGROUND

Hypertension, otherwise known as high blood pressure, is a condition that develops when blood flows through arteries at higher-than-normal pressures on a consistent basis. Hypertension is an important risk factor contributing to a number of poor health outcomes, including heart disease and stroke, vision impairment, cognitive decline, sexual dysfunction, complications in pregnancy, and kidney disease.[1,2] Hypertension is an epidemic in the U.S. and affects more than an estimated 120 million adults, approximately half the adult population.[3] National Health and Nutrition Examination Survey (NHANES) data over the last 20 years shows an upward trend in hypertension

in the last few years after steady declines between 2000 and 2010 (see Figure 1).[4] In 2022, more than 850,000 people died from heart disease and stroke (combined), the first and fifth leading causes of mortality in the U.S., respectively.[5]

Additionally, hypertension and cardiovascular disease disproportionately impact some populations more than others. Non-Hispanic Black Americans are diagnosed with hypertension earlier in life and experience greater hypertension-related morbidity and mortality compared to non-Hispanic White persons.[6,7] While death rates from cardiovascular disease have generally declined since the mid-20th century, mortality rates among Black populations have remained persistently high in comparison with all other racial and ethnic groups.[7,8] Black Americans have a 30 percent higher risk of fatal stroke, 50 percent higher risk of cardiovascular mortality, and more than four times higher risk of end-stage renal disease.[6] However, Black Americans are not the only ones who face inequities in the U.S. Recent data indicate Hispanic and Indigenous populations also have a high prevalence of uncontrolled blood pressure.[9] Many factors contribute to these health disparities, but chief among them are social determinants of health, which include poor access to consistent health care, low health literacy, lower socioeconomic status, neighborhood/environment stability, reduced access to healthy food, as well as the historical context and current state of structural racism.[6,7] One of the most important risk factors for hypertension is poor diet, and high sodium consumption has been described as the leading dietary risk factor for poor cardiovascular outcomes and mortality.[10]

The most common source of sodium in the American diet comes from added salt, or sodium chloride. Sodium is a mineral that plays an important role in our body and is one of the two chemical elements found in salt (40 percent sodium, 60 percent chloride). In terms of the physiological role of sodium, our bodies require a small amount of sodium (estimated to be roughly 500 mg/daily) to conduct nerve impulses, contract and relax muscles, and maintain the proper balance of water and minerals.[11] One teaspoon of salt (about 6g or 6000 mg) is equivalent to 2300 mg of sodium, which is the recommended dietary reference limit developed by the National Academy of Medicine.[12] However, the current average consumption of sodium in the U.S. is about 3400 mg/d, approximately 50 percent more than the recommended limit of 2300 mg/d for adults and children 14 years and older.[13] More than 90 percent of people in the U.S. exceed recommended limits across almost all age groups. For example, more than 95 percent of children aged 2 to 13 years old exceed recommended limits for their age group, the consequences of which could track into adulthood and influence later health outcome (see Figure 2).[13]

The high level of salt in the American diet is primarily a result of packaged and preprepared foods, versus salt added at the point of consumption. More than 70 percent of sodium intake in the U.S. is from packaged food and food prepared away from home, including restaurants and food service operations, while just 11 percent of sodium intake is from sodium added at the table or in cooking at home (see Figure 3).[14] Even though people in the U.S. can reduce their personal use of salt, sodium levels in the U.S. food supply at the time of purchase or consumption make it extremely challenging to reduce overall sodium levels at the population level. The Centers for Diseases Control and Prevention (CDC) has outlined the top foods contributing to high sodium levels in the U.S. diet, which include rice, pasta, and other grain-based dishes; meat, poultry, and seafood dishes; pizza; soups; chips, crackers, and savory snacks; condiments and gravies; cold cuts and cured meats; and breads and tortillas.[15]

To this end, in 2016, the U.S. Food and Drug Administration (FDA) took action on reducing sodium in processed foods by publishing draft guidance on voluntary sodium reduction goals for industry with an aim to reduce U.S. daily intake from 3400 mg to 3000 mg within two years (short-term goal) and to 2300 mg within 10 years (long-term goal). In 2021, the FDA issued the final guidance with voluntary targets for reducing sodium in commercially processed, packaged and

prepared food over the next 2 and a half years.[16] Healthy People 2030 data shows that sodium consumption has decreased slightly from the baseline amount of 3,414 mg in 2013-16 to 3,346 mg in 2017-2020 (the most recent years of data), but there is a long way to go to meet the Healthy People 2030 target of 2,731 mg.[17] In August 2024, FDA published new draft guidance with updated, 3-year voluntary sodium reduction targets in foods, referred to as Phase II. The new voluntary targets, if achieved, would help support reducing sodium intake to about 2,750 mg/day in the U.S. general population.[18]

High sodium consumption and hypertension is not only an American challenge; 96 countries around the world are working to reduce sodium intake and 48 have set sodium target levels for one or more processed foods.[13] A study on the health effects of dietary risks in 195 countries across the globe estimated the proportion of disease-specific burden attributable to each dietary risk factor (also referred to as population attributable fraction) among adults aged 25 years or older and found that high sodium intake was the leading dietary risk factor attributable to approximately 3 million deaths and 70 million disability-adjusted life-years (DALYs), whereas the low intake of fruits was associated with 2 million deaths and 65 million DALYs.[19] The World Health Organization (WHO) has prioritized dietary sodium reduction and declared a 30 percent reduction in population sodium intake by 2025 global target for noncommunicable disease prevention.[20] The WHO developed a public health framework to develop a successful salt reduction strategy, called the SHAKE package, with the following key activity areas aligning to the SHAKE acronym: Surveillance, Harness Industry, Adopt standards for labelling and marketing, Knowledge, and Environment.[21] Additionally, the European Food Safety Authority recently proposed that 2000 mg sodium per day is a safe and adequate level of intake for the general population of adults.[22] Further examples of national policies to reduce sodium consumption and their effectiveness are outlined below.

METHODS

English language studies and articles were selected from searches of PubMed and Google Scholar using the search terms “sodium sensitivity”, “sodium and cardiovascular disease and/or hypertension”, “sodium reduction”, sodium chloride/*adverse effects”, and sodium reduction policies”, with a focus on articles published since 2014. Additionally, the Cochrane Database of Systematic Reviews was also searched for relevant studies. Websites managed by government agencies and affinity organizations including but not limited to National Heart Lung and Blood Institute, American Heart Association, U.S. Department of Agriculture, National Academy of Sciences, U.S. F DA, National Salt and Sugar Reduction Initiative, and the Salt Institute were searched for relevant information.

DISCUSSION

Relationship Between Sodium Intake and Health – An update on the evidence

Since the 2006 CSAPH report, there have been numerous studies that have assessed the relationship of dietary sodium intake with several health outcomes, including hypertension, stroke, cardiovascular disease, and mortality, as well as evaluation studies of different policies implemented to decrease dietary sodium. This report highlights the findings from available meta-analyses and systematic reviews as opposed to individual studies given the volume of publications since the previous report.

While there has been extensive research on this topic over the last two decades and consistent governmental calls for population level sodium reduction, there is an ongoing debate on the dose-response relationship between sodium intake and health outcomes. One side argues the relationship

is a linear one – as sodium intake increases, so does the risk of poor health outcomes – versus the other side, which argues there is more of a J- or U-shaped relationship – that with sodium intake at either end of the spectrum, either too low or very high, there is an increase in poor health outcomes.[23–26] Proponents of the linear relationship between sodium and poor health outcomes have suggested the controversy on this issue is unfounded and a result of researcher bias resulting from ties with the food and beverage industry, inappropriate research methodology, and a lack of rigor in research.[27,28] Proponents of the non-linear relationship contend that it has not been shown to be feasible to lower sodium intake in entire populations to the recommended low levels, that the evidence linking sodium consumption with cardiovascular disease has been inconsistent, and that current evidence from cohort studies suggests that an average sodium intake between three to five g/day is optimal in that it is associated with the lowest risk of death or cardiovascular disease.[25] Several recent large meta-analyses and systematic reviews generally support the linear dose-response relationship despite some variability in findings. The following research summary focuses on the relationship between sodium and hypertension, followed by a discussion of the research on the association between sodium and other cardiovascular morbidity and mortality outcomes.

Sodium and Hypertension

A 2021 systematic review and dose response meta-analysis of the relationship between sodium intake and hypertension included an analysis of available cohort studies (n = 11) that used dietary intake or urinary sodium excretion to measure sodium intake.[29] The studies included in the analysis were published between 1990 and 2017, with an overall sample size of more than 100,000 participants. The reference category was set at 2 g/day of sodium and study authors demonstrated a relative risk of hypertension equal to 1.04 (95 percent confidence interval of 0.96–1.13) and 1.21 (95 percent confidence interval of 1.06–1.37) at 4 g/day and 6 g/day, respectively. In other words, the risk of having hypertension increased by four percent at 4g/day (although it was not statistically significant) and 21 percent at 6 g/day, as compared to the reference group with an intake of 2 g/day. When the study authors removed studies that had high levels of bias or did not use the more accurate urinary excretion method, the linear relationship was clearer. The authors concluded that inappropriate exposure methodology may have biased previous study results particularly at low sodium intakes, hiding a linear relationship between exposure and blood pressure, indicating that the lower the sodium intake, the lower the risk of hypertension.[29]

In another systematic review by the same authors, they conducted a dose–response meta-analysis using a novel statistical approach, including trials with at least four weeks of follow-up; 24-hour urinary sodium excretion measurements; sodium manipulation through dietary change or supplementation, or both; and measurements of systolic and diastolic BP at the beginning and end of treatment.[30] They identified 85 eligible trials eligible for inclusion in their analysis and demonstrated an approximately linear and significant relationship between sodium intake and mean systolic as well as diastolic blood pressure, with no indication of a J-shaped relationship. Linear regression analyses from this study indicated that every 100 mmol/d reduction in urinary sodium excretion was associated with a lower mean systolic blood pressure of 5.56 mmHg (95 percent confidence interval of -4,52 to -6.59) and a lower mean diastolic blood pressure of 2.33 mmHg (95 percent confidence interval of -1.66 to -3.00). Results were similar for participants with or without hypertension, but the group with hypertension showed a steeper decrease in blood pressure after sodium reduction.[30]

A 2020 Cochrane systematic review on the effects of a low sodium versus high sodium diet assessed 195 randomized controlled trials and 27 population studies. A key takeaway from this review was that a mean salt intake reduction from 11.5 g per day to 3.8 g per day resulted in a reduction of 1.1/0 mmHg (about 0.3 percent) systolic/diastolic blood pressure in people with

normal blood pressure and 5.7/2.9 mmHg (about three percent) in people with hypertension.[31] The finding that sodium reduction had more pronounced impacts on those with hypertension is aligned with the previous mentioned studies. The Cochrane review also evaluated evidence for different populations, finding that for White people with elevated blood pressure, sodium reduction decreases blood pressure by about 3.5 percent, but in Asian and Black individuals the effect of sodium reduction was a little larger. However, the review authors note that there are too few studies to make definitive conclusions.[31]

The Cochrane review findings also highlight the effect of sodium reduction on other hormones and lipids in the body, noting that renin increased 55 percent; aldosterone increased 127 percent; adrenalin increased 14 percent; noradrenalin increased 27 percent; cholesterol increased 2.9 percent; and triglyceride increased 6.3 percent. From these results, the study authors concluded that the potentially harmful increase in hormones and lipids calls into question whether sodium reduction would have overall beneficial effects, particularly in a White population with normal blood pressure which saw only marginal reduction in blood pressure from sodium reduction.[31] Other researchers have called this an erroneous conclusion and called the inclusion of the acute metabolic studies in this Cochrane review irrelevant to the more general public health recommendations of modest reduction in sodium intake over time.[32] Meta-analyses excluding very short-term sodium restriction trials demonstrated that sodium reductions do not have adverse effects on blood lipids while having clinically significant benefits on blood pressure.[33,34] A 2013 Cochrane systematic review and meta-analysis found no significant changes in plasma concentrations of total cholesterol (0.05, $P = 0.18$), low density lipoprotein cholesterol (0.05, $P = 0.11$), high density lipoprotein cholesterol (-0.02, $P = 0.11$), or triglycerides (0.04, $P = 0.22$) but noted statistically significant increases in plasma renin activity (0.26, $P < 0.001$), aldosterone (73.20, $P < 0.001$), and noradrenaline (187, $P = 0.01$).[34]

Sodium and Cardiovascular Morbidity and Mortality

A 2014 update of a Cochrane review done in 2011 assessed the long-term effects of advice and salt substitution, aimed at reducing dietary salt, on mortality and cardiovascular morbidity and whether a reduction in blood pressure is an explanatory factor in the effect of such dietary interventions on mortality and cardiovascular outcomes.[35] Eight studies met inclusion criteria, three for normotensives and five in hypertensives or mixed populations. Risk ratios for all-cause mortality were imprecise and showed no evidence of reduction and there was weak evidence of benefit for cardiovascular mortality. However, small reductions in systolic blood pressure were found in normotensives with greater reductions in hypertensives. The authors concluded there was insufficient power to confirm clinically important effects of dietary advice and salt substitution, which highlights the importance of interventions that focus on removing sodium from the diet at a population level, versus those that focus on individual behavior changes.[35]

A 2018 dose-response meta-analysis of prospective cohort studies on the association of sodium intake with the risk of cardiovascular morbidity and mortality identified 16 relevant studies reporting on over 205,000 individuals.[36] Study authors estimated the effects for 100 mmol-day increases in sodium intake on cardiac death, total mortality, stroke, or mortality and found that an increase in sodium intake had little to no effect on the risk of cardiac death and total mortality, but the risk of stroke incidence and mortality significantly increased. The authors also found that low sodium intake (less than 3 g/day) was associated with an increased risk of cardiac death, while moderate (3-5 g/day) or heavy (greater than 5 g/day) sodium intake was associated with an increased risk of stroke mortality.[36] The findings of this meta-analysis provides some support to the proposition that the dose-response relationship between sodium and some cardiovascular outcomes have a J-shape.

Another 2020 systematic review and meta-analysis evaluated the dose-response relationship between dietary sodium intake and risk of cardiovascular disease.[37] This analysis identified 36 reports, including a total of 616,905 participants, and the study authors found a linear relationship between sodium intake and increased risk of cardiovascular disease, concluding a statistically significant relative risk of 1.06 in cardiovascular disease for every 1 gram of sodium increase.[37] Additionally, a systematic review conducted by the Agency for Healthcare Research and Quality (AHRQ) evaluated the effects of sodium and potassium intake on chronic disease outcomes and risk.[38] Reviewing 171 studies, the AHRQ study identified nearly 50 randomized controlled trial studies supporting a significant lowering effect on blood pressure from sodium reduction in adults, with a stronger effect in those with hypertension. However, the review found only a small number of randomized controlled trial studies assessing the effects of sodium reduction on longer term chronic outcomes, concluding that while sodium levels appear to be associated with all-cause mortality, the shape of the relationship could not be determined. Overall, the AHRQ report concludes that reducing sodium intake, increasing potassium intake, and the use of potassium containing salt substitutes in the diet significantly decreases blood pressure, particularly among those with hypertension. Additionally, they note that limited evidence suggests that sodium intake is associated with risk for all-cause mortality, and that reducing sodium intake may decrease the risk for cardiovascular disease morbidity and mortality.[38]

Several studies have modeled the reductions in cardiovascular disease outcomes from interventions to reduce dietary salt.[39,40] In one study, the authors used the Coronary Heart Disease Policy Model to quantify the benefits of population-wide reductions in dietary salt of up to 3 gm/day (1200 mg/day of sodium) in the U.S., estimating cardiovascular disease rates and costs in age, sex, and race subgroups.[40] The authors also compared salt reduction with other interventions to reduce cardiovascular risk and determined the cost-effectiveness of salt reduction compared with drug treatment of hypertension. The study estimated a projected 60,000–120,000 fewer new coronary heart disease cases, 32,000–66,000 fewer new strokes, 54,000–99,000 fewer myocardial infarctions, and 44,000–92,000 fewer deaths from any cause annually. Additionally, while all segments of the population were estimated to benefit, blacks would benefit more and women would particularly benefit from stroke reduction, older adults from reductions in coronary heart disease events, and younger adults from lower mortality rates. The authors note the predicted health benefits were on par with benefits achieved from reducing tobacco, obesity or cholesterol and interventions to reduce sodium would be far more cost-effective than treating hypertension with medications.[40]

The overall strength of the evidence indicates a significant and linear relationship between increased sodium intake and hypertension. While there may be lingering concerns or debate on whether low sodium intake is associated with greater cardiovascular disease and mortality risk, a growing body of research demonstrates a linear relationship versus a J- or U-shaped relationship. Interventions to reduce dietary sodium have consistently demonstrated a greater beneficial impact on those with hypertension and may have greater benefit for other subgroups, namely Black populations. Considering the high prevalence of hypertension in the U.S. adult population, and existing health disparities among racial groups, the public health benefit of population-wide sodium reductions would be substantial and could promote greater health equity, as evidenced by model estimates mentioned previously.[40]

Effectiveness Research on Interventions to Reduce Sodium Intake

Many sodium reduction strategies have been proposed and implemented both nationally and internationally. Within the U.S., sodium reduction policies have been enacted and evaluated at the organizational, local, state, and federal level. Additional examples of sodium reduction strategies

from other countries include the United Kingdom, South Korea, and Canada (to name a few). A framework has been developed to identify and evaluate the strength of existing sodium strategies, which categorized strategies intro three primary buckets: (1) reducing sodium from packaged goods, (2) reducing sodium from food prepared outside the home, and (3) reducing sodium added in the home (see Table 1 for a replication of the three categories and related examples).[41] Within the framework, a successful strategy has to (1) be scalable and sustainable, with a focus at the population level versus individual, (2) have evidence of effectiveness or innovation, such as a rigorous evaluation, and (3) have a large benefit to be worth the investment. Based on this framework and a review of the evidence, four strategies are recommended that primarily focus on reducing sodium from packaged foods and food prepared outside the home:

1. Setting voluntary or mandatory reformulation targets for sodium in packaged food,
2. Front-of-pack labeling regulations,
3. Regulation of marketing of foods and nonalcoholic beverages to children, and
4. Taxation of high-sodium food[41]

Food procurement policies in public institutions and mass media campaigns have been highlighted as worthwhile interventions, but it is worth noting that, "No single strategy is enough to reach the WHO goal of a 30 percent reduction in sodium intake by 2025, thus a multi-component package is needed."[41] In terms of mass media campaigns, while found to be effective in shaping consumer behavior, their feasibility and sustainability are questionable due to the large and sustained fiscal resources they require.[41]

Similarly, the CDC published an evaluation report on sodium reduction interventions and concluded the policies with the highest degree of evidence of effectiveness at the local and state level included:

1. Daily meal providers serving low sodium items (e.g., daily meal providers could include hospital cafeterias, worksites, nursing homes, home delivered meals, etc.);
2. Sodium limits on items served in workplaces;
3. Item and menu labeling based on sodium content (specifically front of packages – not just under nutritional labeling), and
4. Incentivizing or requiring stores (including chain grocery stores, convenience stores, corner stores, bodegas, gas stations, retailers, and markets) to limit sodium in the foods (i.e., prepared foods, packaged snacks, and/or beverages) they are selling.[42]

Menu Labeling and Sodium Warnings

Further studies of menu labeling in restaurants of high sodium items have been conducted since these two studies were published. Item and menu labeling in restaurants based on sodium content has been implemented in several cities, counties, and states across the U.S. (New York City, NY, Philadelphia, PA, King County, WA, Pierce County, WA, and California). New York City (NYC)'s sodium warning policy went into effect in 2015 with enforcement starting in 2016. This policy required a sodium warning regulation at chain restaurants, which included the placement of an icon next to any menu item containing ≥2,300 mg sodium. One study investigated whether sodium content of menu items changed following enforcement of the sodium warning icon, finding no significant differences in the sodium content of menu items following enforcement efforts, noting the difficulties of reducing sodium levels in restaurants.[43] Another study evaluated changes in sodium and sodium-potassium ratios in NYC adults from 2010 to 2018, following the enforcement of the sodium warning regulation and other local sodium reduction initiatives.[44] The study found that sodium intake did not significantly change from 2010 to 2018 in the overall

population. In fact, it increased slightly (3234 mg/d to 3292 mg/d) but it was not a statistically significant increase. However, there was a statistically significant decrease in sodium intake among adults 18-24 years old (3445 mg/d to 2957 mg/d, P = 0.05). The highest sodium-to-potassium ratios were among Black females 18-44 years old (2.0) and 45-64 years old (2.2) and Black (2.1) and Latino (2.1) males between 18 and 44 years old.[44]

Another study of the NYC sodium warning regulation evaluated changes to consumer purchases of high sodium content food (>= 2300 mg) following enforcement of the regulations in 2016.[45] Utilizing a survey and evaluating receipts for verification, consumer purchases were assessed at two full-service and two quick-service chain restaurants in both NYC and a control location that did not implement sodium menu labeling (Yonkers, NY), in 2015 and 2017. The study found mixed evidence of changes in purchasing patterns at NYC full-service restaurants following implementation of the sodium warning icon. Although decreases in purchases of high-sodium items among NYC full-service restaurant respondents were not significant relative to changes in purchases made by Yonkers respondents, both the mean sodium and calorie content of purchases made at NYC full-service restaurants declined significantly compared to Yonkers.[45] Taken together, these studies suggest the sodium warning icon has not been very effective at reducing the sodium content of foods in chain restaurants but may have had an impact on consumer behavior. However, there has been little change in consumer sodium consumption or reducing health disparities among NYC racial and ethnic minority populations.

Reducing sodium in packaged and processed foods

Limiting the level of sodium within the commercial food supply, at both the micro and macro level, is another promising and priority strategy. In the U.S., NYC has been a national leader on this front. The NYC Department of Health and Mental Hygiene initiated the National Salt Reduction Initiative (NSRI) in 2009, a partnership of about 100 health organizations and authorities, aiming to work with the food industry to set voluntary targets to reduce sodium in restaurant and processed foods.[46] The goal of NSRI was to decrease average sodium intake by 20 percent over five years (2009 through 2014) by developing stepwise reductions from 2009 base levels. More than 25 companies, including packaged food corporations and restaurants, responded to NSRI by committing to reductions in the sodium content of some of their products.[47] According to their monitoring efforts, between 2009 and 2019, there was an 8.5 percent reduction in sodium levels among NSRI categories.[46]

At the federal level, several U.S. agencies have taken recent regulatory action on reducing sodium within the food supply. Partially informed by the NSRI, in 2021, the FDA issued final guidance on voluntary targets for reducing sodium in commercially processed, packaged and prepared food over the following 2.5 years.[16] The voluntary targets cover 16 overarching categories of food with 163 subcategories, recognizing that a one-size fits all approach does not work well. The goal of the voluntary guidance is to decrease average daily intake by about 12 percent – from about 3,400 mg to 3,000 mg.[16] The second edition of this guidance, Phase II, was released for public comment in August 2024 and sets new voluntary targets to be achieved over the next three years.[18] Based on recent remarks by FDA's deputy commissioner, preliminary assessment data on the voluntary sodium targets demonstrates encouraging success at meeting sodium reduction targets in foods among many of the food categories.[48] The preliminary assessment, which compared baseline data in 2010 to the most recent available data in 2022, indicates that 40 percent of food categories had achieved the Phase I sodium targets or were within 10 percent of meeting the targets.[18]

Additionally, in 2024, the U.S. Department of Agriculture, which establishes nutritional guidelines for school meals, issued a final rule, effective as of July 1, 2024, with one gradual sodium

reduction target to be achieved over time.[49] For the next three school years, schools will maintain current sodium limits for breakfast and lunch foods (which is dependent on age/grade group), with the aim to implement an approximate 15 percent reduction for lunch and an approximate 10 percent reduction for breakfast by school year 2027-28. The final rule represents a sodium reduction target in between the first and second sodium reduction targets from the proposed rule, as this was believed to be achievable, based on stakeholder comments.[49]

The FDA voluntary sodium reduction targets are very similar to the salt reduction approach that has been implemented in the United Kingdom (UK). In 2003, the UK developed a voluntary salt reduction program, in collaboration with the food industry, which had eight steps but essentially enabled progressively lower voluntary salt targets for 80 different categories of food over time. The program developed a clear time frame for industry to achieve the desired results and was developed in tandem with a product labeling and consumer awareness campaign. Based on program evaluation, there has been a steady decrease in salt intake at a rate of approximately two percent per year since the introduction of the UK salt reduction strategy (as of 2014).[41] Over four years, this strategy successfully lowered salt intake by 15 percent, based on 24-h urinary sodium testing. Population health outcomes also improved; from 2003 to 2011, mean blood pressure was reduced by 3.0/1.4 mmHg and mortality from stroke decreased by 42 percent and ischemic heart disease by 40 percent.[50] Based on the lower blood pressure outcomes achieved by the voluntary salt reduction program, a modeling study was conducted to assess impacts on premature CVD, quality-adjusted survival, and health care and social care costs in England.[39] In comparison to a non-intervention (business as usual) scenario and assuming intake levels are maintained at 2018 levels, the study authors estimated that by 2050 the program is projected to avoid 83,140 premature ischemic heart disease cases, 110,730 premature strokes, and save 1,640 million pounds in health care costs.[39]

Despite these early successes in the UK, there are continued challenges and new targets are needed to further sodium reduction. A strong relationship and cooperation with the food industry is required to make voluntary targets successful, as well as independent and transparent monitoring. While the voluntary program has been successful, it was underpinned by sustained media pressure, and direct pressure on public health ministries and government to maintain a strong stance with the food industry. In terms of best practices, regulatory or legislative approaches may be more effective versus voluntary guidelines but the legislative approach may be complicated depending on the country.[50]

South Korea also implemented a comprehensive salt reduction program, starting in 2012, which included a consumer awareness campaign, increased availability of low-sodium foods at school and worksite meal services, increased availability of low sodium meals in restaurants, voluntary reformulation of processed foods to lower the sodium content, and development of low-sodium recipes for food prepared at home.[41] South Korea has one of the highest rates of sodium intake in the world and is much higher compared to the U.S. In 2010, the average sodium intake was 4831 mg/day. [51] The goal of this program was to reduce population sodium consumption by 20 percent, to 3900 mg/day by 2020. This multi-pronged approach in South Korea has been found to be successful. Sodium intake decreased by 19.5 percent from 2010 and 2014, which was achieved largely by reducing the sodium content in processed food. There were also concomitant reductions in population hypertension prevalence within the same time period, for both men (from 33.5 percent to 26.0 percent) and women (from 25.2 percent to 21.7 percent) aged 30 years and older that were statistically significant. From 2010 to 2014, the rate of death from cerebrovascular diseases also decreased from 53.2 to 48.2 per 100,000 population, but these changes were not statistically significant.[51]

Canada also has a similar voluntary sodium reduction strategy, implemented in 2012, which set voluntary sodium reduction targets for 94 categories of processed foods.[52] In 2018, Health Canada published an evaluation report indicating the sodium reductions in most categories of processed foods were only modest and did not meet targets. Additionally, the report notes that the voluntary efforts only resulted in an eight percent decrease in average sodium intake since 2010, with the average sodium intake of Canadians being about 2760 mg (which is lower than the current U.S. sodium intake). Health Canada has since published revised voluntary targets for processed foods and continues to work with the food industry to gradually and safely reduce sodium in their food supply.[52]

Taxes on Sodium

One of the other priority strategies identified above to lower sodium intake is taxation on high sodium foods. However, there are limited studies evaluating the effectiveness of fiscal policies to reduce salt consumption.[53] A systematic review of the available literature identified 18 relevant studies, but nearly half of them reported the effects of salt taxes through modeling, not real world implementation, and real world implementation evaluation studies were primarily found in the grey literature.[53] Despite the lack of evidence on the effectiveness of salt taxes, sugar-sweetened beverage (SSB) taxes have been more widely studied.

SSB taxes are tangentially related to proposed sodium taxes to reduce the burden of chronic diseases and improve the typical American diet. Multiple public health initiatives have called for a reduction of both dietary sodium and sugar;[54,55] however, many physicians find that patient adherence to dietary recommendations remains challenging within the clinical context.[56] There are many recognized challenges in adhering to dietary recommendations, including (but not limited to) lack of knowledge or support to make changes, confusing and misleading information provided by the media, difficulties in changing ways of cooking and in translating healthy eating messages into balanced food choices, the cost associated with healthier food options, lack of confidence in cooking skills, cultural acceptability, speed of preparation, family acceptability, and lack of access to supermarkets with fresh and whole food options (i.e., food deserts).[56,57] As such, policymakers in the U.S. and other parts of the world increasingly turn to SSB taxes to improve public health outcomes and prevent chronic disease development. SSBs are non-alcoholic beverages that contain added sweeteners such as sucrose (sugar) or high-fructose corn syrup. In the U.S., SSB taxes are levied locally and currently exist in the following jurisdictions: Boulder, Colorado; the District of Columbia; Philadelphia, Pennsylvania; Seattle, Washington; and four California cities (Albany, Berkeley, Oakland, and San Francisco).[58] No state currently has an excise tax on sugar-sweetened beverages.

Multiple studies have concluded that SSB taxes effectively change consumer shopping habits and there is strong evidence that SSB taxes can be effective in reducing the sales and intake of SSB when taxes are substantial (e.g., at least one U.S. cent per ounce).[41] A 2024 article found that SSB taxes in five U.S. jurisdictions were associated with a 33.1 percent price increase and a corresponding 33 percent reduction in purchase volume.[59] In the U.K., soft drink levies were associated with a 23 percent decrease in sugar consumption from soft drinks in children; in adults, sugar consumption from soft drinks declined by 40 percent.[60] In Mexico, SSB taxes led to similar decreases in soft drink purchases and increased water purchases.[61] Unfortunately, most SSB taxes are too new to demonstrate changes in population health outcomes such as CVD or obesity; however, modeling data suggest that SSB taxes will reduce premature mortality, increase government revenue, and reduce expenditures over time.[62] Additionally, in seven U.S. cities with SSB excise taxes, all tax revenue has been used to support community health initiatives and

community capital investments, demonstrating the potential of these policies to yield additional benefits outside of SSB consumption and to support broader community health initiatives.[63]

Feasibility of salt reduction in foods and available alternatives

Salt has played an important role in food, health, and commerce for thousands of years.[25,64] As human societies shifted towards agriculture versus hunting and gathering, salt was needed to supplement the diet and salt became one of the most important commodities across the globe.[64] In ancient Roman times, salt was used not only to supplement flavor and preserve food, but also as an antiseptic. Its overall importance at the time is exemplified by the fact that part of a Roman soldier's pay was in salt, otherwise known as solarium argentum, which formed the basis of our modern word for salary.[64] Salt's osmotic impact (the passage of a liquid through a membrane from a less concentrated solution to a more concentrated one) is responsible for its ability to help preserve foods. Salt allows water to flow through the semipermeable membrane of bacteria which leads to bacterial cell death or injury, and thus reducing bacterial growth.[65] In our modern food system, other preservative methods along with refrigeration obviates the reliance on salt as a primary preservative and the levels of sodium found in processed and prepared foods are well beyond those needed for food safety or physiological reasons.[32,50]

However, salt also affects color, texture and taste properties of food and salt has differential impacts on various food categories.[13,65] Although reducing sodium content in foods is possible, reductions must be considered with respect to the other important properties salt confers from a food technology perspective, including flavor, development of texture, fermentation, color development, and antimicrobial properties. Reformulation to reduce sodium content in foods can be a complex process, in many cases is not as straightforward as simply adding less sodium to foods and should not be achieved through the addition of increased sugar content or artificial additives, as these also have negative health impacts.[66,67] Further, when salt is reduced quickly, palatability and consumer acceptance of a product generally tends to decrease.[65] On the other hand, consumer acceptance of low sodium products can increase over time. It has been demonstrated that as sodium intake decreases, taste receptors in the mouth adapt and become more sensitive to lower concentrations, often times within a few months.[27]

One potential concern of reduced salt consumption is an increase in iodine deficiency, as salt iodization and fortification of foods with iodine have been primary intervention strategies to prevent iodine deficiency globally (although never mandated in the U.S.).[68] Iodine is required for thyroid hormone synthesis and inadequate iodine intake can result in several health concerns, including goiter and hypothyroidism.[68] However, commercially processed foods generally contain non-iodized salt and since the vast majority of salt consumed in the U.S. is via processed foods, overall reductions in the salt content of processed foods would most likely not have any appreciable effect on the prevalence of iodine deficiency within the U.S.[68]

When assessing alternatives to a high sodium diet, it is important to consider the outsized role of prepackaged and processed foods within the American diet. High sodium consumption is inextricably linked to the overconsumption of ultra-processed foods, which makes up more than half of the calories consumed in the U.S. diet.[69] While many foods go through some amount of processing, ultra-processed foods are defined as those with "formulations of ingredients, mostly of exclusive industrial use, that result from a series of industrial processes."[69] Examples of ultra-processed foods include packaged snacks, mass-produced baked goods, breakfast 'cereals,' hot dogs, sausages, pre-prepared pasta and pizza dishes. A recent study found the consumption of ultra-processed foods has grown from 53.5 percent of calories since 2001-2002 to 57 percent in 2017-

2018, while the consumption of whole foods has decreased by a similar percentage over the same period.[70]

The modern Western diet with a focus on ultra-processed foods has also led to a decrease in other physiologically important nutrients, such as potassium. Potassium is a physiologically essential nutrient, whose function is closely intertwined and related to that of sodium in our body.[12] While too much sodium has been found to raise blood pressure, too little potassium has been found to have the same effect.[71] Unlike sodium, Americans tend to not eat enough potassium in their diet, which is found naturally in vegetables, fruit, seafood, and dairy products. The National Academies of Sciences, Engineering, and Medicine concluded there is a moderate strength of evidence that potassium supplementation significantly reduces systolic and diastolic blood pressure, and the effect is even stronger among adults with hypertension.[12] Recently, one study concluded that increasing potassium intake might represent a more advantageous dietary strategy for preventing cardiovascular disease.[72] Traditional dietary cultures from across the globe, many of which are known to be associated with longer and healthier lives, are based on consumption of foods that are unprocessed or minimally processed.[69] Thus, programs and policies to increase the availability, accessibility, and affordability of whole or minimally processed foods that are culturally appropriate should be an important component of a salt reduction strategy and could also have the added benefit of increased potassium intake.

Considering the current U.S. food system context coupled with public health calls for reduced sodium consumption, there have been increasing efforts to establish salt replacement strategies that will meet consumer tastes and demands. Potassium chloride may be the most promising, however, this substitute can be problematic for populations who are required to limit their potassium intake due to health reasons, for example those with kidney disease. A study examining the effects of potassium-enriched salt on cardiovascular disease mortality among elderly veterans found a significant reduction (age-adjusted hazard ratio of 0.59) in mortality among the experimental group that was given potassium-enriched salt.[73] Other salt replacement strategies, particularly from a consumer perspective, is to include other herbs and spices that can provide an alternative method of flavoring in the absence or reduction of salt.[56,65]

Beyond potassium chloride, other viable alternatives exist for replacing sodium. For example, glutamate, a nonessential amino acid, has been used to enhance the taste and palatability of food. Food monosodium glutamate (MSG) is the most common glutamate salt and flavor enhancer used, to lower the overall sodium level in certain foods while maintaining palatability.[56] MSG contains about 12 percent sodium, which is less than one-third of that contained in table salt.[74] MSG safety concerns, namely what was once referred to as “Chinese restaurant syndrome,” have been proven to be unfounded and largely driven by a history of prejudice and discriminatory rhetoric and action against Asian cultures, specifically Chinese culture.[75] A review of the evidence on MSG’s alleged health concerns have detected serious methodological flaws with research that indicated safety issues and many of the reported negative health effects of MSG have little relevance considering the average human exposure.[76] Although MSG is the most widely used flavor enhancer in food, other effective glutamate salts, such as calcium di-glutamate, exist but do not provide as pronounced of an effect. A considerable number of studies have demonstrated that various forms of glutamate can help reduce the amount of sodium in specific foods, including soups, prepared dishes, processed meat, and dairy products, by enhancing palatability.[65,77]

Priority Strategies for Reducing Blood Pressure

Sodium reduction is just one of many strategies to prevent and manage hypertension. Priority strategies for controlling blood pressure exist across individual, organization, community and

policy levels. Lifestyle change modifications, including the promotion of increased physical activity, weight loss, moderate alcohol consumption, and a healthier diet overall (greater consumption of fruits and vegetables and lower sodium intake), as one study put it, "are the cornerstone of prevention and treatment of hypertension."[10] In 2023, the AMA and the American Heart Association published a joint scientific statement on implementation strategies to improve blood pressure control in the U.S.[9] This joint statement recommends lifestyle modification strategies as the recommended first-line therapy to control blood pressure.[9]

The Dietary Approaches to Stop Hypertension (DASH) has been highlighted in the literature and among federal agencies as a priority diet strategy to reduce blood pressure.[78–80] DASH is a dietary plan or framework that emphasizes eating vegetables, fruits and whole grains; including fat-free or low-fat dairy products, fish, poultry, beans, nuts, and vegetable oils; limiting foods that are high in saturated fat, such as fatty meats, full-fat dairy products, and tropical oils; and limiting sugar-sweetened beverages and sweets. A systematic review of the evidence on DASH to reduce blood pressure found that, compared to a control diet, the DASH diet significantly reduced both systolic blood pressure and diastolic blood pressure, with a greater effect witnessed in those with higher daily sodium intake and of younger age.[81]

Other strategic approaches to improve blood pressure control cut across different levels of interventions and include: antiracism efforts (e.g., policies to dismantle residential segregation and its impacts, policies to eliminate inequities in access to and quality of healthcare), accurate blood pressure measurement and increased use of self-measured blood pressure monitoring, team-based care, standardized treatment protocols, improved medication acceptance and adherence, improving the built environment to facilitate increased walkability and physical activity, continuous quality improvement, financial strategies that sustain the implementation of effective treatment strategies, and large-scale dissemination and implementation.[9,82] However, there are many critical implementation and dissemination gaps and challenges that make it difficult to enact these strategic approaches. A few of these include implementing and evaluating the effect of policy-level changes such as salt reduction in foods and all-payer coverage of self-measured blood pressure monitoring devices on improvement in blood pressure control; exploring and evaluating antiracism, health equity, and social determinants of health implementation strategies focused on improving blood pressure control; assessing the effects of urban planning interventions to improve walkability and increasing green spaces; and implementing culturally sensitive interventions for lifestyle changes.[9] Another challenging area is the implementation of effective lifestyle change counseling and monitoring recommendations at the clinical level, which can help be addressed through the designation of more individuals within practices who are sufficiently knowledgeable in behavior change techniques in order to support effective patient counseling.[82]

Lastly, recent research has strengthened the available evidence on the relationship between air pollution and poor air quality with all-cause cardiovascular mortality and morbidity, stroke, blood pressure, and ischemic heart diseases.[83,84] Therefore, another area of primary prevention for reducing population level hypertension could focus on improving ambient air quality by reducing reliance on fossil fuel combustion for energy generation and transportation, which could also result in numerous other public health benefits.[9,85]

EXISTING AMA POLICY

The AMA already has policy in support of many of the strategies highlighted in the literature and summarized in this report that have been shown to reduce sodium consumption. Following the previous report, Policy H-150.929, "Promotion of Healthy Lifestyles I: Reducing the Population Burden of Cardiovascular Disease by Reducing Sodium Intake," aims to reduce sodium in

processed foods, fast food products, and restaurant meals by 50 percent.[86] This policy notes that gradual but steady reductions over several years may be the most effective way to minimize sodium levels. Additionally, this policy states the AMA will work with our federal and organizational partners to educate consumers about the benefits of long-term, moderate reductions in sodium intake and recommends the FDA consider all options to promote reductions in the sodium content of processed foods.

AMA's policy H-150.945, "Nutrition Labeling and Nutritionally Improved Menu Offerings in Fast-Food and Other Chain Restaurants," supports policies at multiple levels to require fast-food and other chain restaurants with 10 or more units to provide consumers with nutrition information on menus and menu boards.[87] Nutrition information provided on menus should include sodium labeling. Further, this policy urges AMA to work with partner organizations to educate people on how to use the nutrition information provided in restaurants to make healthier food choices for themselves and their families and urges restaurants to improve the nutritional quality of their menu offerings, including the use of less sodium. AMA policy H-150.949, "Healthful Food Options in Health Care Facilities," encourages healthful food options in health care facilities, including food offerings with low sodium content, and the publishing of nutrition information with health care facility cafeterias..[88]

AMA's Improving Health Outcomes team has been actively engaged in work to help physicians and care team reduce blood pressure and improve blood pressure control rates across patient populations, with a particular focus on accurate blood pressure measurement and effective treatment of hypertension. For example, the AMA MAP™ Hypertension is a three-part framework and guide for improving hypertension control.[89] AMA's Ed Hub™ also has published educational resources on blood pressure control and management, including a CME Course entitled, "Hypertension: High Blood Pressure Management, Impact and Inequities."[90]

CONCLUSIONS

Reducing dietary sodium is one of several important strategies to reduce hypertension and improve public health. With over 20 years of research on dietary sodium and health outcomes, it is clear that reducing population level sodium intake can have beneficial public health outcomes and save millions of dollars in health care costs. Voluntary targets to reduce sodium in processed foods and other food prepared outside of the home is one of the most promising and well-evaluated large-scale policies to enact population level change in sodium intake and has been successfully implemented across the globe. Preliminary indications from FDA indicate that their voluntary program has been successful at reducing sodium levels in food, enough so that they are preparing to update their guidance, further reducing their targets. Sodium reduction is but one strategy that should be pursued alongside other important lifestyle (i.e., increasing physical activity and preferential consumption of fruits and vegetables), environmental (i.e., reducing air pollution), and community strategies (i.e., reducing structural inequities in access to health care and health promoting resources) to reduce hypertension and promote cardiovascular health.

RECOMMENDATIONS

The Council on Science and Public Health recommends that the following be adopted, and the remainder of the report be filed.

1. That Policy H-150.929, "Promotion of Healthy Lifestyles I: Reducing the Population Burden of Cardiovascular Disease by Reducing Sodium Intake" be amended by addition and deletion to read as follows:

Our AMA ~~will~~:
(1) Calls for a step-wise, minimum 50% reduction in sodium in processed foods, fast food products, and restaurant meals to be achieved over the next decade.
(2) Urges the FDA to publish future editions of their voluntary targets expeditiously to make further progress on sodium reduction.
(3) Supports federal, state, and local efforts to set robust targets for reducing sodium levels in school meals, meals in health care facilities, and other meals provided by daily meal providers.
(~~2~~4) Will advocate for federal, state, and local efforts to reduce sodium levels in products from ~~F~~ food manufacturers and restaurants ~~should review their product lines and reduce sodium levels~~ to the greatest extent possible,~~(~~without increasing levels of other unhealthy ingredients, such as added sugars or artificial ingredients~~)~~. ~~Gradual but steady reductions over several years may be the most effective way to minimize sodium levels.~~
(5) Supports federal, state, and local efforts to require front-of-package warning labels for foods that are high in sodium based on the established recommended daily value.
(~~2~~6) ~~To~~ Will assist in achieving the Healthy People 2030~~2010~~ goal for sodium consumption, by ~~will~~ working with the FDA, the National Heart Lung Blood Institute, the Centers for Disease Control and Prevention, the American Heart Association, and other interested partners to educate consumers about the benefits of ~~long-term, moderate~~ reductions in sodium intake and other dietary approaches to reduce hypertension.
(7) Supports the continuing education of physicians and other members of the health care team on counseling patients on lifestyle modification strategies to manage blood pressure, advocating for culturally relevant dietary models that reduce sodium intake.
(~~3~~8) Recommends that the FDA consider all options to promote reductions in the sodium content of processed foods.
(9) Supports further study and evaluation of national salt reduction programs to determine the viability, industry engagement, and health and economic benefits of such programs.
(Modify Current HOD Policy)

Fiscal Note: less than $1,000

FIGURES AND TABLES

Figure 1: Prevalence of Hypertension in the U.S. 1999 to 2018, NHANES

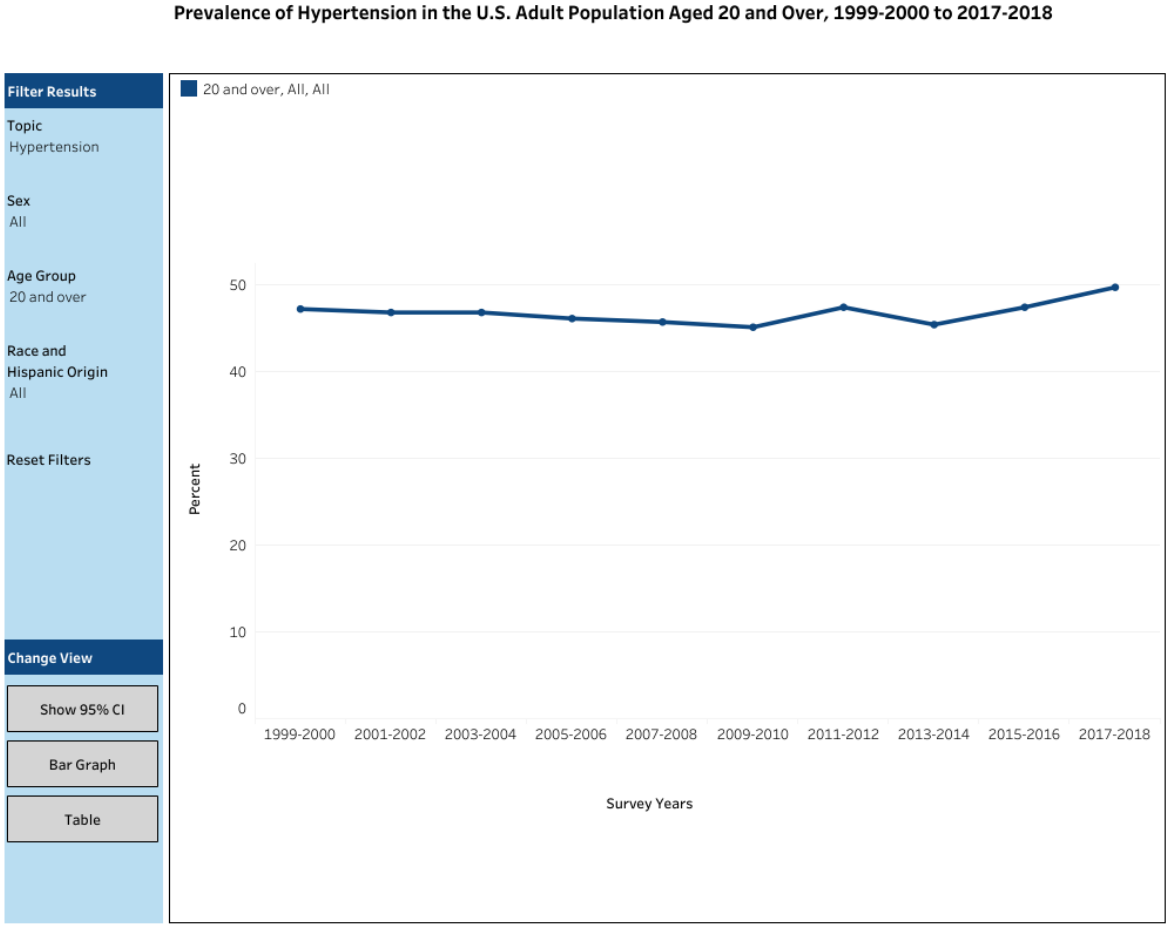

Figure 2: Population Exceeding Recommended Sodium Limit[13]

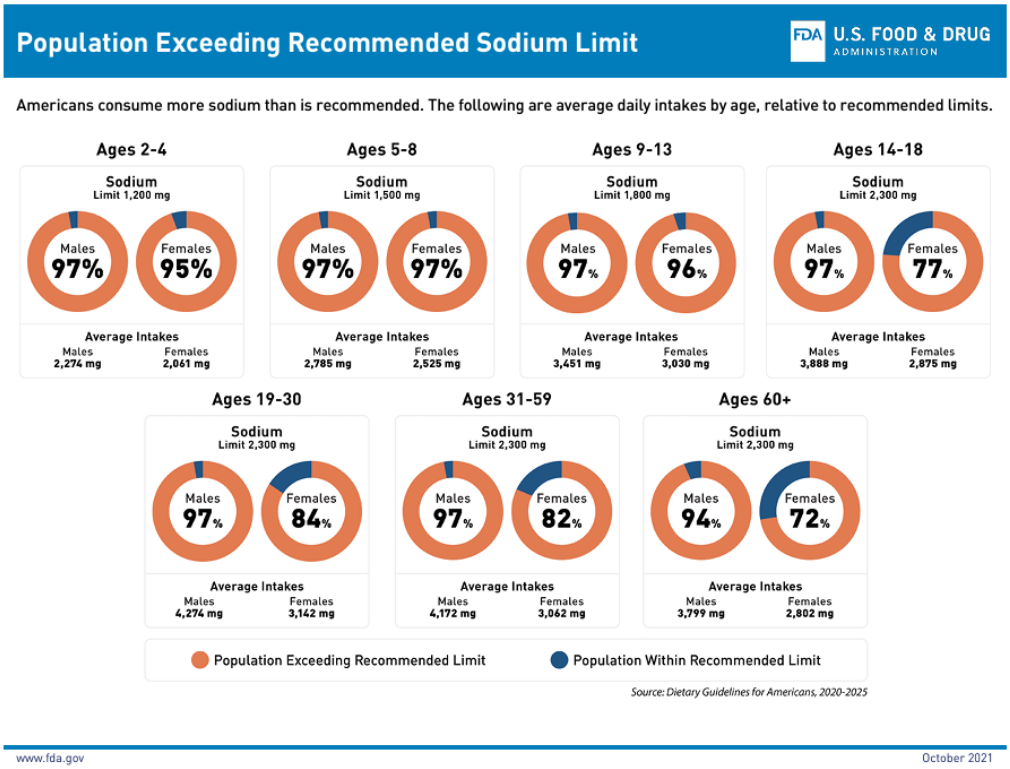

Figure 3: How sodium is consumed in the American diet[14]

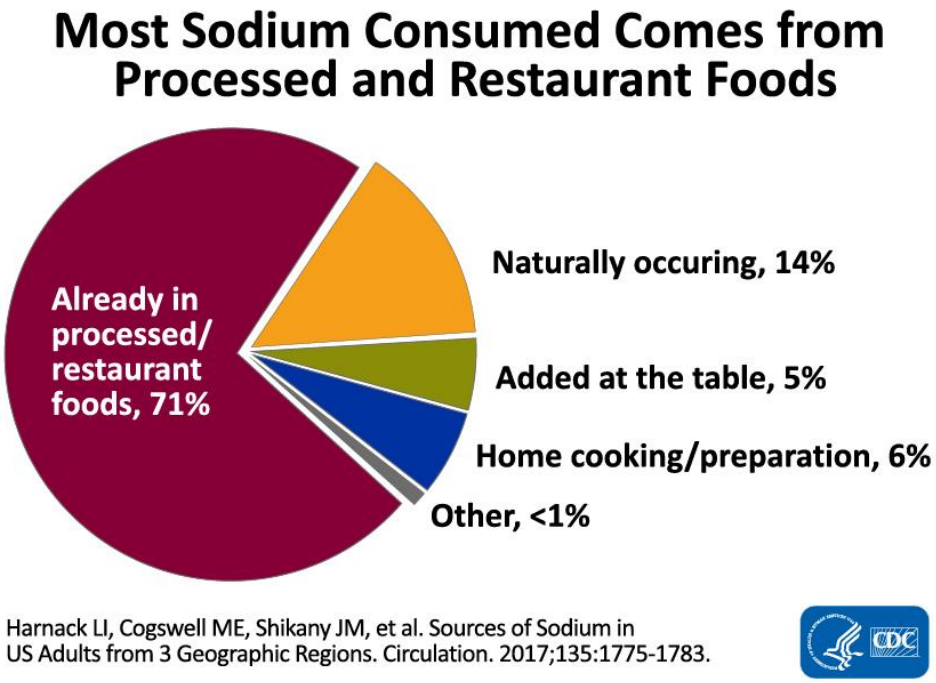

Figure 4 – Examples of J and U-shaped relationship between sodium intake and health outcomes[25]

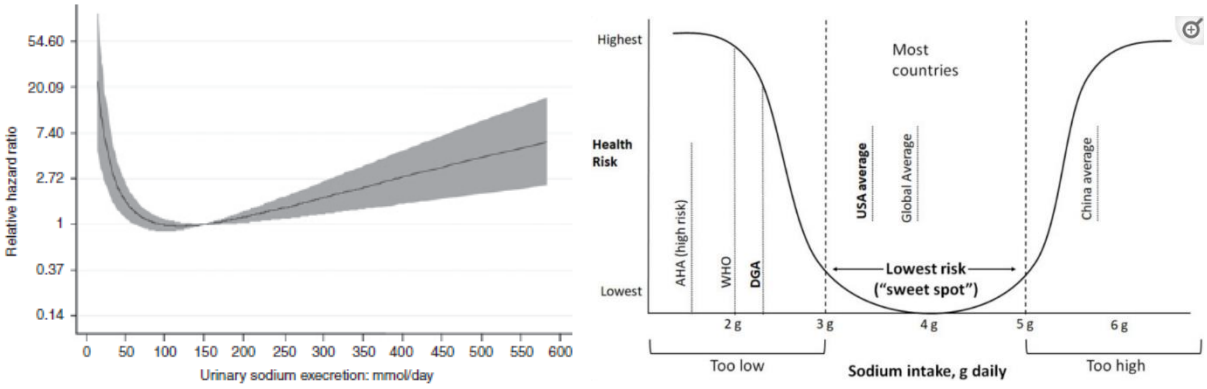

Table 1 – Existing Sodium Reduction Strategies with priority recommended strategies italicized and highlighted with an astericks[41]

Sodium from packaged foods
*Labeling: front-of-pack labeling regulations**
Labeling: mandatory nutrient declaration on labels
Labeling: regulating nutrition/health claims on food packaging
*Food reformulation targets for packaged food (voluntary or mandatory)**
*Regulation of marketing of foods and nonalcoholic beverages to children**
*Fiscal policies: taxation on high sodium foods**
Supermarket interventions using product, placement, price, or promotion strategies
Sodium from food prepared outside the home
*Standards for sodium as part of food procurement policies for public institutions**
Restaurants: menu labeling of high or low sodium items (primarily chain restaurants)
Restaurants: removal of salt shakers and high sodium condiments from tables
Restaurants: chef training on reducing sodium in food
Restaurants: requiring the provision of low sodium or no-sodium added items on menus
Restaurants: food reformulation targets for restaurants (voluntary or mandatory; primarily chain restaurants
Sodium added in the home
*Mass media campaigns**
Community education (e.g., through schools, community groups, workplaces, etc.)
Individual education and counselling (usually through primary health care)
*Increase uptake of low sodium salt (promotion, distribution, subsidies)**

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REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH (I-24)
Teens and Social Media (CSAPH 10-A-24)
(Reference Committee K)

EXECUTIVE SUMMARY

OBJECTIVE: This report examines the available evidence regarding the impacts of social media on the health of youth as well as the potential actions and interventions for government, policy makers, technology companies, researchers, parents, and children.

METHODS: English language reports were selected from searches of the PubMed and Google Scholar databases using the search terms: "teens" AND "social media" as well as "adolescents" AND "social media." Additional articles were identified by manual review of the reference lists of pertinent publications. Web sites managed by federal agencies and applicable professional and advocacy organizations were also reviewed for relevant information.

RESULTS: There is a pervasive presence of digital media, smartphones, and social media in nearly all aspects of youth and adolescent life. Despite substantial research efforts, the evidence is too weak to promote a uniform interpretation of the impact of social media on adolescent health at the population level. There are several factors contributing to the weak evidence including: (1) the reciprocal associations between social media use and health; (2) the lack of consistent and comparable methodologies; (3) entanglement of impact and exposure as a byproduct of social media's ubiquity; (4) different dynamics and trends depending on level of analysis; (5) the wide variety of interactions, behaviors, and health impacts engendered by social media; and (6) reliance on cross-sectional studies with high heterogeneity. Although the evidence is too weak to provide a uniform interpretation, there are clear positive and negative trends. There is some evidence of potential benefit in the form of improved social support, identity development, civic engagement, and self-directed learning. There is also some evidence of potential harm including negative impacts on sleep, physical activity, and mental health, as well as exposure to inappropriate content, and data privacy issues. Furthermore, it is apparent that the relative risks and benefits of social media likely depend on individual differences in: (1) engagement with social media (e.g., what kids see and do online, who they talk to, when they use social media, and how they use social media); (2) pre-exiting traits; and (3) the cultural, social, and physical environment.

CONCLUSION: Even though the evidence of harm is limited, there is an urgent need for action for two reasons. First, the lack of algorithmic transparency, privacy protections, and accountability and redress for online harassment on most platforms is concerning given the power, reach, and ubiquity of social media. Second, the potential harms are serious particularly during sensitive developmental periods, therefore, proactively creating digital environments that protect and enrich children's and adolescents' health and well-being is beneficial regardless of the evidence of harm. There are two key approaches that would likely facilitate the creation of safer, developmentally appropriate environments: (1) federal and state legislative action (e.g., expansion of the Children's Online Privacy Protection Act (COPPA), implementation of age-appropriate design, and mechanisms to address online harassment, and (2) development and widespread adoption of industry standards to benchmark platform operations, transparency, and data use. In addition to improving the digital environment, it is imperative that there are simultaneous efforts to address harms that still arise including: (1) education and training on digital media literacy and the potential harms posed by social media; (2) improved screening and support for those who experience harms (e.g., problematic internet use and online harassment); and (3) continued research of the health impacts of social media.

REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 5-I-24

Subject: Teens and Social Media

Presented by: John T. Carlo MD, Chair

Referred to: Reference Committee K

INTRODUCTION

At the 2023 Annual Meeting of the American Medical Association (AMA) House of Delegates (HOD), Resolution 430, "Teens and Social Media" was adopted. The policy (H-478.976, "Teens and Social Media,") as adopted, asked that our AMA "study and make recommendations for teenage use of social media, including proposing model state and federal legislation as needed, with a report back at the 2024 Annual Meeting."

At the 2023 Interim Meeting of the AMA HOD, Resolution 915, "Social Media Impact on Youth Mental Health," was referred. The resolution asked that our AMA:

(1) work with relevant parties to develop guidelines for age-appropriate content and access and to develop age-appropriate digital literacy training to precede social media engagement among children and adolescents;

(2) amend policy D-478.965 by insertion as follows: (4) advocates for and support media and social networking services addressing and developing safeguards for users, <u>including protections for youth online privacy, effective controls allowing youth and caregivers to manage screentime content and access, and to develop age-appropriate digital literacy training</u>; and

(3) advocate that the federal government requires social media companies to share relevant data for further independent research on social media's effect on youth mental health and fund future federal research on the potential benefits and harms of social media use on youth mental health.

The Council presented the CSAPH 10-A-24, "Teens and Social Media," which addressed both Resolution 430-A-23 and Resolution 915-I-23, for consideration by the HOD. That report was referred back for additional study due to questions regarding content in the body of the report. Having clarified those questions, the Council presents this revised report for consideration.

METHODS

English language reports were selected from searches of the PubMed and Google Scholar databases using the search terms: "teens" AND "social media" as well as "adolescents" AND "social media." Additional articles were identified by manual review of the reference lists of pertinent publications. Web sites managed by federal agencies and applicable professional and advocacy organizations were also reviewed for relevant information.

BACKROUND

The co-occurrence of the growing ubiquity of social media use by adolescents and teens and the increase in poor mental health, among these same age groups, is alarming. These trends have prompted calls for action and research around adolescents and teens and their use of social media. A common theme in the research is that social media is not inherently beneficial or harmful. Instead, the effects of social media likely depend on what kids see, their pre-existing strengths and weaknesses, and their environment.[1–4] In particular, child-social media interactions may be bidirectional as users shape their experience which in turn shapes them and vice versa.[5,6] Further, many argue that it is important to move away from the false dichotomy of whether social media is hurting or helping adolescents -- instead researchers, parents, and policy makers should consider who is using social media, what are they using it for, when are they using it, and how are they using it.[7–9] The focus of this report will be on adolescents and teens aged 10-17.

Social Media Privacy, Transparency and Accountability

The American Psychological Association (APA) defines social media as, "interactive technologies that facilitate the creation and sharing of information, ideas, interests, and other forms of expression through virtual communities and networks."[10] This can include social networking, gaming, virtual worlds, video sharing sites, and blogs.[3] Social media, internet use, and screentime all fall under the umbrella of digital media - the parent category of all interactive media consumed through screens.[1] These terms are used interchangeably throughout the rest of the report, unless noted otherwise.

The different forms of social media have different possibilities for action and engagement, known as affordances. Affordances, include things like visibility, editability, persistence, replicability, searchability, scalability, and reachability and they manifest as the capacity for public posting, sharing functions, auto-scroll, gamified interaction, push notifications, private messaging, affiliations, and running counts of feedback on posts.[11–13]

Affordances can have meaningful influence on the actions of the user; therefore, many researchers advocate for an affordances approach to understanding and evaluating social media.[14] This is important because affordances are powered by and interact with computational algorithms. These algorithms moderate content by generating recommendations, ranking and removing content, and targeting ads.[3] A challenge with content moderation is that it is intrinsically subjective. The value and appropriateness of content depends on the context – the who, what, why, how, and when of the information being shared may determine if it is elevated, downplayed, or removed.

Most platforms use a mix of artificial intelligence and human editing to enforce content moderation.[3] This can create intentional manipulation of information on the part of individuals. For instance, Facebook allowed advertisers to choose to exclude whole racial, ethnic, and age groups from seeing their ads.[3,15,16] Similarly, TikTok issues separate content moderation approaches for different countries depending on the degree of social conservatism.[3,17] Many platforms can and do selectively reduce or increase the prominence of content from certain users without violating the terms of use.[3,18] There is also unintentional, or at a minimum unexplained, manipulation of information, caused by using machine learning algorithms for content modification. Machine learning algorithms are black box mechanisms that learn without explicitly being programmed. Companies know the inputs, outputs, and training data that go into their algorithms, but the internal processes by which most machine learning algorithms work are less clear. Additionally, algorithms are proprietary, so companies are reluctant to share the details they do have.[3,19,20] Consequently, the

intrinsic subjectivity of content moderation is made more opaque by machine learning algorithms as well as the platforms' lack of transparency about them.[3,21]

Relying on machine learning for content modification is not inherently harmful, but it can create recursive feedback loops that exacerbate problems with harmful content and misinformation. The algorithms send users more of the content that they engage with, thereby creating the impression that theories and behaviors they are seeing are potentially more prominent than they are. Moreover, many users do not realize that social media platforms are designed to show them content that is most likely to keep them engaged and on the platform rather than providing a comprehensive view of the content of friends and family.[3,22] There is some evidence that recursive feedback loops and echo chambers exacerbate vaccine hesitancy.[3,23–25] Similarly, content modification, and the echo chambers it creates had a significant impact on behavior during the 2016 Election.[3,26–28]

Ultimately, the current processes for content moderation introduce bias on both the front end (e.g., the training data that informs the algorithms and intentional modification of information) and on the back end (e.g., recursive feedback loops and echo chambers). Content moderation also leverages user data, often in ways the user is unaware of, which raises ethical and privacy concerns.

Furthermore, there is concern among users that companies like Facebook (now Meta) both overlook the risks posed by their product and misrepresent their internal findings when necessary to benefit the company.[3,29,30] It is for these reasons that many criticize platforms and call for evaluation of algorithm bias, transparency, justice, and accountability.[3,20]

Adolescence as a sensitive period

One of the reasons parents, clinicians, researchers, and policy makers have raised alarm about social media use among adolescents is that adolescence is a developmentally sensitive period. There are three key features of adolescent brain development that may impact how youth engage with social media: (1) heightened sensitivity to rewards and dynamic changes in the dopaminergic system;[3,31–33] (2) protracted maturation of brain networks that support cognitive function;[34] and (3) neural sensitivity to specific types of social information.[3,35] As a result, adolescence is a time of tremendous cognitive, social, emotional, and physical change that involves both opportunity for maturation and vulnerability to environmental stressors.[3,36] Evidence from developmental neuroscience illustrates that adolescence is a time of heightened risk taking, impulsivity, and sensitivity to social stimuli.[4,37] Consequently, adolescents are particularly susceptible to environmental influences like drugs, social stress, cognitive training, and likely social media.[3,4,38–41] There is some concern that constant engagement in social media in early adolescence may alter neural sensitivity to rewards and punishment.[3,42] Furthermore, changes in the reward circuit may be a factor in excessive and problematic internet and social media use.[3,43]

At the same time, self-presentation and identity exploration is an important part of adolescence that social media can support.[3,14,44,45] It is a critical time for building relationships and developing a social support system.[3] Adolescents demonstrate an increased ability to consider other perspectives, which drives empathetic and prosocial behaviors on the one hand, as well as increased social comparison on the other.[3,46] The strong desire for social connectedness demonstrated by adolescents suggests that they may be relaxed regarding privacy settings and connecting with strangers.[35,47] Online environments and social media interactions may also lower inhibitions and accelerate intimacy.[48] In this way, online environments create both benefits and risks to development of identity and social connectedness.[48] Adolescence is also a time of increased flexibility and plasticity so researchers and public health practitioners advocate leveraging the plasticity of adolescent brain for health promotion.[37]

Ultimately, the power of social media to influence well-being likely depends on developmental stage.[49] There are ethical reasons to limit marketing to children and teens as they may struggle to resist advertising.[50] At the same time, there is some evidence that the concept of adolescence should be expanded to include individuals aged 10 to 24.[40] An expanded definition of adolescence is essential for developmentally appropriate framing of laws, social policies, and service systems.

YOUTH PREVALENCE, MOTIVATIONS, AND EXPERIENCES ON SOCIAL MEDIA

According to a 2022 Pew survey, 95 percent of teens in the U.S. have a smartphone and 97 percent use the internet daily, which represents a 22 percent increase over the last eight years.[51] The omnipresence of both internet and mobile devices in how youth engage in relationships, learn, and experience milestones reflects a massive cultural shift since the early 2000s.[52] Smartphone use starts in early adolescence, with 40 percent of children ages 8 to 12 owning a smartphone and 18 percent reporting social media use every day.[53]

The 2022 Pew survey also found that 35 percent of teens report using YouTube, Instagram, TikTok, Snapchat, and Facebook almost constantly.[51] Fifty-five percent of teens thought they used social media the right amount, 36 percent thought they use social media too much, and eight percent thought they used it too little.[51] Additionally, 54 percent thought it would be somewhat hard to give up social media.[51] Findings from the Pew study mirror older studies reporting that 50 percent of teens describe themselves as constantly connected and feel that they are addicted.[1,2] There are slight demographic differences as well. Black and Hispanic teens may use online media more than their White peers.[51] Girls use social media more than boys and also report that they would have a harder time giving up social media.[51] Finally, teens over 15 use social media more than teens under 15.[51]

The most popular platform is YouTube, used every day by 95 percent of teens.[51] YouTube is followed by TikTok at 67 percent, Instagram and Snapchat at 60 percent, Facebook at 32 percent, and then Twitter, Twitch, WhatsApp, Reddit, and Tumbler.[51]

Despite widespread use among children and adolescents, robust independent safety analyses on the impact of social media on youth have not yet been conducted.[4] Currently, we do not yet have enough evidence to determine if social media is sufficiently safe for children and adolescents. Yet, the body of research about potential harm evidences the importance of understanding the possible risks and proactively creating digital environments that safeguard children's and adolescents' mental health and well-being during critical stages of development.[4]

MOTIVATIONS FOR USE

Motivations for social media use among teens include social interaction, connection, curiosity-driven learning, information sharing, entertainment, relaxation, stress relief, escapism, novelty seeking, social capital, and appearance feedback.[3,54–56] Moreover, there is evidence that the ways in which youth engage with social media can improve and enrich their lives through social support, connection, community building, identity development, civic engagement, and exposure to new ideas.[57]

Friendship, social support, and connection

Social media plays a vital role in the development and maintenance of friendships and social connectedness.[54,57,58] Communication with friends and family is often reported as the most important function of social media,[59,60] particularly when family and friends are far away.[61] Fifty-

seven percent of teens have met a new friend online.[60,62] There appear to be some gender differences in how boys and girls interact with friends on social media. Sixty-one percent of boys and 52 percent of girls made friends online, and video games play a critical role in boys' friendship development.[62] In contrast, one study found that on average, teen girls spend over two hours a day on TikTok, Snapchat, and YouTube and over 90 minutes a day on Instagram and messaging apps.[63] Roughly, 69 percent of teens feel better connected to their friends' feelings, 83 percent better connected to their friends' lives, and 68 percent receive social support during tough times from friends through social media.[62] In this way, social media may be helpful in combating social isolation and building social capital.[3,64]

There is some evidence that social media can both reduce stigma and be a venue for sharing coping strategies.[3] Social media provides a way for youth to connect with people in the same position, which can be particularly valuable to adolescents who feel excluded or otherwise lack offline support, including patients with rare diseases, individuals with disabilities, those who struggle with mental illness and/or obesity, and marginalized groups (e.g., LGTBQ+ youth).[1,4] For instance, through social media, teens who are neurodivergent can connect socially with others in a way that is manageable for them, thereby reducing loneliness.[3,65] Social media may also help teens and youth coping with grief,[66] navigating foster care,[67] dealing with cancer, diabetes, rare diseases,[68,69] and mental illness.[3,70] Sharing on social media about losses and stressors can provide a sense of connection, support, and understanding.[71] Similarly, social media can provide support and connection for young people who live in communities where sexual and gender diversity are not accepted, which may buffer them from stigma and loneliness.[3,72–74] This is particularly true for LGTBQ+ teens in rural areas that are able to find support they do not have offline by connecting with other queer youth.[3,72,75–77]

It is not clear if online and in-person relationships are equivalent; however, friendship and social connection facilitate a sense of belonging.[3,78] Moreover, friendship can reduce anxiety and improve life satisfaction in its own right.[3,79] Cross-sectional studies among undergrads provide some evidence that people who use social media to connect with a diverse friend group tend to have higher social self-efficacy.[3,80] Yet, the relative support provided by online social connection may be influenced by the individual and how they engage with social media.[3,81]

Self-expression, Identity exploration, and Independence

There is some evidence that social media can support self-expression, identity exploration, and independence.[3,14,44,45,57,60,82,83] Adolescents who communicated more with friends online had a greater self-concept clarity.[60] One systematic review found that LGBTQ+ youth negotiated and explored identity using social media to manage identities though anonymity, censoring locations and content, restricting audiences, and using multiple accounts.[72] This suggests social media may support the mental health and well-being of LGTBQ+ youth through identity management.[72] In particular, the online environment of social media creates a space to revel and express differences.[84] Similarly, many cis girls are meticulous about which platforms and accounts they use for specific tasks, because it allows them to experiment with different forms of expression and ways of presenting themselves to their peers.[3,85] Self-disclosure, a key process in asserting personal agency, may be facilitated through digital platforms.[3,81]

Self-directed learning, Creative expression, and Civic engagement

Social media can also facilitate exposure to new ideas, raise awareness about current events, increase community participation and civic engagement, and allow collaboration on schoolwork.[2] A study of teens in western countries found that social media use predicts greater ability for both

reading and navigating information online.[3,86] There is also some evidence that when social media is used for classroom writing exercises, students demonstrate less writing anxiety and increased agency.[87] Similarly, online fanfiction communities facilitate informal learning by creating a space for youth to build literary skills and support the same skills in others.[87] The same can be said for other hobbies, interests, and activities that have a social media component and roughly 70 percent of teens use social media to express their creative side.[54] The informal learning environment of social media facilitates empowerment and agency among some young people.[3,88] It has also been associated with increases in self-motivation among adolescents.[3,88]

About two-thirds of teens ages 13-18 reported using social media to learn about different points of view or show support,[54] and 64 percent of teens look for news online.[3,89] Furthermore, evidence suggests youth who engage in online political discussions also engage in offline political discussions.[3,89,90] Therefore, social media may be a vehicle to engage and utilize the social and political power of young people through civic engagement.[3,90–92] Social media can facilitate political democracy, cultural democracy, and spread of knowledge.[93] Finally, there is some evidence that adolescents both seek out and share health information on social media.[53,54] Therefore, it may be an effective tool for health interventions and health promotion.[1,94,95] On the other hand, health misinformation can exacerbate adoption of harmful behaviors.[96]

ONLINE HARASSMENT AND EXPOSURE TO INAPPROPRIATE CONTENT

Cyberbullying and online harassment

There is evidence that social media increases risk of cyberbullying among youth.[1–3,60,83,97] According to a recent Pew survey, 46 percent of U.S. teens ages 13 to 17 report ever experiencing at least one of six cyberbullying behaviors.[51] Name-calling was most common, with 32 percent of teens reporting they have been called an offensive name online or on their cellphone.[51] False rumors (22 percent), receipt of explicit images (17 percent), pervasive questions about location (15 percent), physical threats (10 percent), and the sharing of explicit images of them without their consent (seven percent) were also reported.[51] There appear to be slight demographic differences in who experiences cyberbullying. Specifically, studies have shown that black teens experience more cyberbullying that their white peers,[51,98] LGBTQ+ youth experience more cyberbullying than their cisgender and heterosexual peers,[51,98] and adolescent girls experience more cyberbullying than adolescent boys.[51,63,99,100] Evidence also suggests that relationship issues (e.g., feeling left out and interpersonal drama) were the most common reason for cyberbullying among adolescent girls.[63,100]

Studies suggest that the size and type of the network as well as anonymity of those on the network impact the likelihood of harassment, but it is not easily predicted.[3,101,102] For instance, online harassment occurs often among video game users, particularly female gamers who commonly report sexual harassment.[3,103,104] One study found that indiscreet posting, time spent on social media, and personality traits were all predictors of cyberbullying.[105] There is some evidence of a relationship across studies between cyberbullying and depression among children and adolescents; however, the evidence of the effect of cyberbullying on other mental health conditions is inconsistent.[100] Adolescents' self-view and interpersonal relationships may be affected through social comparison and negative interactions, like cyberbullying and exposure to inappropriate content.[97]

Responses to cyberbullying are most often passive, with a pervasive lack of awareness or confidence that anything can be done.[100] Despite the prevalence of cyberbullying, some evidence suggests that in-person bullying is more common.[3,106]

Exposure to inappropriate content and misinformation

One major concern of parents, clinicians, researchers, and policy makers is that poorly regulated and moderated social media can result in youth exposure to inappropriate content (e.g., alcohol, tobacco, risky sexual behaviors, cyberflashing, porn, and self-harm).[1–3,107] A survey of more than 1,300 teens aged 13 to 17 found nearly three-fourths had seen pornography online, with social media being the point of access for about 18 percent.[3,108] Moreover, average first exposure was at 12 years old and accidental exposure accounted for 40 percent of cases.[3,108] Cyberflashing – the electronic transmission of sexually explicit photos without the recipients' consent – is a particularly troubling form of online harassment.[3,109] One survey found that 37 percent of girls and 20 percent of boys aged 12 to 18 had received sexual photos online, often from strangers,[3,110] and another study found more than 6 percent reporting the first flashing incident occurred between the ages of 12 and 14.[3,111] It is difficult to evaluate brief and limited exposures; however, there is evidence that repeated exposure to inappropriate content in childhood was associated with risky sexual behavior later in life.[107] Similarly, exposure to alcohol, tobacco, or risky sexual behaviors may be associated with initiation of those behaviors.[1]

Teens and adolescents may also be uniquely vulnerable to misinformation and disinformation because their maturity and cognitive capacities are still evolving.[3,112] Misinformation and disinformation can take a variety of forms including clickbait, hoax, rumor, satire, propaganda, and conspiracy theories.[113,114] Examples include things like foreign interference, political deceit, and claims for ineffective and unproven natural remedies and medical advice.[112] Concerningly, many people lack the ability to identify misinformation and disinformation as evidenced by one study which found that the percentage of people who share fake news without the intention to mislead is five times higher than intentional spreaders.[115] A 2018–2019 survey of 3,446 U.S. high-school students demonstrated that 52 percent believed that a grainy video claiming to show ballot-stuffing in the 2016 Democratic primaries constituted 'strong evidence' of voter fraud in the U.S., and only 0.1 percent were able to track down the original video even though a quick search showed that it was actually shot in Russia.[112,116] Similarly, two-thirds could not tell the difference between news stories and 'sponsored content' (i.e. adverts) on a website.[112,116] Although teens and adolescents may be particularly vulnerable to misinformation and disinformation, there is currently very little data available to provide a clear picture of how misinformation and disinformation may affect their development, well-being, and rights.[112]

IMPACTS OF SOCIAL MEDIA ON ADOLESCENT HEALTH

To understand the impacts of social media on adolescent health, the conflicting and often reciprocal mechanisms through which online experience and health (physical and mental) influence each other must be disentangled.[3] However, there are several factors that make this extremely challenging, including:

(1) the direction of the relationship between social media and health is difficult to determine - social media use influences health and health influences social media use;
(2) the research lacks uniform, consistent, and comparable methodologies;
(3) social media is so ubiquitous it is difficult to separate the impact of exposure;
(4) different levels of analysis may reveal different dynamics – with large scale studies showing population level trends and psychological studies showing mixed, small, or no associations;
(5) social media is not a monolith, the affordances of different platforms and types of social media engender a wide variety of interactions, behaviors, and health impacts; and

(6) the heterogeneity of the literature and the primary reliance on cross-sectional studies (or meta-analysis of cross-sectional studies) make definitive conclusions and causal relationships limited. Most of the associations are qualified or limited to certain populations.[3]

Social Media and Physical Health: Sleep, Physical Activity, and Obesity.

There is evidence that social media use can disrupt sleep.[1–3,97,107,117,118] Specifically, increased duration of computer, internet, and social media exposure,[3,118] and the presence of a tv, computer, or mobile device in the bedroom in childhood were associated with fewer minutes of sleep, greater risk of sleep disturbances, longer sleep latency, worse sleep quality, and daytime dysfunction.[1,119] Gaming predicted delayed bedtimes and reduced attention the following day.[3,120] One study found that screen-based digital media use is closely associated with sleep duration and sleep quality in teens; however, they cautioned that more research was needed to determine the direction of the effect.[3,121] Another study found that smartphone use at night can delay sleep among adolescents.[3,122] In a nationally representative sample, one-third of parents of teens 12-17 had rules about smartphone use at bedtime and those kids had less daytime sleepiness.[3,123]

However, it is not clear if social media or devices more broadly are driving the relationship. There are three likely ways in which digital media use may disrupt sleep.[3,124] First, social media displaces sleep thereby delaying bedtime, disrupting sleep, and reducing sleep duration.[3,121,124] Second, devices can disrupt circadian rhythms though light emissions which heighten arousal and decrease sleepiness.[3,122,124] Third, social media may be psychologically stimulating in such a way that makes sleep difficult.[3,124,125] Determining which mechanism(s) are driving the association between digital media and poor sleep is necessary given that the cascading impacts of poor sleep and the potential harms of social media overlap significantly.

Observational studies suggest a significant association between poor sleep quality and excess social media use and negative mental health outcomes.[3,126] Therefore, the interplay between social media and sleep quality may impact mental health outcomes. Sleep loss is a risk factor for depression, mood disturbances, injuries, attention problems, and excessive weight gain.[3,127–129] Additionally, teens with restricted sleep have more problems with emotion regulation, anxiety, hostility, and fatigue.[3,130] One study also found that sleep-deprived participants showed worse mood, more social media use, and problems with concentration.[3,131] Moreover, findings from the Youth Risk Behavior Survey illustrated that teens who sleep four or fewer hours a night have 5.9 times higher odds of having a serious suicide attempt.[3,132] Some studies showed sleep quality mediating the relationship between social media use and negative mental health outcomes in youth.[126] In particular, if social media displaces sleep and hobbies, it can be predictive of anxiety and depression.[3,133] Similarly, when screen time displaces sleep and exercise it is predictive of problematic use.[3,134,135] However, the current body of evidence on the directionality and relationships between social media use, mental health, and sleep is inconclusive.[3,126]

There is some evidence that social media use may correlate to non-adequate nutrition, non-physiologic postures, weight gain, and obesity.[1,2,107,117] Excessive TV viewing in early childhood is associated with an increased risk of obesity.[1] Social media could be displacing physical activity, sleep, studying, and other hobbies, resulting in a more sedentary lifestyle and an increased risk of obesity.[3,107,136] In support of this, another study found that increased digital media use was associated with a sedentary lifestyle.[3,137] Social media use is also associated with consumption of fast food, sugary drinks, snacks, and mindless eating.[3,138] One study theorizes that this may be occurring because social media is displacing regular meals.[3,138]

Social Media and Mental Health: Anxiety, Depression, and Loneliness

The findings on the association between social media and adolescent mental health are small, inconsistent, or non-existent. Moreover, the differences in findings appear to be explained by bidirectional interactions, methodological weaknesses and differences, and/or individual rather than population differences.

Several meta-analyses, systematic reviews, and other studies have found small negative associations between social media use and depression, anxiety, psychological distress,[139] loneliness, internalizing problems, and low offline social support.[3,139–147] At the same time, numerous other studies found the relationship between social media and adolescent mental health is non-existent, mixed, or inconsistent.[148–151] Specifically, there was no significant association between social media use and depression, anxiety, and life satisfaction.[148,150,152] Additionally, there is inconsistent evidence that social media makes social comparison, envy, and well-being worse.[149] Importantly, many of these studies note that predictive relationships between social media use and well-being are reciprocal, as well as present only in certain populations, developmental windows, or among certain patterns of use.[49,141–143,151–155]

For instance, one review found that early studies show comparison and envy are common on social media and linked to ill-being, whereas recent studies find positive, person-specific, conditional, and reciprocal effects.[149] Similarly, one study found that social media use in and of itself is not a predictor of life satisfaction; rather the relationship between self-reported estimates of social media use and life satisfaction is more nuanced, reciprocal over time, gender specific, and likely dependent on analytic methods.[152] Another study found that life satisfaction is most negatively associated with social media use in younger adolescents, but also noted possible developmental windows of sensitivity -- at ages 14-15 and 19 for boys and at ages 11-13 and 19 for girls.[49] A longitudinal study that characterized subgroups based on type of social media use found that the high social media use subgroup predicted higher depressive symptoms, panic disorder, delinquent behaviors, family conflict, and lower family and friend support than the high Instagram/Snapchat and low social media subgroup.[154] Similarly, in a study of U.S. undergrads, social media use was not predictive of impaired mental health; however, "vaguebooking" -- the practice of making a post on social media that is intentionally vague but highly personal and emotional -- was predictive of suicidal ideation.[151] This suggests how individuals use social media is more important than the amount of time they spend on social media, particularly considering that perceived parent-child conflict was a stronger predictor of mental health issues than social media use.[151]

There is also some evidence that young people who report symptoms of depression are using digital tools to learn about and help their mental health problems.[155] One study found that girls and LGBTQ+ teens were more likely to seek out online resources for mental health and showed interest in stories of others with similar experiences.[155] Those who benefit most from social media appear to be those who are marginalized as well as those with chaotic home lives, suggesting the benefits of online social support are most salient when offline social support is lacking.[51,54] These findings highlight the importance of researching patterns, quality, and type of use in addition to amount of use.

Additionally, there are methodological issues that further complicate definitive conclusions. Several studies note that wide variation in methods and rigor make it difficult to synthesize findings.[139,143,154,156,157] For instance, one systematic review found a small association between self-reported social media use and depressive symptoms, but noted that the studies had high heterogeneity, which suggests that other factors are likely moderating the relationship.[143] Another systematic review argued that small associations and inconsistent results may be influenced by

choice of mental health indication (e.g., presence of well-being is not necessarily the absence of ill-being and vice versa).[149] Furthermore, the research on social media and adolescent well-being primarily comes from cross-sectional studies, therefore causal associations may be unwarranted.[49,140,152,156–158] Finally, this research should consider a person-specific approach as individual differences may explain the mixed and inconsistent results.[156]

Ultimately, the presence of small associations as well as inconsistent and conflicting results highlights that the evidence is still too weak to promote a uniform interpretation or to support the conclusion that social media causes changes in adolescent mental health at the population level.[3,159] Moreover, the fact that social media use is linked in complex and ubiquitous ways with other aspects of life means it is unclear what such a small effect demonstrates.[159] More research is needed along with improved transparency and greater appreciation for individual differences and to elucidate which features of or use patterns of social media may be beneficial and which may be harmful to mental and physical health.[4,159]

Problematic Internet Use and Internet Gaming Disorder

Internet gaming disorder is defined as persistent and recurrent use of the internet to engage in games, leading to clinically significant impairment or distress.[41] Problematic internet use is defined as internet use that creates psychological, social, school and/or work difficulties in a person's life.[160] This can include video gaming, social media use, web-streaming, and buying; however, those activities are characterized as excessive or poorly controlled preoccupations, urges, or behaviors regarding computer use and internet access that lead to impairment or distress. The key factor is that internet use becomes problematic when it causes dysfunction in daily life activities (e.g., school, sleep, exercise).[3,26,161] There appears to be significant overlap in internet gaming disorder, problematic social media use, and problematic internet use.[3,162,163] At this point it is unclear whether problematic social media use and gaming disorder are distinct or different manifestations of disordered tech use.[3]

There is some evidence that internet gaming disorder predicts depression, anxiety, social phobia, poor school performance, sleep disruption, and poor relationships with parents and peers.[3,164–167] There is also some evidence that problematic internet use is associated with depression, disturbances in sleep and mood, upward social comparisons, cybervictimization, and poor academic performance.[3,4,58,72,168–172] Problematic social media use is most common among older age groups and may be associated with irritability, nervousness, loneliness, and morning tiredness.[169] There are gender differences in internet gaming disorder, as it affects males five times more than females.[173] Moreover, there is some evidence that boys are more addicted to games whereas girls are more addicted to social media.[3,174]

Some researchers suggest that problematic internet use could explain the small negative associations between social media and youth mental health. For instance, problematic social media use mediated the association between depressive symptoms and cyberbullying.[142] Additionally, one study found that teens with problematic internet use reported more difficulty identifying and describing emotions, and there is some evidence that emotion regulation is a significant mediator in quality of parent-adolescent relationship.[175] Some researchers theorize that problematic internet use might be a coping strategy to compensate for emotion regulation deficits, which might explain why a good relationship with parents reduces problematic internet use.[175] However, problematic use is more complex than simply the amount of time spent on social media. It includes enduring preoccupation with social media, inability to stop, neglect of one’s health and other areas of one’s life.[156] Therefore, more research is needed to better understand the relationships between problematic internet use, social media, and adolescent mental health.

Attention and Learning

There is limited evidence that social media use negatively impacts attention and learning. One study found that time spent on social media predicts concentration problems in adolescent girls.[3,176] Additionally, there are small associations between both frequency of social media use and number of platforms and attention deficit hyperactivity disorder (ADHD).[3,177–179] However, it is not clear what is driving the association between social media use and decreased attention.[1]

There is some evidence that reading on screens is fundamentally distracting.[3,180] Others have suggested that multitasking is the root of the problem. High proportions of youth engage in heavy smartphone use and media multitasking.[97] Moreover, a recent meta-analysis found associations between multitasking and problems with attention, behavior regulation, impulsiveness, and memory.[3,181] Specifically, media multitasking is associated with negative effects on cognitive control, academic performance, and socioeconomic functioning.[3,97,181,182] One study found that in three hours of studying, adolescents experienced an average of 35 social media distractions that diverted attention.[3,183] Additionally, another study found that the number of social media accounts correlated with parent reports of symptoms of inattention, hyperactivity, impulsivity, oppositional defiant disorder , anxiety, and depressive symptoms, and adolescent reports of fear of missing out and loneliness.[179] Therefore, it has been suggested that the amount of time spent online can have bidirectional effects on depressive symptoms and ADHD; this risk is particularly heightened in those with pre-existing poor mental health.[126]

Body Image and Eating Disorders

Significant research exists on the association between social media use and body image, but the findings are limited, and causal factors are difficult to differentiate. There is some evidence that social media use and consequent exposure to appearance-focused content may be weakly associated with poorer body image.[3,4,184,185] A cross-sectional study found that greater levels of self-objectifying social media use predicted greater body shame among youth, and the association was mediated by an associated increase in body surveillance.[3,186] Specifically, the role of body surveillance was stronger among girls and adolescents who are particularly focused on others for approval.[186] Body image concerns may be a key mechanism underlying the associations between adolescent girls' social media use and mental health.[187]

A scoping review found that social media use may have a variety of impacts on diet, exercise, and body image.[107] Similarly, another study found that the same platform that helped some patients find recovery support was also a source of body shaming and rumination for others.[3,188] Another review found that peer influences on social media span from healthy eating and exercise to disordered eating, and that dietary information shared on social media often misaligns with national dietary standards.[189] Similarly, one study found youth had an increased ability to recall unhealthy food, beverages, and brands particularly when celebrities and influencers are promoting them.[190]

PRIVACY

Researchers have found that the growing use of social networks has led to the emergence of ethical and privacy concerns regarding the management of user data and how social networks train algorithms for economic purposes to organize the content shown to users.[1,191] The new privacy paradox is that these sites have become so ubiquitous that users feel they must disclose information on them even though these sites do not provide adequate privacy controls.[3,192] Specifically, the privacy policies used by platforms either require or allow users to review and consent to their data

collection and data use practices; however, most respondents agreed to the terms without reviewing them.[3,193,194] This could be because the policies themselves are long and technical, they do not provide consumers with meaningful choices, and people are skeptical of whether policies achieve their goals.[194] Concern over what platforms do with user data coupled with a sense of futility over having the agency to change anything may explain why a recent Pew survey found overall strong bipartisan support for more regulation of what companies can do with people's data, with 72 percent of Americans reporting that there should be more regulation than there is now.[194]

These issues may be even more salient for children. A recent Pew study found that Americans worry about kids' online privacy, with 89 percent of respondents reporting that they are very or somewhat concerned about social media platforms knowing personal information about kids.[194] Similar concern arises over how advertisers, online games, and gaming aps collect and use children's data.[194] However, respondent expectations regarding responsibility for protecting kids is placed primarily on parents at 85 percent, followed by technology companies at 59 percent and the government at 46 percent.[194]

The Children's Online Privacy Protection Act (COPPA), which was enacted in 1998, recognizes that young children cannot consent to the terms of use for data collection, and thus prohibits enticing personal disclosures through games and restricts advertising to children. TikTok was recently sued by the U.S. government for allegedly violating COPPA by failing to notify and obtain parental consent before collecting and using personal information from children under the age of 13.[195,196] Yet, COPPA only applies to kids under 13. Consequently, recent legislation has focused on age-appropriate design and proposed additional protections for adolescents.

There is mixed evidence on how adolescents and adults feel about online privacy. There is some evidence that older users are more concerned about privacy than youth.[197] Additionally, a strong desire among adolescents for social connectedness suggests that youth may be more inclined to have relaxed privacy settings and a show a greater willingness to connect with strangers.[3,35,198] However, a different study found a negative relationship between age and privacy; noting that young people are more likely to have taken action to protect their privacy than older people.[192] Therefore, it is possible that the studies finding that young people are not concerned about their privacy may be because they are taking more precautions.

POTENTIAL APPROACHES TO PROTECT CHILDREN ON SOCIAL MEDIA

Despite widespread use among children and adolescents, the evidence on the potential harms and benefits is too weak to promote a uniform interpretation of the impact of social media on adolescent health at the population level. Nonetheless, the current body of research highlights the importance of understanding the risks and benefits and utilizing developmentally appropriate design to proactively create digital environments that protect and enrich children's and adolescents' health and well-being during critical stages of development.[1–4,41]

Developmentally appropriate design focuses on: (1) centering the rights and developmental needs of children and (2) improving privacy protections and transparency by addressing and modifying what data is collected from minors, how it is collected, and how it is used. In practice this might include collecting the minimum information necessary and prohibiting the use of that information in commerce or discouraging persuasive design features (e.g., push notifications, like buttons, tones for new content, and endless scrolling).[41] Although developmentally appropriate design does not require it, involving youth in both the discussions about and solutions for social media and youth mental health is important, and it can be accomplished with youth advisory panels.[199]

Recommendations for Industry

The most common recommendations for the social media industry, which focus on developmentally appropriate design (e.g., implementation of improved privacy protections, increased transparency, and a better system of reporting inappropriate content and ill-actors), come from researchers, medical societies, policy makers, and the surgeon general.[1–4,41,200] However, the mechanisms needed to facilitate these changes are more nuanced as there has been limited success of voluntary self-governance on the part of industry and regulatory approaches face legal and logistical implementation challenges.[201]

Highlighting the success of the Global Internet Forum to Counterterrorism, the National Academy of Science, Engineering, and Medicine (NASEM) argues that the International Organization for Standardization (ISO) should convene an ongoing technical working group comprised of industry, academic, and civil stakeholders to develop standards for social media platform design, transparency, and data use.[3,202] Other researchers, professional organizations, and policy makers also advocate for development of industry standards that improve privacy, transparency, and accountability.[4,201]

The goals of the NASEM proposed work group would be to develop standards that: (1) limit the personal information companies collect, the types of content available, and the prompts to extend time on a platform; and (2) develop easy to use, universal, transparent systems for reporting, follow-up, and adjudication for cases of online harassment and abuse.[3,4,201] Specifically, efforts should be made to move to a functional privacy system that emphasizes transparency of and access to inputs and outputs. On the front-end inputs would include: (1) a clear process for content moderation and use; (2) contents of privacy agreements; and (3) mandatory disclosures to users and the ability to opt out.[3] On the back-end, standard outputs might include: (1) platform health measures (e.g., content moderation and take down policies and data at the community, group level to evaluate platform toxicity); (2) algorithmic transparency standards and summaries at the user level; and (3) reports on efforts to remediate youth mental health problems on the platform.[3,4] This would improve privacy protections and transparency by making it clear what data is collected from minors, how it is collected and used, and what the consequences of use are. Furthermore, this would give companies and researchers more straightforward guidelines for measuring data collection risks that children encounter online, as well as technical standards to benchmark platform operations, transparency, and data use.[3] Arguably social media platforms would benefit from a standard guide of assessment to evaluate how their products influence youth well-being.

Yet developing standards is insufficient unless social media companies adopt the standards both as their policy and as provisions in their terms of service.[3] There is a precedent of self-regulation in media (e.g., tv, movies, videogames, music) using industry standards, as well as early efforts at self-regulation evidenced by Facebook's Oversight Board.[3,201,203–205] However, given that the success of social media is contingent on engaging as many people for as long as possible, implementing standards aimed to reduce controversial, emotional, and inflammatory content might not be in their best interest.[206,207] Moreover, enacting a regulatory framework across jurisdictions on global companies is not always legally or logistically viable; however, voluntarily adopting standards now could reduce the likelihood of more sweeping regulatory action later.[3,201,208,209] Furthermore, evidence from political science literature on transnational governance shows that multistakeholder regulatory standards setting schemes can be a vital part of the corporate regulatory toolbox.[201] However, more research is needed to see how and if they can be implemented to protect adolescent social media users.[201]

A public statement of compliance with standards and a commitment to uphold those standards in the terms of service would be a meaningful step towards an enforceable legal structure.[3] Specifically, the Federal Trade Commission (FTC) can penalize firms that engage in unfair or deceptive business practices and has used this authority against companies that have failed to honor commitments made in their privacy policies and similar agreements.[210–212] Audit and systemic risk reports of compliance with the standards should be available to the FTC, researchers, and the public. Social media companies should make a good faith effort to ensure access to data that facilitates research on the effects of social media on child and adolescent health possibly including removal of the prohibition on researchers' use of publicly available data.[3] More transparency would allow for comparisons across platforms and over time, which would provide a better insight for the companies, the public, and the FTC. Creation of a standard would also support and inform the FTC's use of consent decrees as a regulatory tool.[3,213] Once a company agrees to a consent decree, terms of the decree determine obligations to remediate regardless of whether the terms are within the FTC's authority.[3,214] Creation of an industry standard could support the FTC's governance by consent decree, even for providers who do not explicitly adopt the standard.[3]

Once standards have been created and adopted, it would be much easier to assess and remedy harms posed by social media. For instance, standards could be used to evaluate whether the platform has age-verification processes, data encryption, and privacy policies.[3] Similarly, they could be used to determine whether a platform's content is suitable for children by evaluating the likelihood of exposure to illegal and maladaptive behavior.[41] The first step towards benchmarking is transparency and more fair competition in an opaque market.[3] For instance, ethical artificial intelligence (AI) tool kits could help facilitate more open communication among technology developers, researchers, policy makers, and civil society.[3,215] Additionally, public documentation of the provenance of the dataset used to calibrate machine learning models is gaining traction as way to mitigate harms from biased models.[3,216]

NASEM makes a persuasive case that an ongoing technical workgroup to develop industry standards, ideally facilitated by ISO, as well as near uniform industry adoption of the standards in their policies and terms of service would improve privacy protections, improve algorithmic and other transparency, and facilitate a better system of reporting inappropriate content and ill-actors. However, this is new territory and despite the ISO's strong track record of developing complex technical international standards (e.g., information security management and data protection), it is difficult to fully assess if something similar would be an effective tool to regulate social media.[3,202] Aside from the NASEM report proposing such a workgroup, there has been very little tangible movement toward such action.

Recommendations for the Federal Government

Developing and adopting social media industry standards through an ISO facilitated workgroup may be the best way to include social media companies in decisions around developmentally appropriate design particularly given that voluntarily self-regulation in the industry is very limited. A more heavy-handed approach is to improve transparency, privacy protections, and developmentally appropriate social media design through federal legislation. This is further supported by the Surgeon General's Advisory on the effects of social media on youth mental health, which urges federal legislative action to ensure social media environments are healthy and safe, and is also reiterated in his recent call for a warning label on social media platforms.[4,217]

This approach is gaining traction, as evidenced by the numerous federal child online safety bills introduced in 2023 and 2024, including the Kids Online Safety Act, Kids Off Social Media Act, and Protecting Kids on Social Media Act.[218–220] Yet, despite public outcry on the need to regulate

social media companies and relatively strong bipartisan support, none of the proposed legislation has passed. Additionally, critics of the bills raise serious concerns around privacy, surveillance, age-verification, and expansion of control over young people's rights and autonomy, as well as possible First Amendment challenges.[221,222]

An alternate federal legislative approach could be expansion of COPPA. COPPA already imposes certain requirements on operators of websites or online services directed to children under 13 years of age, and on operators of other websites or online services that have actual knowledge that they are collecting personal information online from a child under 13 years of age. Specifically, COPPA recognizes that young children cannot consent to the terms of use for data collection, and thus prohibits enticing personal disclosures through games and restricts advertising to children.[223] When companies violate COPPA by collecting data for children under the age of 13, the FTC can and has issued fines. In 2019, the FTC required Google to pay $170 million for data collection in violation of COPPA.[224] In 2021 and 2023, legislation was introduced to extend COPPA protections to kids through age 16 and also expand the scope (e.g., banning targeted advertising to children, shifting the "actual knowledge" standard to a " reasonably likely to be used by children" standard, establishing a digital marketing bill of rights, and providing tools for parents and children to delete or remove the children's personal information when feasible).[225,226] However, there has been no action on either of the bills as of July 2024.

The FTC also has authority over unfair and deceptive practices in commerce. Therefore, in response to concerns about the erosion of consumer privacy, in particular with data collection and use practices, the FTC has issued guidance documents on internet advertising.[3,227–229] Moreover, there is proposed rulemaking on commercial surveillance and data security.[3,230] Additional guidance and/or revisions from the FTC regarding how to make systems for reporting cases of online harassment and abuse that comply with COPPA would be benefical.[3]

In addition to improving children's privacy and better regulating social media providers through the FTC and COPPA, future children's online safety legislative efforts should focus on: (1) centering young people with developmentally appropriate design; (2) increasing access to mental health resources; (3) improving digital literacy and outreach; (4) improving digital tools tailored to youth users to manage content and access (e.g., turning off autoplay, removing recommended content); (5) reducing the scope of advertising on social media; (6) strong data protections and expanded federal privacy legislation; (7) improved algorithmic, data, and process transparency (e.g., impact audits); and (8) developing support programs for children and adolescents who experience digital abuse and evaluate the effectiveness of such programs.[3,221] Finally, assuming industry leaders do not voluntarily remove the prohibitions in their terms of service on the use of publicly available data for research, Congress could pass legislation to ensure researchers can access data to examine the effects of social media on child and adolescent health.[3]

Recommendations for State and Local Agencies

Increasing concerns about social media use and adolescent health coupled with limited progress on federal legislation to protect children while using the internet and social media has prompted state legislators to propose age- and developmentally-appropriate design measures.[231,232]

As of July 2024, 45 states and Puerto Rico introduced legislation around social media and youth, and 20 states enacted bills or adopted resolutions. Among the recently introduced legislation, the following aspects are the most common: (1) creating study commissions and task forces to evaluate the relationship between social media and adolescent health; (2) establishing age-appropriate design code and requiring impact assessments; (3) requiring age verification and/or parental

consent to open social media accounts; and (4) adding digital and media literacy to K-12 curriculums.[231,233] Time limits, increased data protections (e.g., limitations on what information can be collected, geolocation/biometrics, and dark patterns), advertising restrictions, restrictions on addictive features, parental consent and access, and modification to the default privacy settings are also being included in state level legislation. However, state level legislative attempts also face serious legal challenges. For instance, Utah enacted the Utah Social Media Regulation Act, which requires age verification of state residents and parental consent for those under the age of 18 to open an account.[234] It also limits the hours of access for certain users, subject to parental or guardian direction, and provides for a private right of action. Similarly, Arkansas created the Social Media Safety Act which requires age verification and parental consent for use of social media. It also establishes a mechanism for liability for failure to perform age verification for use of social media and for illegal retention of data.[235] Finally, in 2022, California passed the Age-Appropriate Design Code Act (AADC).[206] Notable obligations under California's AADC include requiring online providers to: (1) configure a high level of default privacy settings; (2) assess whether algorithms, data collection, or targeted advertising systems could harm children; and (3) use clear, age-appropriate language for user-facing information and documents.[232,236] Yet, as is becoming increasingly more common with state legislation that addresses age verification and content moderation, Utah, Arkansas, and California have faced First Amendment challenges from NetChoice, a coalition representing the country's tech companies.[207] Ultimately, Utah repealed and replaced the Utah Social Media Regulation Act with SB 194 and HB 464. SB 194 implements age assurances and is designed to prohibit harmful and addictive product features on social media, protect minors' privacy, and give parents the tools to keep their children safe. Whereas HB 464 holds social media companies accountable by creating a private right of action for harm to minors for an adverse mental health outcome arising from a minor's excessive use of a social media company's algorithmically curated social media service. Similarly, both the Arkansas and California laws are currently enjoined pending decisions by the U.S. District Court in Fayetteville, Arkansas and Ninth Circuit Court of Appeals, respectively.[206,207,237,238]

Developmentally appropriate design legislation is relatively new at the state level, so the overall impacts are unclear. Some aspects like improved data protections, digital media literacy, and continued research are rationally grounded, appear beneficial, and are likely less subject to First Amendment challenges. However, other aspects like age verification and content moderation raise concerns around privacy, surveillance, First Amendment rights, federal preemption, and expansion of control over young people's rights and autonomy.[221,222,239]

Recommendations for Parents and Kids

Parents and children are encouraged to use social media functions that facilitate social support, online companionship, emotional intimacy, and healthy socialization; particularly during periods of isolation, during stress, mental health crisis, and for marginalized groups.[41] To achieve this, it is recommended that families should collectively develop, review, and follow a family media use plan, which should outline developmentally appropriate types, times, methods, places for, and amounts of acceptable media us.[1,2,4,41] For instance, there is evidence of the impact of excessive digital technology use (e.g., screentime, tv, and social media) by adolescents on negative health impacts.[1,2,240] However, there has been a push among researchers to move away from focusing on screentime and instead to consider how, why, when, and with whom youth are engaging online. Despite this, the American Academy of Pediatrics (AAP), APA, and many other organizations and policy makers advocate for screen time limits and media-free time.[1,2] Specifically, it is recommended that adolescents abstain from using screens 1 hour before bed and that adolescents should not sleep with digital devices in their bedrooms.[7,52] Additionally, there is some evidence supporting open, non-judgmental communication between caregivers and children and some degree

of parental monitoring of social media use.[1,2,41,97] Recent surveys suggest roughly 63 percent of adolescents and 70.8 percent of parents reported parental monitoring, and 74.3 percent of adolescents reporting being friends with their parents online.[179] Open communication is helpful for teaching digital literacy, which is necessary for children to understand the limits of "free digital products" that process access in exchange for data on user demographics, politics, mental health, and sexuality generated through engagement and viewing behavior.[50]

Recommendations for Clinicians

It is recommended that clinicians be aware of and talk with children and families about the risks and benefits of social media use.[1–3,107,241] Specifically, communication with adolescents is the most effective in the context of a therapeutic alliance that is open and non-judgmental.[97] Physicians should encourage: (1) setting boundaries for screentime and social media use; (2) discuss the risks and benefits of social media, including impact of smartphones on learning and the importance of digital media literacy; and (3) encourage communication between caregivers and children and advocate use of the Family Media Toolkit and Family Media Use Plan.[1,2,58,60,97]

Recommendations for Training and Education

One way to reduce potential harm to adolescents using social media is through improved digital media literacy. Specifically, it is important to train adolescents and those teaching and advising them skills for assessing and validating information on social media and the internet more broadly.[41,50,60,97,241] Moreover, the approach to digital media literacy needs to be multi-tiered and tailored to children, parents, educators, and clinicians. Specifically, comprehensive digital media literacy should be integrated into the standards set by state boards of education. Moreover, the U.S. Department of Education should draw national attention to the importance of comprehensive digital media literacy.[3] This is necessary to create both an online environment that protects youth and social media consumers who are empowered to protect themselves. Furthermore, educators and clinicians need to be trained in digital media literacy so they can adequately teach and advise adolescents on the risks and benefits of social media.[1–4] This could include incorporation of digital media literacy requirements for licensure as well as ongoing professional development training and resources for both educators and clinicians.[3] In addition to incorporating digital media literacy into training and licensure, additional efforts to improve dissemination of health-related digital media literacy is suggested.[241]

Recommendations for Research

Currently, the research on social media and adolescent health is limited.[3,4] Therefore, federal and non-profit research funders should support a research agenda that prioritizes: (1) the health consequences of social media use and the mechanisms of harm, (2) the epidemiology of problematic use, (3) interventions and other efforts to reduce and remediate harms arising from social media, (4) the role of parents and other adults in influencing positive use, and (5) algorithmic audits.[3,4] There is a need for validated tools to measure exposure to social media affordances, data sharing, and the establishment of long-term cohort studies. Special emphasis should be given to interdisciplinary approaches and study designs that attempt to understand causal directions.

RELEVANT AMA POLICY

The AMA has existing policy that addresses social media and mental health, gun violence, internet pornography, online streaming of sexual encounters, the effects of video game and internet overuse, disinformation, cannabis marketing, and online human subjects' research. In general,

these policies advocate the use of education and legislation to: (1) increase awareness about potential risks associated with social media and internet use; and (2) reduce exposure to harmful content (e.g., gun violence, pornography, disinformation, etc.) particularly for children, adolescents, and young adults. Current policy also supports development and implementation of clinical tools for identification and treatment of harms that arise from exposure as well as continued research into potential harms and the effectiveness of screening and treatment. Detailed information on the current AMA policies can be found in the appendix.

CONCLUSION

Digital media, smartphones, and social media have a pervasive presence in nearly all aspects of youth and adolescent life. Despite substantial research efforts, the evidence is too weak to promote a uniform interpretation of the impact of social media on adolescent health at the population level. There are several factors contributing to the weak evidence including: (1) the reciprocal associations between social media use and health; (2) the lack of consistent and comparable methodologies; (3) entanglement of impact and exposure as a byproduct of social media's ubiquity; (4) different dynamics and trends depending on level of analysis; (5) the wide variety of interactions, behaviors, and health impacts engendered by social media; and (6) reliance on cross-sectional studies with high heterogeneity.

Although the evidence is too weak to provide a uniform interpretation, there are clear positive and negative trends. There is some evidence of potential benefit in the form of improved social support, identity development, civic engagement, and self-directed learning. There is also some evidence of potential harm including negative impacts on sleep, physical activity, and mental health, as well as exposure to inappropriate content, and data privacy issues. Furthermore, it is apparent that the relative risks and benefits of social media likely depend on individual differences in: (1) engagement with social media (e.g., what kids see and do online, who they talk to, when they use social media, and how they use social media); (2) pre-exiting strengths and weaknesses; and (3) the cultural, social, and physical environment.

Even though the evidence of harm is limited there is an urgent need for action for two reasons. First, the lack of algorithmic transparency, privacy protections, and accountability and redress for online harassment on most platforms is concerning given the power, reach, and ubiquity of social media. Second, the potential harms are serious, particularly during sensitive developmental periods; therefore, proactively creating digital environments that protect and enrich children's and adolescents' health and well-being is beneficial regardless of the evidence of harm. There are two key approaches that would likely facilitate the creation of safer, developmentally appropriate environments. First, federal and state legislative action (e.g., expansion of COPPA, implementation of age-appropriate design, and mechanisms to address online harassment), and second, development and widespread adoption of industry standards to benchmark platform operations, transparency, and data use. In addition to improving the digital environment, it is imperative that there are simultaneous efforts to address harms that still arise including: (1) education and training on digital media literacy and the potential harms posed by social media; (2) improved screening and support for those who experience harms (e.g., problematic internet use and online harassment); and (3) continued research of the health impacts of social media.

RECOMMENDATIONS

The Council on Science and Public Health recommends that the following be adopted, and the remainder of the report be filed:

1. That our AMA:

   (1) urges physicians to: (a) educate themselves about social media; (b) be prepared to counsel patients and/or their guardians about the potential risks and harms of social media; and (c) consider expanding clinical interviews to inquire about social media use;
   (2) encourages further clinical, epidemiological, and interdisciplinary research on the impact of social media on health;
   (3) supports education of clinicians, educators, and the public on digital media literacy and the health effects of social media;
   (4) recognizes that the relative risks and benefits of social media may depend on individual differences (e.g., social media engagement, pre-existing traits, and environment);
   (5) supports legislative, regulatory, and associated initiatives that, at a minimum, provide youth with strong data privacy protections, require platforms to be designed to align with child development, and provide transparency into the potential harms posed by platforms to young people and any steps taken to mitigate those harms; and
   (6) will collaborate with professional societies, industry, and other stakeholders to improve social media platform privacy protections, transparency (e.g., algorithmic, data, and process), data sharing processes, and systems for accountability and redress in response to online harassment. (New HOD Policy)

2. That current AMA policy D-478.965, "Addressing Social Media and Social Networking Usage and its Impacts on Mental Health" be amended by addition and deletion to read as follows:

   Our AMA: (1) will collaborate with relevant professional organizations to: (a) support the development of continuing education programs to enhance physicians' knowledge of the health impacts of social media and social networking usage; and (b) support the development of effective clinical tools and protocols for the identification, treatment, and referral of children, adolescents, and adults at risk for and experiencing health sequelae of social media and social networking usage; (2) advocates for schools to provide safe and effective educational programs ~~by which~~ so that (a) all students can learn to identify and mitigate the onset of mental health sequelae of social media and social networking usage, and (b) all students develop skills in digital literacy to serve as an individual protective foundation for interaction with various types of digital media (including social media); (3) affirms that use of social media and social networking has the potential to positively or negatively impact the physical and mental health of individuals, especially adolescents and those with preexisting psychosocial conditions; (4) advocates for and support media and social networking services addressing and developing safeguards tailored to youth users, including ensuring robust protections for youth online privacy, providing effective tools to manage screentime content and access, and promoting the development and dissemination of age-appropriate digital literacy training; and (5) advocates for the study of the positive and negative biological, psychological, and social effects of social media and social networking services use. (Modify Current HOD Policy)

Fiscal Note: $5,000 - $10,000

APPENDIX: Relevant AMA Policy

Addressing Social Media and Social Networking Usage and its Impacts on Mental Health D-478.965
Our AMA: (1) will collaborate with relevant professional organizations to: (a) support the development of continuing education programs to enhance physicians' knowledge of the health impacts of social media and social networking usage; and (b) support the development of effective clinical tools and protocols for the identification, treatment, and referral of children, adolescents, and adults at risk for and experiencing health sequelae of social media and social networking usage; (2) advocates for schools to provide safe and effective educational programs by which students can learn to identify and mitigate the onset of mental health sequelae of social media and social networking usage; (3) affirms that use of social media and social networking has the potential to positively or negatively impact the physical and mental health of individuals, especially adolescents and those with preexisting psychosocial conditions; (4) advocates for and support media and social networking services addressing and developing safeguards for users; and (5) advocates for the study of the positive and negative biological, psychological, and social effects of social media and social networking services use.

Minimizing the Influence of Social Media on Gun Violence H-478.977
1. Our American Medical Association calls upon all social media sites that allow posting of videos, photographs, and written online comments encouraging and glorifying the use of guns and gun violence to vigorously and aggressively remove such postings.
2. Our AMA strongly recommends social media sites continuously update and monitor their algorithms in order to detect and eliminate any information that discusses and displays guns and gun violence in a way that encourages viewers to act violently.
3. Our AMA will work with social media sites to provide educational content on the use of guns, inherent dangers, and gun safety in an effort to end the ongoing and devastating effects of gun violence in our communities.

Internet Pornography: Protecting Children and Youth Who Use the Internet and Social Media H-60.934
Our AMA:
(1) Recognizes the positive role of the Internet in providing health information to children and youth.
(2) Recognizes the negative role of the Internet in connecting children and youth to predators and exposing them to pornography.
(3) Supports federal legislation that restricts Internet access to pornographic materials in designated public institutions where children and youth may use the Internet.
(4) Encourages physicians to continue efforts to raise parent/guardian awareness about the importance of educating their children about safe Internet and social media use.
(5) Supports school-based media literacy programs that teach effective thinking, learning, and safety skills related to Internet and social media use.
(6) Actively support legislation that would strengthen child-centric content protection by internet service providers and/or search engines in order to limit the access of pornography to minors on the internet and mobile applications.

Addressing Public Health Disinformation Disseminated by Health Professionals D-440.914
Our AMA will collaborate with relevant health professional societies and other stakeholders:
(a) on efforts to combat public health disinformation disseminated by health professionals in all forms of media,
(b) address disinformation that undermines public health initiatives, and

(c) implement a comprehensive strategy to address health-related disinformation disseminated by health professionals that includes:
(1) Maintaining AMA as a trusted source of evidence-based information for physicians and patients.
(2) Ensuring that evidence-based medical and public health information is accessible by engaging with publishers, research institutions and media organizations to develop best practices around paywalls and preprints to improve access to evidence-based information and analysis.
(3) Addressing disinformation disseminated by health professionals via social media platforms and addressing the monetization of spreading disinformation on social media platforms.
(4) Educating health professionals and the public on how to recognize disinformation as well as how it spreads.
(5) Considering the role of health professional societies in serving as appropriate fact-checking entities for health-related information disseminated by various media platforms.
(6) Encouraging continuing education to be available for health professionals who serve as fact-checker to help prevent the dissemination of health-related disinformation.
(7) Ensuring licensing boards have the authority to take disciplinary action against health professionals for spreading health-related disinformation and affirms that all speech in which a health professional is utilizing their credentials is professional conduct and can be scrutinized by their licensing entity.
(8) Ensuring specialty boards have the authority to take action against board certification for health professionals spreading health-related disinformation.
(9) Encouraging state and local medical societies to engage in dispelling disinformation in their jurisdictions.

Television Broadcast and Online Streaming of Sexual Encounters and Public Health Awareness on Social Media Platforms H-485.994
Our AMA urges television broadcasters and online streaming services, producers, sponsors, and any associated social media outlets to encourage education about inclusive safe sexual practices, including but not limited to condom use and abstinence, in television or online programming of sexual encounters, and to accurately represent the consequences of unsafe sex.
Medical and Public Health Misinformation Online D-440.915
Our AMA:
(1) encourages social media companies and organizations, search engine companies, online retail companies, online healthcare companies, and other entities owning websites to further strengthen their content moderation policies related to medical and public health misinformation, including, but not limited to enhanced content monitoring, augmentation of recommendation engines focused on false information, and stronger integration of verified health information;
(2) encourages social media companies and organizations, search engine companies, online retail companies, online healthcare companies, and other entities owning websites to recognize the spread of medical and public health misinformation over dissemination networks and collaborate with relevant stakeholders to address this problem as appropriate, including but not limited to altering underlying network dynamics or redesigning platform algorithms;
(3) will continue to support the dissemination of accurate medical and public health information by public health organizations and health policy experts; and
(4) will work with public health agencies in an effort to establish relationships with journalists and news agencies to enhance the public reach in disseminating accurate medical and public health information.

Marketing Guardrails for the "Over-Medicalization" of Cannabis Use D-95.958
Our AMA will: (1) send a formal letter to the Food and Drug Administration and Federal Trade Commission requesting more direct oversight of the marketing of cannabis for medical use; (2)

generate a formal letter for use by state medical societies requesting more direct oversight by state government of the marketing of cannabis; (3) support and encourage federal, state, and private sector research on the effects of cannabis marketing to identify best practices in protecting vulnerable populations, as well as the benefits of safety campaigns such as preventing impaired driving or dangerous use; (4) encourage state regulatory bodies to enforce cannabis-related marketing laws and to publicize and make publicly available the results of such enforcement activities; (5) encourage social media platforms to set a threshold age of 21 years for exposure to cannabis advertising and marketing and improve age verification practices on social media platforms; (6) encourage regulatory agencies to research how marketing best practices learned from tobacco and alcohol policies can be adopted or applied to cannabis marketing; and (7) support using existing AMA channels to educate physicians and the public on the health risks of cannabis to children and potential health risks of cannabis to people who are pregnant or lactating.

Principles of Human Subjects Research Shall Apply to Online Medical Research Projects H-460.898
Our American Medical Association declares social media sites' terms of service as an insufficient proxy for informed consent prior to being enrolled in any medical experiment and recommends that online social networks provide users with specific informed consent outlining the aims, risks and possible benefits of any medical experimental study prior to study enrollment.

Emotional and Behavioral Effects of Video Game and Internet Overuse H-60.915
Our AMA supports increased awareness of the need for parents to monitor and restrict use of video games and the Internet and encourage increased vigilance in monitoring the content of games purchased and played for children 17 years old and younger.

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AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 901
(I-24)

Introduced by: Medical Student Section, Washington, and Oregon

Subject: Heat Alerts and Response Plans

Referred to: Reference Committee K

Whereas, acute and chronic heat exposure has major detrimental implications for cardiovascular, renal, psychiatric, reproductive, and other health outcomes and is associated with a 126% increase in annual cardiovascular deaths by 2065 (4,300 more deaths yearly)[1-3]; and

Whereas, according to the CDC, heat response plans are prepared strategies that coordinate community efforts including heat surveillance, public health messaging, front-line health and social services, cooling centers, water and fan distribution, energy assistance, and greenspaces and have demonstrated reductions in heat-related morbidity and mortality, especially for elderly populations and communities of lower socioeconomic status[4-14]; and

Whereas, the World Meteorological Organization recommends setting heat alert thresholds based on the level of heat exposure associated with adverse health outcomes, and local National Weather Service (NWS) offices in the US issue alerts to support heat response based on NWS guidelines[11-17]; and

Whereas, however, heat-related morbidity begins at a range below current NWS heat alert thresholds, leading to discrepancies and inadequacies in heat response[4,11,15,18]; and

Whereas, the US Department of Energy recently developed an updated heat index model that more accurately incorporates temperature extremes and factors that affect perceived heat such as humidity to improve estimations of morbidity and mortality, suggesting that current NWS models may underestimate heat index by up to 20° and lead to contributing to inadequacies in heat response[12,14,19,20]; and

Whereas, the Stafford Act of 1988 does not consider extreme heat a major disaster eligible for Federal Emergency Management Agency (FEMA) assistance, and 14 state attorneys general and multiple organizations recently petitioned FEMA to change this[21-25]; therefore be it

RESOLVED, that our American Medical Association supports federal, state, and local efforts to use the most updated and evidence-based heat index formulas and other relevant factors to accurately estimate heat-related morbidity and mortality, proactively issue heat alerts, and improve implementation of response plans (New HOD Policy); and be it further

RESOLVED, that our AMA supports efforts to implement and fund comprehensive heat response plans and allow Federal Emergency Management Agency funds and resources to be used for heat response. (New HOD Policy)

Fiscal Note: Minimal – less than $1,000

Date Received: 09/19/2024

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RELEVANT AMA POLICY

D-135.967 Advocating for Heat Exposure Protections for All Workers
Our American Medical Association will advocate for all workers to have access to preventive cool-down rest periods in shaded, ventilated, and/or cooled areas for prevention of injury from sun exposure and heat injury as well as appropriate access to emergency services when signs and symptoms of heat exposure injury;
Our AMA will advocate for legislation that creates federal standards for protections against heat stress and sun exposure specific to the hazards of the workplace.
Our AMA supports policy change at the federal level via legislation or administrative rule changes by the Occupational Safety and Health Administration (OSHA) that would require that workers receive health educational materials about prevention and recognition of heat exhaustion and heat exposure injury that is in the worker's primary language.
Our AMA will work with the United States Department of Labor, OSHA, and other appropriate federal stakeholders to develop and enforce evidence-based policies, guidelines, and protections against heat injury for workers independent of legal status.
Our AMA recognizes there are particular medical conditions and medications, including but not limited to psychotropics, which increase an individual’s vulnerability to the negative impacts of heat and sun exposure and advocate for recognition of this, as well as additional protections as part of any guidelines, legislation or other policies. [Res. 502, I-21]

H-130.951 Heat-Related Illness
The AMA recognizes the significant public health threat imposed by heat-related emergencies, and provides the following policy: (1) Physicians should identify patients at risk for extreme heat-related illness such as the elderly, children, individuals with physical or mental disabilities, alcoholics, the chronically ill, and the socially isolated. Patients, family members, friends, and caretakers should be counseled about prevention strategies to avoid such illness. Physicians should provide patients at risk with information about cooling centers and encourage their use during heat emergencies. (2) The AMA encourages patients at risk for heat-related illness to consider wearing appropriate medical identification. [CSA Rep. 10, A-97; Reaffirmed: CSAPH Rep. 3, A-07; Reaffirmed: CSAPH Rep. 01, A-17]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 902
(I-24)

Introduced by: Women Physicians Section

Subject: Advancing Menopause Research and Care

Referred to: Reference Committee K

Whereas, roughly 75 million people are currently in perimenopause, menopause, or postmenopause in United States, with 6000 new people entering menopause every day[1]; and

Whereas, menopausal and postmenopausal persons face increased health risks, such as cardiovascular disease, osteoporosis, urinary incontinence, and mood disorders, due to the hormonal changes that occur during this period[2]; and

Whereas, economic costs associated with menopause and postmenopause are substantial, with an annual burden of $1.8 billion from lost work time and $26.6 billion in medical expenses[3]; and

Whereas, when surveyed, only about 30% of OBGYN program directors reported having a menopause curriculum for their residents and 80% of OBGYN residents do not feel prepared to talk to their patients about menopause[1,4]; and

Whereas, there is a severe need for additional research on menopause, and an expert panel noted there are several existing knowledge gaps regarding menopause, including pathogenesis and treatment of vasomotor symptoms, which has been shown to disproportionately affect women of color[5,6]; and

Whereas, menopause, similar to other aspects of women's health, is underfunded and lacks the appropriate infrastructure for tracking funding, such as the NIH assigned RCDC number[7]; and

Whereas, in 2023, it was estimated that menopause, which impacts nearly 50% of the population, received $259 million dollars for research in comparison to Alzheimer's, which affects approximately 10.9% of individuals 65 and older, received $4 billion dollars[8,9]; and

Whereas, on March 18, 2024, President Biden signed an executive order to support and advance women's health focusing on increasing investments in women's health research by the NIH, including establishment of a Pathways to Prevention for menopause and menopausal symptoms by the NIH to improve women's health across the lifespan, which highlights the need for ongoing advocacy and research in this area[10]; and

Whereas, in the last year, multiple bills have been introduced in Congress calling for expanded access to menopause care and funding for menopause research, including S.4246 - Advancing Menopause Care and Mid-Life Women's Health Act, H.R. 6749 - Menopause Research and Equity Act of 2023; H.R. 8347 - Improving Menopause Care for Veterans Act of 2024[11-13]; and

Whereas, the AMA has not sent any federal or state correspondence regarding menopause-related advocacy since at least 2015[14]; therefore be it

RESOLVED, that our American Medical Association advocate for increased funding for biomedical and public health research on perimenopause, menopause, and related chronic conditions (Directive to Take Action); and be it further

RESOLVED, that our AMA support expanded training opportunities for medical students, residents, and other health professions trainees to improve care, treatment, and management services for perimenopause, menopause, and related chronic conditions (New HOD Policy); and be it further

RESOLVED, that our AMA support efforts to increase awareness and education related to menopause, mid-life women's health and related conditions, treatment, and preventative services. (New HOD Policy)

Fiscal Note: Modest – between $1,000 - $5,000

Date Received: 09/19/2024

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RELEVANT AMA POLICY

Sex and Gender Differences in Medical Research H-525.988

Our AMA:
(1) reaffirms that gender and sex exclusion in broad medical studies questions the validity of the studies' impact on the health care of society at large;
(2) affirms the need to include people of all sexes and gender identities and expressions in studies that involve the health of society at large and publicize its policies;
(3) supports increased funding into areas of women's health and sexual and gender minority health research;

(4) supports increased research on women's health and sexual and gender minority health and the participation of women and sexual and gender minority communities in clinical trials, the results of which will permit development of evidence-based prevention and treatment strategies for all women and sexual and gender minority individuals from diverse cultural and ethnic groups, geographic locations, and socioeconomic status;
(5) recommends that all medical/scientific journal editors require, where appropriate, a sex-based and gender-based analysis of data, even if such comparisons are negative; and
(6) recommends that medical and scientific journals diversify their review processes to better represent women and sexual and gender minority individuals;
(7) supports the FDA's requirement of actionable clinical trial diversity action plans from drug and device sponsors that include women and sexual and gender minority populations;
(8) supports the FDA's efforts in conditioning drug and device approvals on post-marketing studies which evaluate the efficacy and safety of those products in women and sexual and gender minority populations when those groups were not adequately represented in clinical trials; and
(9) supports and encourages the National Institutes of Health and other grant-making entities to fund post-market research investigating pharmacodynamics and pharmacokinetics for generic drugs that did not adequately enroll women and sexual and gender minority populations in their clinical trials, prioritizing instances when those populations represent a significant portion of patients or reported adverse drug events. [Res. 80, A-91; Appended: CSA Rep. 4, I-00; Modified: CSAPH Rep. 1, A-10; Reaffirmed: CSAPH Rep. 05, A-16; Modified: Res. 004, A-23; Modified: CSAPH Rep. 01, A-24]

An Expanded Definition of Women's Health H-525.976
Our AMA recognizes the term "women's health" as inclusive of all health conditions for which there is evidence that women's risks, presentations, and/or responses to treatments are different from those of men, and encourages that evidence-based information regarding the impact of sex and gender be incorporated into medical practice, research, and training. [CSAPH Rep. 05, A-16]

Encouraging Research of Testosterone and Pharmacological Therapies for Post-Menopausal Individuals with Decreased Libido H-460.886
Our American Medical Association encourages expansion of research on the use of testosterone therapy and other pharmacological interventions in treatment of decreased libido in postmenopausal individuals. [Res. 522, A-22]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 903
(I-24)

Introduced by: Women Physicians Section

Subject: Improving the Identification of Intimate Partner Violence (IPV) in People with Disabilities

Referred to: Reference Committee K

Whereas, intimate partner violence (IPV) is defined as abuse or aggression by an intimate partner, including physical violence, sexual violence, psychological aggression, emotional abuse, and stalking[1,2]; and

Whereas, it has been estimated that up to 54-80% of individuals with disabilities experience some form of IPV in their lifetime, resulting in nearly double the lifetime risk of IPV compared to the general population[2,3,4]; and

Whereas, despite professional organizations recommending routine IPV screening, only 15% of women with disabilities reported being asked by healthcare providers if they have experienced IPV[,4]; and

Whereas, physician implicit bias leads to people with disabilities receiving inadequate counseling and screening for concerns related to sexual health, which may be one contributor to the lack of IPV screening in this population[5]; and

Whereas, in addition to the traditional manifestations of IPV, people with disabilities may experience different forms of IPV than people without disabilities, such as having their adaptive equipment withheld or damaged, which may be a reason IPV is not always identified by standard screening tools in this population[6,7]; and

Whereas, standard IPV screening tools are only 80% as accurate at identifying IPV in people with physical disabilities as disability-specific IPV screening tools, such as the Abuse Assessment Screen-Disability (AAS-D), contributing to the lack of identification of IPV in this population[8]; and

Whereas, the AAS-D screening tool has not yet been validated, limiting its ability to be used in clinical practice[8]; and

Whereas, it has been suggested that IPV screening tools that include disability-specific questions written in languages that can be easily understood by individuals with cognitive disabilities would be useful for IPV screening in individuals with both physical and cognitive disabilities, but currently, no such tool is commonly used[6]; and

Whereas, accurate identification of IPV in people with disabilities through the use of disability-specific screening tools, such as the AAS-D, could help guide treatment, allow for the incorporation of trauma-informed care, and ultimately decrease the morbidity associated with IPV in this population[6]; therefore be it

RESOLVED, that our American Medical Association advocate for increased research on the prevalence of intimate partner violence (IPV) in people with disabilities and the unique IPV-related issues faced by people with disabilities (Directive to Take Action); and be it further

RESOLVED, that our AMA advocated for increased research on the efficacy of population-specific intimate partner violence (IPV) screening tools that address the specific manifestations of abuse faced by people with disabilities. (Directive to Take Action)

Fiscal Note: Modest – between $1,000 - $5,000

Received: 09/19/2024

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RELEVANT AMA POLICY

Family and Intimate Partner Violence H-515.965

(1) Our AMA believes that all forms of family and intimate partner violence (IPV) are major public health issues and urges the profession, both individually and collectively, to work with other interested parties to prevent such violence and to address the needs of survivors. Physicians have a major role in lessening the prevalence, scope and severity of child maltreatment, intimate partner violence, and elder abuse, all of which fall under the rubric of family violence. To suppor physicians in practice, our AMA will continue to campaign against family violence and remains open to working with all interested parties to address violence in US society.

(2) Our AMA believes that all physicians should be trained in issues of family and intimate partner violence through undergraduate and graduate medical education as well as continuing professional development. The AMA, working with state, county and specialty medical societies as well as academic medical centers and other appropriate groups such as the Association of American Medical Colleges, should develop and disseminate model curricula on violence for incorporation into undergraduate and graduate medical education, and all parties should work for the rapid distribution and adoption of such curricula. These curricula should include coverage of the diagnosis, treatment, and reporting of child maltreatment, intimate partner violence, and elder abuse and provide training on interviewing techniques, risk assessment, safety planning, and procedures for linking with resources to assist survivors. Our AMA supports the inclusion of questions on family violence issues on licensure and certification tests.

(3) The prevalence of family violence is sufficiently high and its ongoing character is such that physicians, particularly physicians providing primary care, will encounter survivors on a regular basis. Persons in clinical settings are more likely to have experienced intimate partner and family violence than non-clinical

populations. Thus, to improve clinical services as well as the public health, our AMA encourages physicians to: (a) Routinely inquire about the family violence histories of their patients as this knowledge is essential for effective diagnosis and care; (b) Upon identifying patients currently experiencing abuse or threats from intimates, assess and discuss safety issues with the patient before he or she leaves the office, working with the patient to develop a safety or exit plan for use in an emergency situation and making appropriate referrals to address intervention and safety needs as a matter of course; (c) After diagnosing a violence-related problem, refer patients to appropriate medical or health care professionals and/or community-based trauma-specific resources as soon as possible; (d) Have written lists of resources available for survivors of violence, providing information on such matters as emergency shelter, medical assistance, mental health services, protective services and legal aid; (e) Screen patients for psychiatric sequelae of violence and make appropriate referrals for these conditions upon identifying a history of family or other interpersonal violence; (f) Become aware of local resources and referral sources that have expertise in dealing with trauma from IPV; (g) Be alert to men presenting with injuries suffered as a result of intimate violence because these men may require intervention as either survivors or abusers themselves; (h) Give due validation to the experience of IPV and of observed symptomatology as possible sequelae; (i) Record a patient's IPV history, observed traumata potentially linked to IPV, and referrals made; (j) Become involved in appropriate local programs designed to prevent violence and its effects at the community level.

(4) Within the larger community, our AMA:

(a) Urges hospitals, community mental health agencies, and other helping professions to develop appropriate interventions for all survivors of intimate violence. Such interventions might include individual and group counseling efforts, support groups, and shelters.

(b) Believes it is critically important that programs be available for survivors and perpetrators of intimate violence.

(c) Believes that state and county medical societies should convene or join state and local health departments, criminal justice and social service agencies, and local school boards to collaborate in the development and support of violence control and prevention activities.

(5) With respect to issues of reporting, our AMA strongly supports mandatory reporting of suspected or actual child maltreatment and urges state societies to support legislation mandating physician reporting of elderly abuse in states where such legislation does not currently exist. At the same time, our AMA oppose the adoption of mandatory reporting laws for physicians treating competent, non-elderly adult survivors of intimate partner violence if the required reports identify survivors. Such laws violate basic tenets of medical ethics. If and where mandatory reporting statutes dealing with competent adults are adopted, the AMA believes the laws must incorporate provisions that: (a) do not require the inclusion of survivors' identities; (b) allow competent adult survivors to opt out of the reporting system if identifiers are required; (c) provide that reports be made to public health agencies for surveillance purposes only; (d) contain a sunset mechanism; and (e) evaluate the efficacy of those laws. State societies are encouraged to ensure that all mandatory reporting laws contain adequate protections for the reporting physician and to educate physicians on the particulars of the laws in their states.

(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.

(d) Physicians should be informed about the possible pharmacological link between amphetamine use and human violent behavior. The suggestive evidence about barbiturates and amphetamines and violence should be followed up with more research on the possible causal connection between these drugs and violent behavior.

(e) The notion that alcohol and controlled drugs cause violent behavior is pervasive among physicians and other health care providers. Training programs for physicians should be developed that are based on

empirical data and sound theoretical formulations about the relationships among alcohol, drug use, and violence. [CSA Rep. 7, I-00; Reaffirmed: CSAPH Rep. 2, I-09; Modified: CSAPH Rep. 01, A-19]

Improving Screening and Treatment Guidelines for Intimate Partner Violence (IPV) Against Lesbian, Gay, Bisexual, Transgender, Queer/Questioning, and Other Individuals (LGBTQ) D-515.980
Our AMA will: (1) promote crisis resources for LGBTQ patients that cater to the specific needs of LGBTQ survivors of IPV; (2) encourage physicians to familiarize themselves with resources available in their communities for LGBTQ survivors of IPV; (3) advocate for federal funding to support programs and services for survivors of IPV that do not discriminate against underserved communities, including on the basis of sexual orientation and gender identity; (4) encourage research on intimate partner violence in the LGBTQ community to include studies on the prevalence, the accuracy of screening tools, effectiveness of early detection and interventions, as well as the benefits and harms of screening; and (5) encourage the dissemination of research to educate physicians and the community regarding the prevalence of IPV in the LGBTQ population, the accuracy of screening tools, effectiveness of early detection and interventions, as well as the benefits and harms of screening. [Res. 903, I-17; Modified: CSAPH Rep. 01, I-18]

Medical Care of Persons with Disabilities H-90.968
1. Our American Medical Association encourages:
    a. clinicians to learn and appreciate variable presentations of complex functioning profiles in all persons with disabilities including but not limited to physical, sensory, developmental, intellectual, learning, and psychiatric disabilities and chronic illnesses.
    b. medical schools and graduate medical education programs to acknowledge the benefits of education on how aspects in the social model of disability (e.g. ableism) can impact the physical and mental health of persons with disabilities.
    c. medical schools and graduate medical education programs to acknowledge the benefits of teaching about the nuances of uneven skill sets, often found in the functioning profiles of persons with developmental disabilities, to improve quality in clinical care.
    d. education of physicians on how to provide and/or advocate for developmentally appropriate and accessible medical, social and living support for patients with disabilities so as to improve health outcomes.
    e. medical schools and residency programs to encourage faculty and trainees to appreciate the opportunities for exploring diagnostic and therapeutic challenges while also accruing significant personal rewards when delivering care with professionalism to persons with profound disabilities and multiple co-morbid medical conditions in any setting.
    f. medical schools and graduate medical education programs to establish and encourage enrollment in elective rotations for medical students and residents at health care facilities specializing in care for the disabled.
    g. cooperation among physicians, health & human services professionals, and a wide variety of adults with disabilities to implement priorities and quality improvements for the care of persons with disabilities.
2. Our AMA seeks:
    a. legislation to increase the funds available for training physicians in the care of individuals with disabilities, and to increase the reimbursement for the health care of these individuals.
    b. insurance industry and government reimbursement that reflects the true cost of health care of individuals with disabilities.
3. Our AMA entreats health care professionals, parents, and others participating in decision-making to be guided by the following principles:
    a. All people with disabilities, regardless of the degree of their disability, should have access to appropriate and affordable medical and dental care throughout their lives.
    b. An individual's medical condition and welfare must be the basis of any medical decision. Our AMA advocates for the highest quality medical care for persons with profound disabilities; encourages support for health care facilities whose primary mission is to meet the health care needs of persons with profound disabilities; and informs physicians that when they are presented with an opportunity to care for patients with profound disabilities, that there are resources available to them.

4. Our AMA will collaborate with appropriate stakeholders to create a model general curriculum/objective that
    a. incorporates critical disability studies.
    b. includes people with disabilities as patient instructors in formal training sessions and preclinical and clinical instruction.
5. Our AMA recognizes the importance of managing the health of children and adults with developmental and intellectual disabilities as a part of overall patient care for the entire community.
6. Our AMA supports efforts to educate physicians on health management of children and adults with intellectual and developmental disabilities, as well as the consequences of poor health management on mental and physical health for people with intellectual and developmental disabilities.
7. Our AMA encourages the Liaison Committee on Medical Education, Commission of Osteopathic College Accreditation, and allopathic and osteopathic medical schools to develop and implement a curriculum on the care and treatment of people with a range of disabilities.
8. Our AMA encourages the Accreditation Council for Graduate Medical Education and graduate medical education programs to develop and implement curriculum on providing appropriate and comprehensive health care to people with a range of disabilities.
9. Our AMA encourages the Accreditation Council for Continuing Medical Education, specialty boards, and other continuing medical education providers to develop and implement continuing programs that focus on the care and treatment of people with a range of disabilities.
10. Our AMA will advocate that the Health Resources and Services Administration include persons with disabilities as a medically underserved population.
11. Specific to people with developmental and intellectual disabilities, a uniquely underserved population, our AMA encourages:
    a. Medical schools and graduate medical education programs to acknowledge the benefits of teaching about the nuances of uneven skill sets, often found in the functioning profiles of persons with developmental and intellectual disabilities, to improve quality in clinical education.
    b. Medical schools and graduate medical education programs to establish and encourage enrollment in elective rotations for medical students and residents at health care facilities specializing in care for individuals with developmental and intellectual disabilities.
    c. Cooperation among physicians, health and human services professionals, and a wide variety of adults with intellectual and developmental disabilities to implement priorities and quality improvements for the care of persons with intellectual and developmental disabilities.

[CCB/CLRPD Rep. 3, A-14; Appended: Res. 306, A-14; Appended: Res. 315, A-17; Appended: Res. 304, A-18; Reaffirmed in lieu of the 1st Resolved: Res. 304, A-18; Modified: Res. 428, A-22]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 904
(I-24)

Introduced by: Women Physicians Section

Subject: Regulation of Ionized Radiation Exposure for Healthcare Workers

Referred to: Reference Committee K

Whereas, ionizing radiation is a known human carcinogen and breast tissue is particularly sensitive to radiation, with a direct linear correlation between increased exposure and heightened breast cancer risk;[1] and

Whereas, a survey of over five-hundred orthopedic residents find that 98% believed radiation safety personal protective equipment (PPE) should be provided, yet only 54.2% reported that it was made available to them;[2] and

Whereas, standard lead and lead-free aprons often leave the upper outer quadrant (UOQ) of the breast and axilla, common sites for breast cancer, exposed, and lead to increased vulnerability for radiation exposure and risk for breast cancer;[3] and

Whereas, radiation aprons that are both too tight or too loose and use C-arm X-Ray machines in the lateral projection instead of an anteroposterior projection both result in increased breast radiation dose-equivalent rates in the UOQ;[4] and

Whereas, recent studies indicate an increased risk of breast cancer among female surgeons, particularly those frequently exposed to ionizing radiation during image-guided procedures;[5] and

Whereas, in a recent study using artificial female torsos to assess radiation exposure, researchers discovered insufficient protection for the UOQ and found no statistically significant reduction in radiation dose in breast tissue when comparing standard PPE to a torso without PPE;[6] and

Whereas, research demonstrates that female orthopedic surgeons have 2.9-fold to 3.9-fold increase in the prevalence of breast cancer, compared with an age matched female population, and a recent study reports a 1.7-fold increase in breast cancer rates among female healthcare workers exposed to radiation compared to their non-exposed female healthcare worker counterparts;[5] and

Whereas, a 2022 study demonstrates a standardized prevalence ratio of invasive cancer, breast cancer, and melanoma in orthopedic surgeons to be 7.59%, 2.98%, and 1.49%, respectively, demonstrating a prevalence of cancer of 189% higher in female orthopedic surgeons than the general US female population when adjusted for age and race;[7] and

Whereas, unlike orthopedic surgeons, similar lifestyle and demographic female surgeons that are not exposed frequently to ionized radiation from image-guided techniques such as

fluoroscopy, such as plastic or urologic surgeons, do not have an increased risk compared to the general population;[8] and

Whereas, in addition to surgeons, specialists such as cardiologists and radiologists, that rely on tools like fluoroscopy, also have increased risk of cancer, with one prospective cohort study pointing to elevated risks of brain cancer, breast cancer, and melanoma in radiologic technologists;[9] and

Whereas, fields with increased exposure to ionizing radiation are increasing in popularity for women, including an increase in female applicants to orthopedic surgery residency programs from 11.7% in 2007 to 23% in 2022,[10] highlighting the increased need for re-evaluation of current radiation protective measures; and

Whereas, it has been shown that many orthopedic surgeons are currently not satisfied with current options to protect themselves from radiation;[11] therefore be it

RESOLVED, that our American Medical Association encourage public and private healthcare institutions to ensure more comprehensive coverage of different body types by providing PPE that more completely protects employees of all genders and pregnancy statuses, such as lead and lead-free aprons with capped sleeves, axillary supplements, and maternity aprons. (New HOD Policy)

Fiscal Note: Minimal – less than $1,000

Date Received: 09/19/2024

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Relevant AMA Policy

Risks of Nuclear Energy and Low-Level Ionizing Radiation H-455.994

1. Our American Medical Association supports the following policy on nuclear energy and low-level ionizing radiation. Usefulness of Nuclear Energy: Energy produced by nuclear reactors makes an important contribution to the generation of electricity in the US at present, and it will continue to do so in the foreseeable future. Investigation and research

should continue in order to develop improved safety and efficiency of nuclear reactors, and to explore the potential of competing methods for generating electricity. The research should include attention to occupational and public health hazards as well as to the environmental problems of waste disposal and atmospheric pollution.

2. Research on Health Effects of Low Level Radiation: There should be a continuing emphasis on research that is capable of determining more precisely the health effects of low level ionizing radiation.
3. Uranium Mill Tailings: Uranium mill tailings should be buried or otherwise covered.
4. Radioactive Waste Disposal: There should be acceleration of pilot projects to evaluate techniques for the disposal of high-level radioactive wastes. The decommissioning of nuclear reactors is a source of nuclear waste which requires accelerated technological investigation and planning.
5. Occupational Safety: The philosophy of maintaining exposures of workers at levels "as low as reasonably achievable (ALARA)" is commended. The present federal standards for occupational exposure to ionizing radiation are adequate. The responsibilities of the various federal agencies regarding workers in the nuclear energy industry should be clarified; these agencies include the Departments of Energy, Defense, HHS, Labor and Transportation; and the NRC, VA and EPA.
6. Minimizing Exposures to Radiation: Each physician should attempt to minimize exposures of patients to ionizing radiation in accord with good medical practice.
7. Radiation Exposure Standards: The present standards for exposure of populations to ionizing radiation are adequate for the protection of the public.
8. Emergencies and Governmental Readiness: Government agencies at all levels should be prepared to respond to nuclear energy-related emergencies. There is need for improved public planning by the several federal agencies involved, including the Federal Emergency Management Agency (FEMA) and the agencies of state and local governments. Responsible officials should develop skills and undergo periodic retraining in order to be able to act appropriately during major radiation emergencies. Because emergency planning is a complex task involving aspects of health as well as problems related to utilities, state and local governments and the federal government (FEMA) would benefit from the cooperation of physicians and others in the health sciences.
9. Federal Radiation Emergency Planning Responsibilities: Federal groups such as the NRC and FEMA must work together closely to fulfill responsibilities in radiological emergency preparedness and in crisis management. There is a need for NRC and FEMA to define better the roles of community hospitals and of physicians.
10. Reactor Operators and Radiation Inspectors: There is a need for better training of operating personnel with regard to prevention and management of untoward reactor operating conditions. Selection, training, and ongoing performance evaluation of operating personnel, and of radiation inspectors, are key elements in the safety of reactor workers and of the public. Physicians should help develop methods of selecting and evaluating personnel in the nuclear power industry.
11. Radiation Training for Physicians: Physicians should be prepared to answer the questions of their patients about ionizing radiation, especially if there is a radiation emergency. Each hospital should have adequately trained physicians and a plan and protocol for receiving and caring for radiation victims.
12. Radiation Education for the Public: Further education of the public about ionizing radiation is recommended.
13. Location of Nuclear Reactors: All nuclear reactors built in the future should be placed in areas of low population density; present reactors located in low density areas should be managed so that the populations surrounding them remain small.
14. Multiple Sources of Power Generation: AMA recommends the use of a diverse set of electricity generating methods and a continuing emphasis on the conservation of energy.
15. X-Ray Security Scanners:
    1. Our AMA believes that as of June 2013, no data exist to suggest that individuals, including those who are especially sensitive to ionizing

radiation, should avoid backscatter security scanners due to associated health risks.

2. Our AMA supports the adoption of routine inspection, maintenance, calibration, survey, and officer training procedures meant to ensure that backscatter security scanners operate as intended.

[CSA Rep. A, A-81; Reaffirmed: CLRPD Rep. F, I-91; Reaffirmed: Sunset Report, I-01; Reaffirmed: CSAPH Rep. 1, A-11; Appended: CSAPH Rep. 4, A-13; Modified: CSAPH Rep. 8, A-23; Modified: Res. 435, A-24]

Monitoring Patient Exposure to Ionizing Radiation H-455.976
Our American Medical Association will support public health, radiology and radiation oncology specialty societies and all other interested parties to monitor the issue of radiation exposure to the American public and develop a plan, if appropriate, to allow the ongoing monitoring and quantification of radiation exposure sustained by individual patients in medical settings. [CSAPH Rep. 8, A-23]

Ionizing Radiation Exposure in the Medical Setting H-455.977

1. Our American Medical Association will support appropriate specialty medical societies and other interested stakeholders to collaborate:
    a. For feasibility of monitoring and quantifying the cumulative radiation exposure sustained by individual patients in medical settings.
    b. Continue to educate physicians and the public on the appropriate use and risks of low linear energy transfer radiation in order to reduce unnecessary patient exposure in the medical setting.
2. Our AMA will continue to monitor the National Academy of Sciences' ongoing efforts to study the impact of low levels of low linear energy transfer radiation on human health.
3. Our AMA will support education and standards for all providers and medical personnel using ionizing and non-ionizing radiation that includes awareness of, and methods to avoid, patient over-radiation.
4. Our AMA will support policies that promote the safe use of medical imaging devices, informed clinical decision-making regarding the use of procedures that use radiation, and patient awareness of medical radiation exposure.
5. Our AMA will encourage the continued development and use of standardized electronic medical record systems that will help physicians track the number of imaging procedures a patient is receiving, in both the in-patient and out-patient settings, which will help physicians discuss the potential dangers of high level of radiation exposure with patients.

[CSAPH Rep. 8, A-23]

Effects of Electric and Magnetic Fields H-460.938

(1) Our American Medical Association will continue to monitor developments and issues related to the effects of electric and magnetic fields, even though no scientifically documented health risk has been associated with the usually occurring levels of electromagnetic fields; (2) Our AMA encourages research efforts sponsored by agencies such as the National Institutes of Health, U.S. Department of Energy, and the National Science Foundation to continue on exposures to electromagnetic fields and their effects, average public exposures, occupational exposures, and the effects of field surges and harmonics; and (3) Our AMA supports broad dissemination of findings and recommendations of authoritative, multidisciplinary committees, such as those convened under the auspices of the National Academy of Sciences, National Council on Radiation Protection, International Agency for Research on Cancer, and the National Institute for Environmental Health Sciences. [CSA Rep. 7 - I-94; Reaffirmed and Modified: CSA Rep. 6, A-04; Reaffirmed: CSAPH Rep. 1, A-14; Reaffirmed: CSAPH Rep. 01, A-24]

Advancing Gender Equity in Medicine D-65.989

1. Our American Medical Association will:

a. advocate for institutional, departmental and practice policies that promote transparency in defining the criteria for initial and subsequent physician compensation.
b. advocate for pay structures based on objective, gender-neutral criteria.
c. encourage a specified approach, sufficient to identify gender disparity, to oversight of compensation models, metrics, and actual total compensation for all employed physicians.
d. advocate for training to identify and mitigate implicit bias in compensation determination for those in positions to determine salary and bonuses, with a focus on how subtle differences in the further evaluation of physicians of different genders may impede compensation and career advancement.

2. Our AMA will recommend as immediate actions to reduce gender bias:
    a. Elimination of the question of prior salary information from job applications for physician recruitment in academic and private practice.
    b. Create an awareness campaign to inform physicians about their rights under the Lilly Ledbetter Fair Pay Act and Equal Pay Act.
    c. Establish educational programs to help empower all genders to negotiate equitable compensation.
    d. Work with relevant stakeholders to host a workshop on the role of medical societies in advancing women in medicine, with co-development and broad dissemination of a report based on workshop findings.
    e. Create guidance for medical schools and health care facilities for institutional transparency of compensation, and regular gender-based pay audits.
3. Our AMA will collect and analyze comprehensive demographic data and produce a study on the inclusion of women members including, but not limited to, membership, representation in the House of Delegates, reference committee makeup, and leadership positions within our AMA, including the Board of Trustees, Councils and Section governance, plenary speaker invitations, recognition awards, and grant funding, and disseminate such findings in regular reports to the House of Delegates and making recommendations to support gender equity.
4. Our AMA will commit to pay equity across the organization by asking our Board of Trustees to undertake routine assessments of salaries within and across the organization, while making the necessary adjustments to ensure equal pay for equal work.
5. Our AMA will:
    a. require all members elected and appointed to national and regional AMA leadership positions to complete AMA Code of Conduct and anti-harassment training, with continued evaluation of the training for effectiveness in reducing harassment within the AMA.
    b. work with the Women Physicians Section, American Medical Women's Association, GLMA: Health Professionals Advancing LGBTQ Equality, and other stakeholders to identify an appropriate, evidence-based anti-harassment and sexual harassment prevention training to administer to leadership.

[Res. 010, A-18; Modified: BOT Rep. 27, A-19; Appended: Res. 615, A-22]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 905
(I-24)

Introduced by: Women Physicians Section

Subject: Regulation and Transparency of Contaminants in Menstrual Hygiene Products

Referred to: Reference Committee K

Whereas, menstrual hygiene products (MHP), such as tampons, menstrual cups, menstrual discs, flex-cups, or menstrual sponges, are currently classified as a medical device regulated by the Food and Drug Administration (FDA) in the US;[1] and

Whereas, tampons are currently Class II medical devices and have to adhere to Good Manufacturing Practices (GMPs) and Quality System Regulations (QSR), which include general requirements to ensure product safety and quality, such as controlling contamination, which can encompass testing for various contaminants, including heavy metals and per and polyfluoroalkyl (PFAS), depending on the "risk assessment" and product specifications;[2] and

Whereas, the FDA currently recommends that tampons be free of 2,3,7,8- tetrachlorodibenzo-p-dioxin (TCDD)/2,3,7,8-tetrachlorofuran dioxin (TCDF) and any pesticide and herbicide residues, which does not represent a sufficient range of potentially harmful contaminants;[3] and

Whereas, new research found that tampons in the US contained the presence of 16 metals contaminants, including arsenic, lead, and cadmium, and reported that no previous studies have measured levels of metals in tampons;[4] and

Whereas, tampons purchased in the US were found to have statistically significantly higher levels of lead, cobalt, and cadmium than those purchased in the UK and EU;[4] and

Whereas, research has found that menstrual products contain PFAS, phthalates, and volatile organic compounds (VOC), such as terpenes and aromatic compounds like benzenes (in scented products), 1,4-dichlorobenzene, and naphthalene, which are known or suspected carcinogens;[5,6] and

Whereas, chemicals known to be allergens, preservatives, and potential carcinogens have also been found in numerous different brands of vaginal wipes;[7,8] and

Whereas, the vaginal canal is highly absorbent and has direct access to the bloodstream due to its dense network of blood vessels, allowing substances that are absorbed to bypass the digestive system and first-pass metabolism;[9] and

Whereas, though there is limited research assessing the bioavailability for vaginal absorption in tampons of contaminants specifically, vaginal vasculature has been well established as an effective and efficient method of drug absorption, leading to higher drug concentration due to steady state absorption and lack of gastrointestinal limitations;[10] and

Whereas, arsenic is a known carcinogen and is associated with cardiovascular, and respiratory and neurological disease, and in vivo research has shown vaginal arsenic exposure disrupts oxidative mechanisms in the uterus and ovaries;[11] and

Whereas, the U.S. Environmental Protection Agency (EPA) has said there is no safe level of exposure to lead in water,[12] and even low-level exposure to lead negatively impacts cognitive function; and lead accumulates in bones, substituting for calcium, and can remain in the body for decades, contributing to long-term health issues;[13] and

Whereas, cadmium is known to be a cause of kidney and cardiovascular disease;[14] and

Whereas, the FDA currently provides levels of acceptable limits of heavy metals in other drug products that have direct contact with vasculature and are made primarily of cotton, such as nonresorbable gauze (lead <10 ppm, mercury <0.5 ppm, and arsenic <1.5 ppm);[15] and

Whereas, PFAS can have half-lives of up to 8.5 years and undergo rapid hematogenous dissemination to the brain, liver, lungs, bones, and kidney and have been associated with reproductive toxicities, developmental delays in children, thyroid cancer, delayed onset of puberty in girls, and liver disease,[5] and

Whereas, some states have mandated transparency in disclosing ingredients, such as in New York,[16,17] but there remain loopholes that allow companies to protect trade secrets and omit information regarding ingredients, such as the use of certain fragrances in tampons which contain phthalates, a group of chemicals that are known estrogen disruptors;[18,19] therefore be it

RESOLVED, that our American Medical Association support more comprehensive research on contaminants in menstrual hygiene products (MHP), including but not limited to tampons, other MHPs, and vaginal wipes, and the absorption of toxins into systemic circulation in an effort to better understand their effects on health (New HOD Policy); and be it further

RESOLVED, that our AMA support regulations and legislation that mandate transparency, disclosure, and accurate labeling of contaminants in menstrual hygiene products. (New HOD Policy)

Fiscal Note: Minimal – less than $1,000

Date Received: 09/19/2024

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RELEVANT AMA POLICY

Eliminating Lead, Mercury and Benzene from Common Household Products H-135.959
1. Our American Medical Association supports the development of standards to achieve non-hazardous levels of exposure to lead, mercury, or benzene arising from common household or workplace products.
2. Our AMA encourages efforts to minimize or eliminate mercury use in hospitals and other health care facilities.
3. Our AMA will work in coalitions with appropriate federal agencies and health care organizations to educate physicians and other healthcare professionals about suitable alternatives to the use of mercury and mercury-containing devices and the appropriate disposal of mercury and mercury-containing devices.
4. Our AMA encourages efforts to minimize or eliminate lead in all commercial and household products.
[Sub. Res. 418, I-92; Appended: Sub. Res. 410, A-00; Reaffirmation I-00; Reaffirmed A-03; Modified: CSAPH Rep. 7, A-10; Reaffirmed in lieu of Res. 522, A-12; Reaffirmed: CSAPH Rep. 1, A-22]

Increasing Access to Hygiene and Menstrual Products H-525.973
Our AMA: (1) recognizes the adverse physical and mental health consequences of limited access to menstrual products for school-aged individuals; (2) supports the inclusion of medically necessary hygiene products, including, but not limited to, menstrual hygiene products and diapers, within the benefits covered by appropriate public assistance programs; (3) will advocate for federal legislation and work with state medical societies to increase access to menstrual hygiene products, especially for recipients of public assistance; and (4) encourages public and private institutions as well as places of work and education to provide free, readily available menstrual care products to workers, patrons, and students.
[Res. 209, I-21]

Considering Feminine Hygiene Products as Medical Necessities H-525.974
Our AMA encourages the Internal Revenue Service to classify feminine hygiene products as medical necessities; (1) will work with federal, state, and specialty medical societies to advocate for the removal of barriers to feminine hygiene products in state and local prisons and correctional institutions to ensure incarcerated women be provided free of charge, the appropriate type and quantity of feminine hygiene

products including tampons for their needs; and (2) encourages the American National Standards Institute, the Occupational Safety and Health Administration, and other relevant stakeholders to establish and enforce a standard of practice for providing free, readily available menstrual care products to meet the needs of workers.
[Res. 218, A-18 Modified: Res. 209, I-21]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 907
(I-24)

Introduced by: Academic Physicians Section

Subject: Call for Study: The Need for Hospital Interior Temperatures to be Thermally Neutral to Humans within Those Hospitals

Referred to: Reference Committee K

Whereas, a 2022 report from the Commonwealth Fund noted that the health care industry worldwide produces as much as 4.6% of all of global "greenhouse gas" (GHG) emissions (chiefly carbon dioxide, methane and ozone), while in the United States, the health care industry contributes about 8.5% of the nation's GHG emissions[1]; and

Whereas, GHG emissions since the onset of the "Industrial Revolution" are widely understood to have contributed to a progressively increased carbon dioxide (CO2) fraction of the air, and to a progressively increased average temperature of the surface of the Earth (long-term, non-human-induced cyclical fluctuations of Earth temperatures not due to human-induced GHG emissions, such as volcanic activity and other influences notwithstanding); and

Whereas, these elevated temperatures have contributed measurably to increased morbidity and mortality of human inhabitants of the Earth, not limited to residents of warmer climates and occupational groups such as outdoor laborers; and

Whereas, these elevated temperatures are also adversely impacting the natural environment upon which all life depends in ways too numerous to list in this proposed Resolution; and

Whereas, these elevated temperatures are also clearly associated with increased numbers of extreme weather events; and

Whereas, AMA policy D-135.966, most recently modified in 2022, has declared climate change to be a public health crisis, such that the goal of 50% reduction in greenhouse gas emissions by 2030 and "carbon neutrality" by 2050 are goals endorsed by this policy; and

Whereas, hospital interiors in areas where patients and families gather are typically maintained by heating, ventilation and air conditioning (HVAC) systems that are not typically supplied by "renewable" energy sources, and thus contribute significantly to health care's GHG burden; and

Whereas, the burden of hospitals' HVAC systems upon health care's GHG burden are exacerbated when overly cool temperatures are maintained, as exemplified by, times when many patients and visitors must wear jackets or sweaters to stay warm; and

Whereas, the burden of hospitals' HVAC systems upon which health care's GHG burden are also exacerbated when overly warm temperatures are maintained, as exemplified, times when patients and visitors sometimes wear "shirtsleeve" attire to avoid becoming hyperthermic; and

Whereas, hospitals' modern HVAC systems can be controlled with sufficient precision such that patient rooms, hospital corridors, cafeterias and other common areas need not be maintained

outside of a temperature range of 21 to 25 degrees C, a range that most human beings would find to be comfortable; and

Whereas, nothing in this proposed resolution would apply to areas which must be kept at temperatures outside of this 21 degree C-25 degree C range, such as certain operating theaters and other areas of hospitals with specific patient care roles that make the specifying of such a narrow zone of indoor temperatures unwise or impractical; and

Whereas, time is running short to permit humankind to limit GHGs to a quantity not likely to disrupt life and ecosystems irreversibly with unforeseeable consequences to humans and their health; therefore be it

RESOLVED, that our American Medical Association study the potential feasibility of the creation of a hospital accreditation standard for implementation by the Centers for Medicare and Medicaid Services, through accreditation visits provided by The Joint Commission, Det Norske Veritas, and other accrediting agencies, such that hospital internal temperatures will require ongoing monitoring for compliance with a new standard for hospital internal temperatures (Directive to Take Action); and be it further

RESOLVED, that our AMA advocate that hospital “common areas” must be maintained within a temperature range across which most humans would be comfortable when dressed for the weather of the season (for example, between 21 degrees C - 25 degrees C), toward decreasing health care’s greenhouse gas impact, with a report back at the 2025 Interim Meeting of the AMA House of Delegates (Directive to Take Action); and be it further

RESOLVED, that our AMA will forward the results of this study regarding the maintaining of hospital internal temperatures within a suitably narrow range to health care journalists, hospital regulators, hospital executives, and other relevant parties, toward the eventual implementation of the findings and recommendations that are anticipated to be reached. (Directive to Take Action)

Fiscal Note: Modest – between $1,000 - $5,000

Received: 9/19/2024

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RELEVANT AMA POLICY

D-135.966 Declaring Climate Change a Public Health Crisis

1. Our AMA declares climate change a public health crisis that threatens the health and well-being of all individuals.
2. Our AMA will protect patients by advocating for policies that: (a) limit global warming to no more than 1.5 degrees Celsius, (b) reduce US greenhouse gas emissions aimed at a 50 percent reduction in emissions by 2030 and carbon neutrality by 2050, and (c) support rapid implementation and incentivization of clean energy solutions and significant investments in climate resilience through a climate justice lens.
3. Our AMA will consider signing on to the Department of Health and Human Services Health Care Pledge or making a similar commitment to lower its own greenhouse gas emissions.

4. Our AMA encourages the health sector to lead by example in committing to carbon neutrality by 2050.
5. Our AMA will develop a strategic plan for how we will enact our climate change policies including advocacy priorities and strategies to decarbonize physician practices and the health sector with report back to the House of Delegates at the 2023 Annual Meeting.

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 909
(I-24)

Introduced by: Medical Student Section

Subject: Support of Universal School Meals for School Age Children

Referred to: Reference Committee K

Whereas, the Community Eligibility Provisions (CEP) of the Healthy, Hunger-Free Kids Act of 2010 provides free school breakfast and lunch to schools where at least 40% of students are eligible based on income, decreasing food insecurity among low-income households[1-2]; and

Whereas, when free school meals are provided only to students who qualified financially, students that qualify for free or reduced-price meals based on financial need do not utilize these meals due to the negative stigma, judgment, and bullying[3-4]; and

Whereas, universal school meal programs, known as "Healthy School Meals for All" (HSMFA) programs, provide breakfast and lunch to all students, free of charge to the students and their families[5]; and

Whereas, the 8 states that have passed Healthy School Meals for All policies have done so through various methods, including bills, ballot measures, or state budget inclusions, allowing the state to cover the additional expenditures not already covered by national school meal programs[6]; and

Whereas, a majority of parents report that their children are not embarrassed to eat school meals through Healthy School Meals for All programs, and schools that instituted universal school meals demonstrated improved weight outcomes and increased nutrient intake amongst students[1, 7,8]; and

Whereas, organizations including American Academy of Pediatrics, Academy of Nutrition & Dietetics, American Heart Association, American Federation of Teachers, and National Education Association all support initiatives to offer free breakfast and lunch to all school-age children[9]; therefore be it

RESOLVED, that our American Medical Association advocate for federal and state efforts to adopt, fund, and implement universal school meal programs that include the provision of breakfast and lunch to all school-aged children, free of charge to families, regardless of income. (Directive to Take Action)

Fiscal Note: Modest – between $1,000 - $5,000

Date Received: 09/19/2024

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RELEVANT AMA POLICY

H-150.962 Quality of School Lunch Program
1. Our AMA recommends to the National School Lunch Program that school meals be congruent with current U.S. Department of Agriculture/Department of HHS Dietary Guidelines.
2. Our AMA opposes legislation and regulatory initiatives that reduce or eliminate access to federal child nutrition programs.
3. Our AMA supports adoption and funding of alternative nutrition and meal assistance programs during a national crisis, such as a pandemic. [Sub. Res. 507, A-93; Reaffirmed: CSA Rep. 8, A-03; Reaffirmation A-07; Reaffirmed: CSAPH Rep. 01, A-17; Appended: Res. 206, I-17; Appended: Res. 217, A-21]

H-150.937 Improvements to Supplemental Nutrition Programs
1. Our AMA supports: (a) improvements to the Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) that are designed to promote adequate nutrient intake and reduce food insecurity and obesity; (b) efforts to decrease the price gap between calorie-dense, nutrition-poor foods and naturally nutrition-dense foods to improve health in economically disadvantaged populations by encouraging the expansion, through increased funds and increased enrollment, of existing programs that seek to improve nutrition and reduce obesity, such as the Farmer's Market Nutrition Program as a part of the Women, Infants, and Children program; and (c) the novel application of the Farmer's Market Nutrition Program to existing programs such as the Supplemental Nutrition Assistance Program (SNAP), and apply program models that incentivize the consumption of naturally nutrition-dense foods in wider food distribution venues than solely farmer's markets as part of the Women, Infants, and Children program.
2. Our AMA will request that the federal government support SNAP initiatives to (a) incentivize healthful foods and disincentivize or eliminate unhealthful foods and (b) harmonize SNAP food offerings with those of WIC.
3. Our AMA will actively lobby Congress to preserve and protect the Supplemental Nutrition Assistance Program through the reauthorization of the 2018 Farm Bill in order for Americans to live healthy and productive lives. [Res. 414, A-10; Reaffirmation A-12; Reaffirmation A-13; Appended: CSAPH Rep. 1, I-13; Reaffirmation A-14; Reaffirmation I-14; Reaffirmation A-15; Appended: Res. 407, A-17; Appended: Res. 233, A-18; Reaffirmed: Res. 259, A-23]

H-150.944 Combating Obesity and Health Disparities
Our AMA supports efforts to: (1) reduce health disparities by basing food assistance programs on the health needs of their constituents; (2) provide vegetables, fruits, legumes, grains, vegetarian foods, and healthful dairy and nondairy beverages in school lunches and food assistance programs; and (3) ensure that federal subsidies encourage the consumption of foods and beverages low in fat, added sugars, and cholesterol. [Res. 413, A-07; Reaffirmation A-12; Reaffirmation A-13; Modified: CSAPH Rep. 03, A-17]

H-150.960 Improving Nutritional Value of Snack Foods Available in Primary and Secondary Schools
The AMA supports the position that primary and secondary schools should follow federal nutrition standards that replace foods in vending machines and snack bars, that are of low nutritional value and are high in fat, salt and/or sugar, including sugar-sweetened beverages, with healthier food and beverage choices that contribute to the nutritional needs of the students. [Res. 405, A-94; Reaffirmation A-04; Reaffirmed in lieu of Res. 407, A-04; Reaffirmed: CSA Rep. 6, A-04; Reaffirmation A-07; Reaffirmation A-13; Modified: CSAPH Rep. 03, A-17]

H-150.925 Food Environments and Challenges Accessing Healthy Food
Our AMA (1) encourages the U.S. Department of Agriculture and appropriate stakeholders to study the national prevalence, impact, and solutions to challenges accessing healthy affordable food, including, but not limited to, food environments like food mirages, food swamps, and food deserts; (2) recognizes that food access inequalities are a major contributor to health inequities, disproportionately affecting marginalized communities and people of color; (3) supports policy promoting community-based initiatives that empower resident businesses, create economic opportunities, and support sustainable local food supply chains to increase access to affordable healthy food; and (4) will advocate for CMS and other relevant agencies to develop, test, and then implement evidence-based innovative models to address food insecurity, such as food delivery and transportation services to supermarkets, food banks and pantries, and local farmers markets for healthy food options. [Res. 921, I-18; Modified: Res. 417, A-21; Appended: Res. 117, A-22]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 910
(I-24)

Introduced by: Medical Student Section

Subject: Food Insecurity Among Patients with Celiac Disease, Food Allergies, and Food Intolerance

Referred to: Reference Committee K

Whereas, the prevalence of celiac disease, food allergies, and food intolerance is increasing, disproportionately impacting children from low-income and minoritized backgrounds, who experience higher healthcare costs due to emergency visits and hospitalizations[1-9]; and

Whereas, gluten- and allergen-free food can cost more than double the price of other foods and are also not held to the same nutrient standards, leading to nutritional deficiencies, economic burden, and food insecurity for families affected by celiac and allergies[10-27]; and

Whereas, families receiving federal food assistance may especially struggle to afford gluten- and allergen-free foods and other substitutes to meet nutritional needs[23-27]; and

Whereas, other countries have taken various actions to address the affordability of gluten- and allergen-free foods and support patients adhering to elimination diets[28]; therefore be it

RESOLVED, that our American Medical Association support federal and state efforts to increase the affordability and quality of food alternatives for people with celiac disease, food allergies, and food intolerance (New HOD Policy); and be it further

RESOLVED, that our AMA support federal and state efforts to extend requirements for mandatory nutrient fortification to food alternatives for people with celiac disease, food allergies, and food intolerance (New HOD Policy); and be it further

RESOLVED, that our AMA support efforts to expand nutrition assistance eligibility and benefits to equitably meet the needs of households affected by celiac disease, food allergies, and food intolerance and increase access to food alternatives for people with celiac disease, food allergies, and food intolerance, including, but not limited to, efforts by food banks and pantries, food delivery systems, and prescription produce programs. (New HOD Policy)

Fiscal Note: Minimal – less than $1,000

Date Received: 09/19/2024

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RELEVANT AMA POLICY

H-150.937 Improvements to Supplemental Nutrition Programs

Our AMA supports: (a) improvements to the Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) that are designed to promote adequate nutrient intake and reduce food insecurity and obesity; (b) efforts to decrease the price gap between calorie-dense, nutrition-poor foods and naturally nutrition-dense foods to improve health in economically disadvantaged populations by encouraging the expansion, through increased funds and increased enrollment, of existing programs that seek to improve nutrition and reduce obesity, such as the

Farmer's Market Nutrition Program as a part of the Women, Infants, and Children program; and (c) the novel application of the Farmer's Market Nutrition Program to existing programs such as the Supplemental Nutrition Assistance Program (SNAP), and apply program models that incentivize the consumption of naturally nutrition-dense foods in wider food distribution venues than solely farmer's markets as part of the Women, Infants, and Children program.

Our AMA will request that the federal government support SNAP initiatives to (a) incentivize healthful foods and disincentivize or eliminate unhealthful foods and (b) harmonize SNAP food offerings with those of WIC.

Our AMA will actively lobby Congress to preserve and protect the Supplemental Nutrition Assistance Program through the reauthorization of the 2018 Farm Bill in order for Americans to live healthy and productive lives.

[Res. 414, A-10; Reaffirmation A-12, Reaffirmation A-13, Appended: CSAPH Rep. 1, I-13, Reaffirmation A-14, Reaffirmation I-14, Reaffirmation A-15, Appended: Res. 407, A-17, Appended: Res. 233, A-18, Reaffirmed: Res. 259, A-23]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution 911
(I-24)

Introduced by: Senior Physicians Section

Subject: Adequate Masking and HPV Education for Health Care Workers (including those over age 45)

Referred to: Reference Committee K

Whereas, there has been an increase with human papilloma virus (HPV) associated with head and neck cancers[1]; and

Whereas, there are microbiological risks associated with inhaling surgical smoke during medical procedures which may contain HPV particles[2]; and

Whereas, Health Care Workers (HCW's) may be at risk of inhaling viral particles such as HPV from surgical smoke, during the removal of certain lesions[3,4,5,6,7]; and

Whereas, this potential occupational hazard based on suspected airborne HPV transmission requires adequate protection measures to protect HCWs from surgical smoke[8,9]; and

Whereas, there has been a resurgence of HPV and other sexually transmitted infections (STI's) in retirement villages suggesting a previously unrecognized need for vaccination in this population; and

Whereas, N-95 respirators are the preferred personal protective equipment for operating room and office personnel exposed to harmful airborne viral particles including HPV types 16 & 18 during electrosurgery[10,11,12,13]; therefore be it

RESOLVED, that our American Medical Association advocate for the provision of N-95 masks or equivalent be required for all HCWs (health care workers) and patients who have potential exposure to HPV (Directive to Take Action); and be it further

RESOLVED, that our AMA promote education for medical professionals on the importance of HPV education and professional responsibilities in these procedures (Directive to Take Action); and be it further

RESOLVED, that our AMA work with the Centers for Disease Control and Prevention (CDC), the Advisory Committee on Immunization Practices (ACIP) and the Occupational Safety and Health Administration (OSHA) along with other relevant stakeholders to address airborne transmission risks of HPV during surgical procedures and to prevent health care-related transmission. (Directive to Take Action); and be it further

RESOLVED, that our AMA Media Relations Team publicize with a press release to make physicians aware of these new policies, including those outlined in H-440.872, HPV Associated Cancer Prevention. (Directive to Take Action)

Fiscal Note: Modest – between $1,000 - $5,000

Received: 9/23/2024

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RELEVANT AMA POLICY

H-440.810 Availability of Personal Protective Equipment (PPE)

1. Our AMA affirms that the medical staff of each health care institution should be integrally involved in disaster planning, strategy and tactical management of ongoing crises.
2. Our AMA supports evidence-based standards and national guidelines for PPE use, reuse, and appropriate cleaning/decontamination during surge conditions.
3. Our AMA will advocate that it is the responsibility of health care facilities to provide sufficient personal protective equipment (PPE) for all employees and staff, as well as trainees and contractors working in such facilities, in the event of a pandemic, natural disaster, or other surge in patient volume or PPE need.
4. Our AMA supports physicians and health care professionals and other workers in health care facilities in being permitted to use their professional judgement and augment institution-provided PPE with additional, appropriately decontaminated, personally-provided personal protective equipment (PPE) without penalty.
5. Our AMA supports the rights of physicians and trainees to participate in public commentary addressing the adequacy of clinical resources and/or health and environmental safety conditions necessary to provide appropriate and safe care of patients and physicians during a pandemic or natural disaster.
6. Our AMA will work with the HHS Office of the Assistant Secretary for Preparedness and Response to gain an understanding of the PPE supply chain and ensure the adequacy of the Strategic National Stockpile for public health emergencies.
7. Our AMA encourages the diversification of personal protective equipment design to better fit all body types, cultural expressions and practices among healthcare personnel.

[Res. 412, I-20; Appended: Res. 414, A-21; Modified: Res. 410, I-21]

H-440.872 HPV Associated Cancer Prevention

1. Our American Medical Association:
   a. urges physicians and other health care professionals to educate themselves and their patients about HPV and associated diseases, HPV vaccination, as well as routine HPV related cancer screening; and
   b. encourages the development and funding of programs targeted at HPV vaccine introduction and HPV related cancer screening in countries without organized HPV related cancer screening programs.
2. Our AMA will intensify efforts to improve awareness and understanding about HPV and associated diseases in all individuals, regardless of sex, such as, but not limited to, cervical cancer, head and neck cancer, anal cancer, and genital cancer, the availability and efficacy of HPV vaccinations, and the need for routine HPV related cancer screening in the general public.
3. Our AMA supports legislation and funding for research aimed towards discovering screening methodology and early detection methods for other non-cervical HPV associated cancers.
4. Our AMA:
   a. encourages the integration of HPV vaccination and routine cervical cancer screening into all appropriate health care settings and visits,
   b. supports the availability of the HPV vaccine and routine cervical cancer screening to appropriate patient groups that benefit most from preventive measures, including but not limited to low-income and pre-sexually active populations,
   c. recommends HPV vaccination for all groups for whom the federal Advisory Committee on Immunization Practices recommends HPV vaccination.
5. Our AMA encourages appropriate parties to investigate means to increase HPV vaccination rates by facilitating administration of HPV vaccinations in community-based settings including school settings.
6. Our AMA will study requiring HPV vaccination for school attendance.
7. Our AMA encourages collaboration with interested parties to make available human papillomavirus vaccination to people who are incarcerated for the prevention of HPV-associated cancers.

[Res. 503, A-07; Appended: Res. 6, A-12; Reaffirmed: CSAPH Rep. 1, A-22; Reaffirmation: A-22; Modified: Res. 916, I-22; BOT Action Sept 2023]

H-460.913 Screening for HPV-Related Anal Cancer

1. Our American Medical Association supports continued research on the diagnosis and treatment of anal cancer and its precursor lesions, including the evaluation of the anal pap smear as a screening tool for anal cancer.
2. Our AMA's advocacy efforts to implement screening for anal cancer for high-risk populations.
3. Our AMA's national medical specialty organizations and other stakeholders in developing guidelines for interpretation, follow up, and management of anal cancer screening results.

[Res.512, A-04; Reaffirmed: CSAPH Rep. 1, A-14; Appended: Res. 421, A-22]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution 912
(I-24)

Introduced by: Senior Physicians Section

Subject: Assuring Representation of Older Age Adults in Clinical Trials

Referred to: Reference Committee K

Whereas, clinical trials are the foundation for evidence-based medicine guiding the safe and effective management of our patients; and

Whereas, traditionally, participant pools in clinical trials have underrepresented both women and older adults leading to gaps in knowledge relevant to diagnosis and treatment in these groups; and

Whereas, our American Medical Association recognizes the importance of diversity and inclusivity in clinical trials in order to promote health equity and optimal clinical outcomes; and

Whereas, our AMA has policy addressing the underrepresentation of minorities and women in clinical trials but is less specific regarding representation of older adults; and

Whereas, with demographics of our aging population and its attendant burden of chronic disease, it is imperative for clinicians to have adequate evidence to ensure optimal outcomes for their older patients; therefore be it

RESOLVED, that our American Medical Association specifically advocate for inclusion of older patients (both men and women) by amending H-460.911 as follows:

1. Our American Medical Association advocates that:
    a. The Food and Drug Administration (FDA) and National Institutes of Health (NIH) conduct annual surveillance of clinical trials by gender, race, age and ethnicity, ~~including consideration of pediatric and elderly populations~~, to determine if proportionate representation of women and minorities including older adults and children if appropriate is maintained in terms of enrollment and retention. This surveillance effort should be modeled after National Institute of Health guidelines on the inclusion of women and minority populations.
    b. The FDA have a page on its web site that details the prevalence of minorities and women and older adults including those over age 75 in its clinical trials and its efforts to increase their enrollment and participation in this research.
    c. Resources be provided to community level agencies that work with those minorities, females, older adults including those over age 75 and other underrepresented groups who are not proportionately represented in clinical trials to address issues of lack of access, distrust, and lack of patient awareness of the benefits of trials in healthcare. These minorities include Black Individuals/African Americans, Hispanics, Asians/Pacific Islanders/Native Hawaiians, and Native Americans (Directive to Take Action); and be it further

RESOLVED, that our AMA monitor the effectiveness of H-460.911 on an annual basis (Directive to Take Action); and be it further

RESOLVED, that our AMA collaborate with AHRQ, FDA, NIH and other relevant stakeholders to increase public awareness and education on the topic of inclusivity in clinical trial participation (Directive to Take Action); and be it further

RESOLVED, that our AMA specifically submit comments to the FDA on current proposed industry guidelines for inclusion of underrepresented populations in clinical trials[1] by September 2025. (Directive to Take Action)

Fiscal Note: Moderate – between $5,000 - $10,000

Received: 9/23/2024

REFERENCES

1. "Diversity Action Plans to Improve Enrollment of Participants from Underrepresented Populations in Clinical Studies [Draft Guidance]. https://www.fda.gov/media/179593/download

RELEVANT AMA POLICY

H-460.911 Increasing Minority, Female, and other Underrepresented Group Participation in Clinical Research

1. Our American Medical Association advocates that:
    a. The Food and Drug Administration (FDA) and National Institutes of Health (NIH) conduct annual surveillance of clinical trials by gender, race, and ethnicity, including consideration of pediatric and elderly populations, to determine if proportionate representation of women and minorities is maintained in terms of enrollment and retention. This surveillance effort should be modeled after National Institute of Health guidelines on the inclusion of women and minority populations.
    b. The FDA have a page on its web site that details the prevalence of minorities and women in its clinical trials and its efforts to increase their enrollment and participation in this research.
    c. Resources be provided to community level agencies that work with those minorities, females, and other underrepresented groups who are not proportionately represented in clinical trials to address issues of lack of access, distrust, and lack of patient awareness of the benefits of trials in their health care. These minorities include Black Individuals/African Americans, Hispanics, Asians/Pacific Islanders/Native Hawaiians, and Native Americans.
2. Our AMA recommends the following activities to the FDA in order to ensure proportionate representation of minorities, females, and other underrepresented groups in clinical trials:
    a. Increased fiscal support for community outreach programs; e.g., culturally relevant community education, community leaders' support, and listening to community's needs.
    b. Increased outreach to all physicians to encourage recruitment of patients from underrepresented groups in clinical trials.
    c. Continued education for all physicians and physicians-in-training on clinical trials, subject recruitment, subject safety and possible expense reimbursements, and that this education encompass discussion of barriers that currently constrain appropriate recruitment of underrepresented groups and methods for increasing trial accessibility for patients.
    d. Support for the involvement of minority physicians in the development of partnerships between minority communities and research institutions.

e. Fiscal support for minority, female, and other underrepresented groups recruitment efforts and increasing trial accessibility.

3. Our AMA advocates that specific results of outcomes in all clinical trials, both pre- and post-FDA approval, are to be determined for all subgroups of gender, race and ethnicity, including consideration of pediatric and elderly populations; and that these results are included in publication and/or freely distributed, whether or not subgroup differences exist.

[BoT Report 4, A-08; Reaffirmed CSAPH Rep.01, A-18; Modified Resolution 016, I-22]

H-460.912 Principles for Conduct and Reporting of Clinical Trials

Our AMA: (1) endorses the Association of American Medical Colleges' "Principles for Protecting Integrity in the Conduct and Reporting of Clinical Trials"; (2) commends the AAMC, the Centers for Education and Research in Therapeutics and the BlueCross BlueShield Association for the development and dissemination of these principles; (3) supports the timely dissemination of clinical trial data for public accessibility as permitted by research design and/or regulatory protocol; (4) supports the promotion of improved data sharing and the reaffirmation and enforcement of deadlines for submitting results from clinical research studies; (5) encourages the expansion of clinical trial registrants to ClinicalTrials.gov; and (6) will sign the petition titled "All Trials Registered; All Results Reported" at Alltrials.net that supports the registration of all past, present and future clinical trials and the release of their summary reports.
[Res. 544, A-06; Appended: Res.907, I-15; BoT Action in response to referred for decision: Res. 907, I-15]

D-460.970 Access to Clinical Trial Data

Our AMA: (1) urges the Food and Drug Administration to investigate and develop means by which scientific investigators can access original source safety data from industry-sponsored trials upon request; and (2) supports the adoption of universal policy by medical journals requiring participating investigators to have independent access to all study data from industry-sponsored trials.
[Res. 503, A-14; Reaffirmed Res. 907, I-15; Reaffirmed, CSAPH Rep. 2, I-19]

H-100.968 Improving the Quality of Geriatric Pharmacotherapy

Our AMA believes that the Food and Drug Administration should encourage manufacturers to develop low dose formulations of medications commonly used by older patients in order to meet the special needs of this group; require geriatric-relevant labeling for over-the-counter medications; provide incentives to pharmaceutical manufacturers to better study medication effects in the frail elderly and oldest-old in pre- and post-marketing clinical trials; and establish mechanisms for data collection, monitoring, and analysis of medication-related problems by age group.
[CSA Rep.5, A-02; Reaffirmation, A-10; Reaffirmed: CSAPH Rep. 01, A-20]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution 913
(I-24)

Introduced by: Senior Physicians Section

Subject: Sexually Transmitted Infections are on the Rise in the Senior Population

Referred to: Reference Committee K

Whereas, sexually transmitted infections (STI's) among adults aged 65 years of age and older doubled between the years of 2007 and 2017[1]; and continue to increase among adults aged 55 and above as reported by the Centers for Disease Control and Prevention (CDC)[2,3]; and

Whereas, recent research shows that misconceptions about STDs among older Americans are contributing to the rise[4]; and

Whereas, the four curable STI's – syphilis, gonorrhea, chlamydia and trichomoniasis, together account for 1 million infections each day globally[5]; and

Whereas, many seniors have not been adequately screened for or are unaware of STI's[6]; and

Whereas, physicians have a duty to reduce the spread of STI's in the senior population; therefore be it

RESOLVED, that our American Medical Association advocate and promote the U.S. Preventive Services Task Force (USPSTF) recommendations for STI screening through interested senior advocates such as AARP, specifically targeting chlamydia, gonorrhea, human immunodeficiency virus (HIV), HPV and syphilis, for the senior population who are not regularly screened (Directive to Take Action); and be it further

RESOLVED, that our AMA continue to promote discussion, collaboration, and consensus among expert groups and medical specialty societies involved in the development of practice guidelines for sexually transmitted diseases in the senior population (Directive to Take Action); and be it further

RESOLVED, that our AMA offer CME education regarding best practices for reducing sexually transmitted disease (including oral cancer risks) in the senior population through the AMA's Ed Hub as a resource to guide the delivery of clinical preventative services. (Directive to Take Action)

Fiscal Note: $80,454 Contract with third parties to develop educational content for physicians.

Received: 9/23/2024

REFERENCES

1. University Hospitals (07/23). Why STIs Are on the Rise in Older Adults https://www.uhhospitals.org/blog/articles/2023/07/why-stis-are-on-the-rise-in-older-adults
2. Pearson, C. Sexually Transmitted Infections Have Surged and Age is No Barrier. *New York Times*, May 5, 2024. https://www.nytimes.com/2024/05/03/well/live/sti-seniors-chlamydia-syphilis.html?searchResultPosition=3
3. Bendix, A. Sexually Transmitted Infection Rates have Risen Sharply Among Adults 55 and Older CDC Data Shows. https://www.nbcnews.com/health/sexual-health/sexually-transmitted-infection-rates-rose-older-people-cdc-rcna145332

4. Smith, M.L, Bergeron, C.D., Goltz, H.H., Coffey T, Boolani A. Sexually Transmitted Infection Knowledge among Older Adults: Psychometrics and Test-Retest Reliability. *Int J Environ Res Public Health*. 2020 Apr 3;17(7):2462. doi: 10.3390/ijerph17072462. PMID: 32260298; PMCID: PMC7177870.
5. World Health Organization. (2022). *Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period 2022-2030*. World Health Organization.
6. Slinkard, M. S., & Kazer, M. W. (2011). Older adults and HIV and STI screening: the patient perspective. *Geriatric Nursing*, 32(5), 341-349.

RELEVANT AMA POLICY

H-440.879 Expedited Partner Therapy (Patient-delivered Partner Therapy): An Update
Our AMA supports the Centers for Disease Control and Prevention's guidance on expedited partner therapy (EPT) that was published in its 2006 white paper, *Expedited Partner Therapy in the Management of Sexually Transmitted Diseases*.
[CSAPH Rep. 7, A-06; Reaffirmed: CSAPH Rep. 01, A-16]

H-440.979 Control of Sexually Transmitted Infections
The AMA urges increased efforts at all levels of organized medicine to bring sexually transmitted infections under control, through professional and public education, and support of the efforts of state Departments of Health, the Centers for Disease Control and Prevention, the National Institutes of Health, and other appropriate organizations.
[Res. 84, A-84; Reaffirmed by CLRPD Rep. 3, I-94; Reaffirmation A-99; Modified and Reaffirmed CSAPH Rep. 1, A-09; Reaffirmation A-10; Reaffirmed: CSAPH Rep. 01, A-20]

H-440.983 Update on Sexually Transmitted Infections
The AMA (1) urges medical students, primary care residents, and physicians in all specialties to familiarize themselves with sexually transmitted infections (STI), so that they will be better able to diagnose and treat them; (2) encourages physicians to always include a sexual history as part of their routine history and physical exam; (3) encourages STI instruction, both didactic and clinical, in all medical school and primary residency programs; (4) encourages the establishment of STI fellowships by primary care specialties in order to develop a pool of clinical and research expertise in the area; (5) encourages state and local medical societies to promote STI public service TV and radio announcements in their communities; and (6) supports continued communication of updated STI information regularly through AMA publications.
[CSA Rep. E, A-83; Reaffirmed: CLRPD Rep. 1, I-93; Reaffirmation A-99; Modified and Reaffirmed: CSAPH Rep. 1; A-09; Reaffirmed: CSAPH Rep. 01, A-19]

H-440.996 Sexually Transmitted Infection Control
Our AMA (1) supports continued action to assert appropriate leadership in a concerted program to control sexually transmitted infection;

(2) urges physicians to take all appropriate measures to reverse the rise in sexually transmitted infection and bring it under control;

(3) encourages constituent and component societies to support and initiate efforts to gain public support for increased appropriations for public health departments to fund research in development of practical methods for prevention and detection of sexually transmitted infection, with particular emphasis on control of gonorrhea; and

(4) in those states where state consent laws have not been modified, encourages the constituent associations to support enactment of statutes that permit physicians and their co-workers to treat and search for sexually transmitted infection in minors legally without the necessity of obtaining parental consent.
[Sub. Res. 6, I-72; Reaffirmed: CLRPD Rep. C, A-89; Reaffirmed: Sunset Report A-00; Modified: CSAPH Rep. 1, A-10; Modified, CSAPH Rep. 01, A-20]

H-20.920 HIV Testing

(1) General Considerations
a) Persons who suspect that they have been exposed to HIV should be tested so that appropriate treatment and counseling can begin for those who are seropositive;
b) HIV testing should be consistent with testing for other infections and communicable diseases;
c) HIV testing should be readily available to all who wish to be tested, including having available sites for confidential testing;
d) The physician's office and other medical settings are the preferred settings in which to provide HIV testing;
e) Physicians should work to make HIV counseling and testing more readily available in medical settings.

(2) Informed Consent Before HIV Testing
a) Our AMA supports the standard that individuals should knowingly and willingly give consent before a voluntary HIV test is conducted, in a manner that is the least burdensome to the individual and to those administering the test. Physicians must be aware that most states have enacted laws requiring informed consent before HIV testing;
b) Informed consent should include the following information: (i) patient option to receive more information and/or counseling before deciding whether or not to be tested and (ii) the patient should not be denied treatment if he or she refuses HIV testing, unless knowledge of HIV status is vital to provide appropriate treatment; in this instance, the physician may refer the patient to another physician for care;
c) It is the policy of our AMA to review the federal laws including the Veteran's Benefits and Services Act, which currently mandates prior written informed consent for HIV testing within the Veterans Administration hospital system, and subsequently to initiate and support amendments allowing for HIV testing without prior consent in the event that a health care provider is involved in accidental puncture injury or mucosal contact by fluids potentially infected with HIV in federally operated health care facilities;
d) Our AMA supports working with various state societies to delete legal requirements for consent to medically indicated HIV testing that are more extensive than requirements generally imposed for informed consent to medical care.

(3) HIV Testing Without Explicit Consent
a) Explicit consent should not always be required prior to HIV testing. Physicians should be allowed, without explicit informed consent, and as indicated by their medical judgment, to perform diagnostic testing for determination of HIV status of patients suspected of having HIV infection;
b) General consent for treatment of patients in the hospital should be accepted as adequate consent for the performance of HIV testing;
c) Model state and federal legislation should be developed to permit physicians, without explicit informed consent and as indicated by their medical judgment, to perform diagnostic testing for determination of HIV status of patients suspected of having HIV infection;
d) Our AMA will work with the Centers for Disease Control and Prevention, the American Hospital Association, the Federation, and other appropriate groups to draft and promote the adoption of model state legislation and hospital staff guidelines to allow HIV testing of a patient maintaining privacy, but without explicit consent, where a health care worker has been placed at risk by exposure to potentially infected body fluids; and to allow HIV testing, without any consent, where a health care worker has been placed at risk by exposure to body fluids of a deceased patient.

(4) HIV Testing Procedures
a) Appropriate medical organizations should establish rigorous proficiency testing and quality control procedures for HIV testing laboratories on a frequent and regular basis; b) Physicians and laboratories should review their procedures to assure that HIV testing conforms to standards that will produce the highest level of accuracy;
c) Appropriate medical organizations should establish a policy that results from a single unconfirmed positive ELISA test never be reported to the patient as a valid indication of HIV infection;
d) Appropriate medical organizations should establish a policy that laboratories specify the HIV tests performed and the criteria used for positive, negative, and indeterminate test results;
e) Our AMA recommends that training for HIV blood test counselors encourage patients with an indeterminate Western blot to be advised that three-to-six-month follow-up specimens may need to be

submitted to resolve their immune status. Because of the uncertain status of their contagiousness, it is prudent to counsel such patients as though they were seropositive until such time as the findings can be resolved.

(5) Routine HIV Testing
a) Routine HIV testing should include appropriate informed consent and pre-test and post-test counseling procedures;
b) State medical associations should work to create state laws that encourage hospitals and other medical facilities to initiate routine HIV testing programs; and
c) Supports coverage of and appropriate reimbursement for routine HIV testing by all public and private payers.

(6) Opt-out HIV Testing
a) Opt-out HIV testing should be provided with informed consent for individuals who may have come into contact with the blood, semen, or vaginal secretions of an infected person in a manner that has been shown to transmit HIV infection. Such testing should be encouraged for patients for whom the physician's knowledge of the patient's serostatus would improve treatment. Opt-out HIV testing should be regularly provided for the following types of individuals who give an informed consent: (i) patients at sexually transmissible disease clinics; (ii) patients at drug abuse clinics; (iii) individuals who are from areas with a high incidence of AIDS or who engage in high-risk behavior and are seeking family planning services; and (iv) patients who are from areas with a high incidence of AIDS or who engage in high-risk behavior requiring surgical or other invasive procedures;
b) The prevalence of HIV infection in the community should be considered in determining the likelihood of infection. If opt-out HIV testing is not sufficiently accepted, the hospital and medical staff may consider requiring HIV testing.

(7) Mandatory HIV Testing
a) Our AMA opposes mandatory HIV testing of the general population;
b) Mandatory testing for HIV infection is recommended for (i) military personnel; (ii) donors of blood and blood fractions; breast milk; organs and other tissues intended for transplantation; and semen or ova for artificial conception;
c) All entrants into federal and state prisons should be offered HIV screening, but it should only be mandatory when risk factors are present;
d) Our AMA will review its policy on mandatory testing periodically to incorporate information from studies of the unintended consequences or unexpected benefits of HIV testing in special settings and circumstances.

(8) HIV Test Counseling
a) Pre-test and post-test voluntary counseling should be considered an integral and essential component of HIV testing. Full pre-test and post-test counseling procedures must be utilized for patients when HIV is the focus of the medical attention, when an individual presents to a physician with concerns about possible exposure to HIV, or when a history of high-risk behavior is present;
b) Post-test information and interpretation must be given for negative HIV test results. All negative results should be provided in a confidential manner accompanied by information in the form of a simple verbal or written report on the meaning of the results and the offer, directly or by referral, of appropriate counseling and potentially pre-exposure prophylaxis treatment;
c) Post-test counseling is required when HIV test results are positive. All positive results should be provided in a confidential face-to-face session by a professional properly trained in HIV post-test counseling and with sufficient time to address the patient's concerns about medical, social, and other consequences of HIV infection.

(9) HIV Testing of Health Care Workers
a) Our AMA supports routine voluntary HIV testing of physicians, health care workers, and students in appropriate situations;
b) Employers of health care workers should provide, at the employer's expense, serologic testing for HIV infection to all health care workers who have documented occupational exposure to HIV;
c) Our AMA opposes HIV testing as a condition of hospital medical staff privileges;

d) Physicians and other health care workers who perform exposure-prone patient care procedures should know their immune or infection status with respect to HIV.

(10) Counseling and Testing of Pregnant Women for HIV
Our AMA supports the position that there should be universal HIV testing of all pregnant women, with patient notification of the right of refusal, as a routine component of perinatal care, and that such testing should be accompanied by basic counseling and awareness of appropriate treatment, if necessary. Patient notification should be consistent with the principles of informed consent.

(11) HIV Home Test Kits
a) Our AMA does not oppose HIV home collection test kits that are linked with proper laboratory testing and counseling services, provided their use does not impede public health efforts to control HIV disease;
b) Standardized data should be collected by HIV home collection test kit manufacturers and reported to public health agencies.

(12) College Students
Our AMA encourages undergraduate campuses to conduct confidential, free HIV testing with qualified staff and counselors.
[CSA Rep.4, A-03; Appended: Res 515, A-06; Reaffirmed: BOT Rep. 1, A-07; Appended: Res. 506, A-10; Modified: CSAPH Rep. 01, A-20]

H-75.994 Contraception and Sexually Transmitted Infections
Our American Medical Association, in cooperation with state, county, and specialty medical societies, encourages physicians to educate their patients about sexually transmitted infections, including HIV disease, and condom use. While such counseling may not be appropriate for all contraception patients, physicians should be encouraged to provide this information to any contraception patient who may benefit from being more aware of the risks of sexually transmitted infections.
[BOT Rep. E, A-89; Reaffirmation A-99; Reaffirmed and Title Change: CSA Rep. 4, A-03; Reaffirmed: CSAPH Rep. 1, A-13; Modified: CSAPH Rep. 8, A-23]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 915
(I-24)

Introduced by: LGBTQ Section

Subject: Reducing Barriers in Sports Participation for LGBTQIA+ People

Referred to: Reference Committee K

Whereas, physical, educational and psychological benefits of exercise and sports participation are well established both during sports participation and after sports activities have concluded;[1-3] and

Whereas, LGBTQIA+ people have lower participation in physical activity and sports,[1,2,4] which is likely multifactorial including prior experiences of homophobia and transphobia in sports; and

Whereas, there are an increasing number of laws being passed in states restricting participation of transgender and gender diverse youth and people with differences of sexual development in sports;[3] and

Whereas, our American Medical Association has passed policies promoting education on the benefits of exercise in society and encourages physicians to prescribe exercise and physical activity to their patients; therefore be it

RESOLVED, that our American Medical Association will educate physicians on benefits and barriers to sports participation affecting LGBTQIA+ communities (Directive to Take Action); and be it further

RESOLVED, that our AMA will support legislative and regulatory protections to ensure access to participation in sports inclusive of LGBTQIA+ persons. (New HOD Policy)

Fiscal Note: $80,067 Contract with third parties to develop educational content for physicians.

Received: 9/23/2024

References:

1. Recommendations from LGBTQ+ adults for increased inclusion within physical activity: a qualitative content analysis. Transl Behav Med. 2022 Mar 17;12(3):454-465. doi: 10.1093/tbm/ibab154. Accessed at: https://academic.oup.com/tbm/article/12/3/454/6481597?login=false
2. LGBTQ+ Youth's Experiences and Engagement in Physical Activity: A Comprehensive Content Analysis Systematic Review Published: 18 February 2019 Volume 4, pages 169–185, (2019). Accessed at: https://shine-lab.media.uconn.edu/wp-content/uploads/sites/3321/2024/03/Parchem-et-al.-2024-Phys-Activity-and-Locker-Rooms.pdf
3. Movement Advancement Project Bans for Transgender Youth in Sports. Accessed at: https://www.lgbtmap.org/equality-maps/youth/sports_participation_bans
4. Locker-Room Experiences Among LGBTQ+ Adults. J Sport Exerc Psychol 2020 May 30;42(3):227-239. doi: 10.1123/jsep.2019-0133. Print 2020 Jun. Accessed at: https://journals.humankinetics.com/view/journals/jsep/42/3/article-p227.xml

RELEVANT AMA POLICY

Promotion of Exercise H-470.991

1. Our American Medical Association:
    a. supports the promotion of exercise, particularly exercise of significant cardiovascular benefit.
    b. encourages physicians to prescribe exercise to their patients and to shape programs to meet each patient's capabilities and level of interest.
2. Our AMA supports National Bike to Work Day and encourages active transportation whenever possible.Citation: Res. 83, parts 1 and 2, I-77; Reaffirmed: CLRPD Rep. C, A-89; Reaffirmed: Sunset Report, A-00; Reaffirmed: CSAPH Rep. 1, A-10; Appended: Res. 604, A-11; Reaffirmed: CSAPH Rep. 1, A-21;

Exercise and Physical Fitness H-470.997

1. Our American Medical Association encourages all physicians to utilize the health potentialities of exercise for their patients as a most important part of health promotion and rehabilitation and urges state and local medical societies to emphasize through all available channels the need for physical activity. The AMA encourages other organizations and agencies to join in promoting physical fitness through all appropriate means.
2. Our AMA advocates for continued research towards development of structured physical activity treatment plans for the specific diagnoses of anxiety and depression, as well as longitudinal studies to examine the effects of physical activity on health outcomes, particularly later in life.
3. Our AMA encourages the education of health care professionals on the role of physical activity and/or structured exercise in treating and managing anxiety and depression; the need to screen for levels of physical activity of patients; the need to motivate and educate patients of all ages about the benefits of physical activity, including positive mental health benefits.
4. Our AMA encourages the provision of coverage by health care payers and employers for fitness club memberships and access to other physical activity programs.
5. Our AMA encourages the implementation, trending, and utilization of evidenced-based physical activity measures in the medical record for treatment prescription, counseling, coaching, and follow up of physical activity for therapeutic use.

BOT Rep. K, A-66 Reaffirmed: CLRPD Rep. C, A-88 Reaffirmed: Sunset Report, I-98 Modified and Reaffirmed: CSAPH Rep. 2, A-08 Reaffirmed: BOT Rep. 10, A-14 Modified: Res. 421, A-23 Modified: CSAPH Rep. 09, A-24

Promotion of Exercise Within Medicine and Society H-470.990

1. Our American Medical Association supports education of the profession on exercise, including instruction on the role of exercise prescription in medical practice in its continuing education courses and conferences, whenever feasible and appropriate.
2. Our AMA supports medical student instruction on the prescription of exercise.
3. Our AMA supports physical education instruction in the school system.
4. Our AMA supports education of the public on the benefits of exercise, through its public relations program.

Opposition to Requirements for Gender-Based Treatments for Athletes H-470.951

1. Our American Medical Association opposes mandatory testing, medical treatment or surgery for transgender athletes and athletes with Differences of Sex Development (DSD), and affirm that these athletes be permitted to compete in alignment with their identity.
2. Our AMA opposes the use of specific hormonal guidelines to determine gender classification for athletic competitions.
3. Our AMA oposses satisfying third-party requirements to certify or confirm an athlete’s gender through physician participation.

BOT Rep. 1, I-22

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 916
(I-24)

Introduced by: LGBTQ+ Section

Subject: Access to Healthcare for Transgender and Gender Diverse People in the Carceral System

Referred to: Reference Committee K

Whereas, over 6,000 transgender and gender diverse (TGD) adults are in the carceral system;[1-8] and

Whereas, a 3-year survey of TGD people who were incarcerated in 31 states found that a majority reported being denied gender-affirming medications and encountered healthcare professionals who were unprepared to address their health needs;[10] and

Whereas, in multiple court cases from 2011 to 2020, individuals in federal and state prisons have been denied access to gender-affirming medication or experienced interruptions in medication access while incarcerated, in some cases leading to severe health outcomes, suicidal behavior, and self-castration attempts;[11-17] and

Whereas, while the Prison Rape Elimination Act (PREA) set national standards for medical care for TGD people in prison, an evaluation of 21 states found that only one met PREA standards, and another study found that 19 states have no policies for TGD patients;[13,18] therefore be it

RESOLVED, that our American Medical Association advocate for readily accessible gender-affirming care to meet the distinct healthcare needs of transgender and gender diverse people in the carceral system, including but not limited to gender-affirming surgical procedures and the continuation or initiation of hormone therapy without disruption or delay. (Directive to Take Action)

Fiscal Note: Modest – between $1,000 - $5,000

Date Received: 9/23/2024

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RELEVANT AMA POLICY

Health Care While Incarcerated H-430.986

Our AMA... (8) advocates for necessary programs and staff training to address the distinctive health care needs of women and adolescent females who are incarcerated, including gynecological care and obstetrics care for individuals who are pregnant or postpartum… (10) Our AMA supports: (a) linkage of those incarcerated to community clinics upon release in order to accelerate access to comprehensive health care, including mental health and substance use disorder services, and improve health outcomes among this vulnerable patient population, as well as adequate funding… (14) Our AMA will collaborate with interested parties to promote the highest quality of healthcare and oversight for those who are involved in the criminal justice system by advocating for health administrators and executive staff to possess credentials and experience comparable to individuals in the community in similar professional roles. [CMS Rep. 02, I-16; Appended: Res. 417, A-19; Appended: Res. 420, A-19; Modified: Res. 216, I-19; Modified: Res. 503, A-21; Reaffirmed: Res. 229, A-21; Modified: Res. 127, A-22; Appended: Res. 244, A-23; Appended: Res. 429, A-23]

Standards of Care for incarcerated individuals of Correctional Facilities H-430.997

Our AMA believes that correctional and detention facilities should provide medical, psychiatric, and substance use disorder care that meets prevailing community standards, including appropriate referrals for ongoing care upon release from the correctional facility in order to prevent recidivism. [Res. 60, A-84; Reaffirmed by CLRPD Rep. 3 - I-94; Amended: Res. 416, I-99; Reaffirmed: CEJA Rep. 8, A-09; Reaffirmation I-09; Modified in lieu of Res. 502, A-12; Reaffirmation: I-12 Modified: CSAPH Rep. 1, A-22]

Appropriate Placement of Transgender Prisoners H-430.982
Our AMA: (1) supports the ability of transgender prisoners to be placed in facilities, if they so choose, that are reflective of their affirmed gender status, regardless of the prisoner's genitalia, chromosomal make-up, hormonal treatment, or non-, pre-, or post-operative status; and (2) supports that the facilities housing transgender prisoners shall not be a form of administrative segregation or solitary confinement." [BOT Rep. 24, A-18]

Clarification of Evidence-Based Gender-Affirming Care H-185.927
Our AMA: (1) recognizes that medical and surgical treatments for gender dysphoria and gender incongruence, as determined by shared decision making between the patient and physician, are medically necessary as outlined by generally-accepted standards of medical and surgical practice; [Res. 05, A-16M; Modified: Res. 015, A-21; Modified: Res. 223, A-23; Appended: Res. 304, A-23]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 917
(I-24)

Introduced by: LGBTQ Section

Subject: Mpox Global Health Emergency Recognition and Response

Referred to: Reference Committee K

Whereas, Mpox, formerly known as monkeypox, is a viral illness that is can spread via sexual contact, fomites, infected animals and most commonly manifests with a skin rash or mucosal lesions as well as fever, headache, muscle aches, back pain, or swollen lymph nodes[1,2]; and

Whereas, Mpox has two clades, of which Clade I, most often found in east and central Africa, has resulted in up to 1-10% death rates[1,3]; and

Whereas, Clade II has been identified as the cause of the global mpox outbreak among countries including the United States with 38 mpox-associated deaths identified in the U.S. between 2022 to 2023 predominantly in black cis-gendered men and those living with advanced HIV[4]; and

Whereas, studies document long term effects including severe reduction in quality of life and sexuality in those with serious mpox infection, atrophic and hypertrophic scarring, and stigma associated with diagnosis, resulting in the formal name change to mpox[5–7]; and

Whereas, the World Health Organization has recently declared mpox a public health emergency of international concern since the spread of clade Ib in the Democratic Republic of the Congo and other countries in Africa with higher incidence, severity of infection, and death rates reported already compared to prior years[8]; and

Whereas, despite current preparations for mpox employed by the Biden-Harris Administration among federal departments in 2024, the Government Accountability Office (GAO) in their report on the 2022 global outbreak of mpox report failures in response from the Department of Health and Human Services (HHS) including communication, supplies of vaccination and testing for at-risk populations, engagement with state and local leadership, and tracking of data for disease spread, similar to failures of response to the COVID-19 pandemic[9,10]; and

Whereas, a 2022 survey assessing the opinions of gay and bisexual men—the population disproportionately affected by mpox—on the U.S. response to the mpox outbreak found that nearly 50% rated it as only fair to poor, with civil unrest and dissatisfaction demonstrated through protests by LGBTQ+ activists in cities like New York and San Francisco at the peak of the outbreak[11–13]; and

Whereas, despite mpox vaccination effectiveness reported as high as 89%, research has identified lack of public-health organizational response to dispense vaccines readily, patient

perceived costs and accessibility to acquire the vaccine, and slow progress of research to develop new vaccinations all as concerns for addressing the mpox outbreak[14–16]; and

Whereas, LGBTQ+ populations encounter economic, physical, and mental health disparities and have historically been neglected in public health and governmental response to disease predominantly affecting these populations as also exemplified by the HIV/AIDS pandemic[17,18]; and

Whereas, research has identified that those with higher level of knowledge towards Mpox were more likely to receive the vaccine[19]; and

Whereas, GAO formally recommends HHS to implement a coordinated, department wide action program to include external stakeholders including federal agencies, jurisdictions, and nongovernmental partners in response and[9]; and

Whereas, WHO recommends increase surveillance in primary care and sexual health services, global commitment and cooperation, support for resource constrained settings, and implementation of a strategic and coordinated research agenda[20]; and

Whereas, the American Medical Association has historically supported policy outlining recognition and response to global pandemics similar to mpox including HIV/AIDS and COVID-19 as well as the unique healthcare needs of those identifying as LGBTQ+[21–23]; therefore it be

RESOLVED, that our American Medical Association promotes the recognition of mpox as a public health emergency and the need for ongoing surveillance, preparedness, and resource allocation to prevent future outbreaks (New HOD Policy); and be it further

RESOLVED, that our AMA strongly urges federal, state, and local agencies, in collaboration with public health organizations and medical associations, to develop and implement effective strategies for the prevention, control, and management of mpox, with particular focus on marginalized populations such as LGBTQ+ communities and those living with HIV (New HOD Policy); and be it further

RESOLVED, that our AMA supports increased public and private funding for mpox research, education, vaccination distribution, and long-term patient care, ensuring equitable access and addressing barriers to healthcare for at-risk populations (New HOD Policy); and be it further

RESOLVED, that our AMA encourages coordinated national and international efforts to address mpox, including global surveillance, resource sharing, and outreach programs that enhance public knowledge of mpox transmission, prevention, and vaccine effectiveness, particularly in resource-constrained settings (New HOD Policy); and be it further

RESOLVED, that our AMA calls for improved response by the Department of Health and Human Services (HHS) to mpox outbreaks, addressing the failures identified in the Government Accountability Office (GAO) report, including enhanced communication, distribution of vaccines and testing, and collaboration with local leaders (New HOD Policy); and be it further

RESOLVED, that our AMA advocates for the inclusion of community-driven, culturally competent prevention efforts and educational campaigns to reduce stigma, improve quality of life, and promote health equity for those disproportionately affected by mpox. (Directive to Take Action)

Fiscal Note: Moderate – between $5,000 - $10,000

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RELEVANT AMA POLICY

HIV/AIDS as a Global Public Health Priority H-20.922

In view of the urgent need to curtail the transmission of HIV infection in every segment of the population, our American Medical Association strongly urges, as a public health priority, that federal agencies (in cooperation with medical and public health associations and state governments) develop and implement effective programs and strategies for the prevention and control of the HIV/AIDS epidemic. CSA Rep. 4, A-03Reaffirmed: Res. 725, I-03Reaffirmed: Res. 907, I-08Reaffirmation I-11Appended: Res. 516, A-13Reaffirmation I-13Reaffirmed: Res. 916, I-16Modified: Res. 003, I-17Modified: Res. 414, A-23.

COVID-19 Vaccination Rollout to Emergency Departments and Urgent Care Facilities D-440.918
Our AMA will work with other relevant organizations and stakeholders to lobby the current Administration for the distribution of COVID-19 vaccinations to our nation's emergency departments and urgent care facilities during the COVID-19 public health emergency. Res. 228, A-21.

Health Care Needs of Lesbian, Gay, Bisexual, Transgender and Queer Populations H-160.991
Our AMA: (a) believes that the physician's nonjudgmental recognition of patients' sexual orientations, sexual behaviors, and gender identities enhances the ability to render optimal patient care in health as well as in illness. In the case of lesbian, gay, bisexual, transgender, queer/questioning, and other (LGBTQ) patients, this recognition is especially important to address the specific health care needs of people who are or may be LGBTQ.CSA Rep. C, I-81Reaffirmed: CLRPD Rep. F, I-91CSA Rep. 8 - I-94Appended: Res. 506, A-00Modified and Reaffirmed: Res. 501, A-07Modified: CSAPH Rep. 9, A-08Reaffirmation A-12Modified: Res. 08, A-16Modified: Res. 903, I-17Modified: Res. 904, I-17Res. 16, A-18Reaffirmed: CSAPH Rep. 01, I-18Reaffirmed: CSAPH Rep. 08, A-24

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 918
(I-24)

Introduced by: American Association of Public Health Physicians

Subject: Healthcare in Tribal Jails

Referred to: Reference Committee K

Whereas, there are 80 jails and youth detention centers on or near tribal lands managed by the Bureau of Indian Affairs (BIA) Division of Corrections[1-3]; and

Whereas, unlike similar facilities managed by states and the federal Bureau of Prisons, on-site medical and behavioral health services are not available to this population, nor does the BIA appropriate a single dollar to the provision of healthcare to incarcerated American Indian and Alaska Native (AI/AN) persons [4-5]; and

Whereas, reliance on IHS and tribal clinics for carceral healthcare diverts already limited resources not designated for these populations, creating an unsustainable burden that results in untimely care[4]; and

Whereas, non-healthcare correctional officers at BIA facilities are responsible for the conduct of physical and mental health screenings at intake, supervision of persons in acute substance withdrawal, and disbursement of prescription medication, which jeopardizes the safety of incarcerated AI/AN persons[6-8]; and

Whereas, the U.S. Public Health Service Commissioned Corps assigns 850 physicians and allied health professionals to the federal Bureau of Prisons, but none to the BIA Division of Corrections [9-10]; and

Whereas, a Health Professional Shortage Area (HPSA) is a geographic area, population group, or health care facility that has been designated by the U.S. Health Resources and Services Administration (HRSA) as having a shortage of health professionals[11-14]; and

Whereas, facilities managed by the BIA Division of Corrections are not eligible for designation as HPSAs[12-15]; and

Whereas, designation of BIA jails as HPSAs and assignment of PHS officers to these facilities similar to their federal counterparts will likely lead to greater availability of physicians and allied health professionals for this population and is supported by regional tribal correctional healthcare coalitions and more than one hundred tribal governments[16-19]; and

Whereas, incarcerated AI/AN persons experience a wide range of health disparities, including a disproportionate burden of chronic disease attributable to the legacy of settler colonialism, suicide epidemics, and the effects of climate change on tribal lands[20-21]; and

Whereas, justice involvement among AI/AN populations is associated with an increased likelihood of substance use, mental illness, and emergency department utilization for low acuity care[22]; and

Whereas, availability of on-site health services and routine conduct of screen-to-treat programs in jail-based settings significantly decreases the burden of HIV, viral hepatitis, sexually transmitted infections, and tuberculosis in justice-involved populations[23-24]; and

Whereas, our AMA believes that AI/AN persons are entitled to the same rights and privileges as other US citizens, especially with regard to access to healthcare (H-350.976); therefore be it

RESOLVED, that our American Medical Association strongly supports carceral facilities and youth detention centers managed by the Bureau of Indian Affairs Division of Corrections being designated as Health Professional Shortage Areas and the assignment of U.S. Public Health Service Commissioned Corps officers to these facilities (New HOD Policy); and be it further

RESOLVED, that our AMA will advocate for the development, staffing, and operation of sustainable, on-site medical and behavioral health services, including evidence-based and culturally-appropriate addiction treatment, for incarcerated American Indian and Alaska Native persons (Directive to Take Action); and be it further

RESOLVED, that our AMA strongly supports routine audits and inspection of facilities managed by the Bureau of Indian Affairs Division of Correction, ensuring that these facilities abide by all standards and guidelines outlined by the National Commission on Correctional Health Care. (New HOD Policy)

Fiscal Note: Modest – between $1,000 - $5,000

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RELEVANT AMA POLICY

Principles of and Actions to Address Medical Education Costs and Student Debt H-305.925

The costs of medical education should never be a barrier to the pursuit of a career in medicine nor to the decision to practice in a given specialty. To help address this issue, our American Medical Association (AMA) will:

1. Collaborate with members of the Federation and the medical education community, and with other interested organizations, to address the cost of medical education and medical student debt through public- and private-sector advocacy/
2. Vigorously advocate for and support expansion of and adequate funding for federal scholarship and loan repayment programs--such as those from the National Health Service Corps, Indian Health Service, Armed Forces, and Department of Veterans Affairs, and for comparable programs from states and the private sector--to promote practice in underserved areas, the military, and academic medicine or clinical research.
3. Encourage the expansion of National Institutes of Health programs that provide loan repayment in exchange for a commitment to conduct targeted research.
4. Advocate for increased funding for the National Health Service Corps Loan Repayment Program to assure adequate funding of primary care within the National Health Service Corps, as well as to permit:
    a. inclusion of all medical specialties in need, and
    b. service in clinical settings that care for the underserved but are not necessarily located in health professions shortage areas.
5. ...

Continuation of the Commissioned Corps H-440.989

1. Our American Medical Association strongly supports the expansion and continuation of the Commissioned Corps of the US Public Health Service and recognizes the need for it to be adequately funded.

Health Care While Incarcerated H-430.986

1. Our American Medical Association advocates for adequate payment to health care providers, including primary care and mental health, and addiction treatment professionals, to encourage improved access to comprehensive physical and behavioral health care services to juveniles and adults throughout the incarceration process from intake to re-entry into the community.
2. Our AMA advocates and requires a smooth transition including partnerships and information sharing between correctional systems, community health systems and state insurance programs to provide access to a continuum of health care services for juveniles and adults in the correctional system, including correctional settings having sufficient resources to assist incarcerated persons' timely access to mental health, drug and residential rehabilitation facilities upon release.
3. Our AMA encourages state Medicaid agencies to accept and process Medicaid applications from juveniles and adults who are incarcerated.
4. Our AMA encourages state Medicaid agencies to work with their local departments of corrections, prisons, and jails to assist incarcerated juveniles and adults who may not have been enrolled in Medicaid at the time of their incarceration to apply and receive an eligibility determination for Medicaid.
5. Our AMA advocates for states to suspend rather than terminate Medicaid eligibility of juveniles and adults upon intake into the criminal legal system and throughout the incarceration process, and to reinstate coverage when the individual transitions back into the community.
6. Our AMA advocates for Congress to repeal the "inmate exclusion" of the 1965 Social Security Act that bars the use of federal Medicaid matching funds from covering healthcare services in jails and prisons.
7. Our AMA advocates for Congress and the Centers for Medicare & Medicaid Services (CMS) to revise the Medicare statute and rescind related regulations that prevent payment for medical care furnished to a Medicare beneficiary who is incarcerated or in custody at the time the services are delivered.
8. Our AMA advocates for necessary programs and staff training to address the distinctive health care needs of women and adolescent females who are incarcerated, including gynecological care and obstetrics care for individuals who are pregnant or postpartum.
9. Our AMA will collaborate with state medical societies, relevant medical specialty societies, and federal regulators to emphasize the importance of hygiene and health literacy information sessions, as well as information sessions on the science of addiction, evidence-based addiction treatment including medications, and related stigma reduction, for both individuals who are incarcerated and staff in correctional facilities.
10. Our AMA supports:
    a. linkage of those incarcerated to community clinics upon release in order to accelerate access to comprehensive health care, including mental health and substance use disorder services, and improve health outcomes among this vulnerable patient population, as well as adequate funding;
    b. the collaboration of correctional health workers and community health care providers for those transitioning from a correctional institution to the community;
    c. the provision of longitudinal care from state supported social workers, to perform foundational check-ins that not only assess mental health but also develop lifestyle plans with newly released people; and
    d. collaboration with community-based organizations and integrated models of care that support formerly incarcerated people with regard to their health care, safety, and social determinant of health needs, including employment, education, and housing.
11. Our AMA advocates for the continuation of federal funding for health insurance benefits, including Medicaid, Medicare, and the Children's Health Insurance Program, for otherwise eligible individuals in pre-trial detention.
12. Our AMA advocates for the prohibition of the use of co-payments to access healthcare services in correctional facilities.

13. Our AMA encourages the following qualifications for the Director and Assistant Director of the Health Services Division within the Federal Bureau of Prisons:
    a. MD or DO, or an international equivalent degree with at least five years of clinical experience at a Bureau of Prisons medical facility or a community clinical setting;
    b. knowledge of health disparities among Black, American Indian and Alaska Native, and people of color, including the pathophysiological basis of the disease process and the social determinants of health that affect disparities; and
    c. knowledge of the health disparities among individuals who are involved with the criminal justice system.
14. Our AMA will collaborate with interested parties to promote the highest quality of healthcare and oversight for those who are involved in the criminal justice system by advocating for health administrators and executive staff to possess credentials and experience comparable to individuals in the community in similar professional roles.

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 919
(I-24)

Introduced by: American College of Obstetricians and Gynecologists, Association for Clinical Oncology, South Dakota

Subject: Improving Rural Access to Comprehensive Cancer Care Services

Referred to: Reference Committee K

Whereas, approximately 15% of the United States (US) population is rural;[1] and

Whereas, rural cancer disparities are a critical public health issue requiring urgent attention and action;[2] and

Whereas, research has shown persistent disparities in cancer care and outcomes between rural and urban populations, with Centers for Disease Control and Prevention (CDC) data showing that rural counties have higher cancer deaths for all sites compared with nonmetropolitan urban and urban counties, lower rates of cancer screening and lower quality cancer care compared with nonmetropolitan urban and urban counties;[3,4] and

Whereas, rural residents tend to be older, engage in risky health behaviors, and have lower adherence to preventive care than do their urban and suburban counterparts, placing them at higher risk of cancer and other chronic diseases;[5] and

Whereas, these health disparities are further exacerbated by lack of health insurance, less awareness of cancer risks and benefits of screening, shortage of primary care physicians, oncologists and other cancer care specialists, and increased distance to a screening facility;[6] and

Whereas, women residing in rural areas are less likely to have been screened for cervical cancer[7] and breast cancer[8] compared to women residing in urban areas; and

Whereas, developing and implementing effective solutions to address rural cancer disparities requires a multilevel approach involving physicians and other health care providers, institutions, policymakers and communities,[9] as well as increased research funding and focus on rural cancer disparities;[10] and

Whereas, clinical trials such as the ENCORE (Enhancing care of rural dwellers through telehealth and engagement) are exploring telehealth intervention to connect academic medical center tumor boards with patients and clinicians in rural health care centers to improve cancer care delivery;[11] and

Whereas, rural communities may exist in digital deserts with poor high-speed internet access, limited digital literacy and lack of cultural acceptance of digital services; and

Whereas, our AMA advocates expansion of broadband and wireless connectivity to rural and under-served areas of the US;[12] and

Whereas, our American Medical Association recognizes access to broadband internet as a social determinant of health, encourages initiatives to strengthen digital literacy especially for historically marginalized and minoritized populations, and supports telehealth initiatives improving access to care;[13] therefore be it

RESOLVED, that our American Medical Association work with relevant stakeholders to develop a national strategy to eliminate rural cancer disparities in screening, treatment, and outcomes and achieve health equity in cancer outcomes across all geographic regions (Directive to Take Action); and be it further

RESOLVED, that our AMA call for increased federal and state funding to support research on rural cancer disparities in care, access, and outcomes and development of interventions to address those disparities (Directive to Take Action); and be it further

RESOLVED, that our AMA advocate for evidence-based collaborative models for innovative telementoring/teleconsultation between health care systems, academic medical centers, and community physicians to improve access to cancer screening, treatment, and patient services in rural areas. (Directive to Take Action)

Fiscal Note: Modest – between $1,000 - $5,000

Received: 9/23/2024

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RELEVANT AMA POLICY

H-478.980 Increasing Access to Broadband Internet to Reduce Health Disparities
Our AMA will advocate for the expansion of broadband and wireless connectivity to all rural and underserved areas of the United States while at all times taking care to protecting existing federally licensed radio services from harmful interference that can be caused by broadband and wireless services.

H-480.937 Addressing Equity in Telehealth

(1) Our American Medical Association recognizes access to broadband internet as a social determinant of health.
(2) Our AMA encourages initiatives to measure and strengthen digital literacy, with an emphasis on programs designed with and for historically marginalized and minoritized populations.
(3) Our AMA encourages telehealth solution and service providers to implement design functionality, content, user interface, and service access best practices with and for historically minoritized and marginalized communities, including addressing culture, language, technology accessibility, and digital literacy within these populations.
(4) Our AMA supports efforts to design telehealth technology, including voice-activated technology, with and for those with difficulty accessing technology, such as older adults, individuals with vision impairment and individuals with disabilities.
(5) Our AMA encourages hospitals, health systems and health plans to invest in initiatives aimed at designing access to care via telehealth with and for historically marginalized and minoritized communities, including improving physician and non-physician provider diversity, offering training and technology support for equity-centered participatory design, and launching new and innovative outreach campaigns to inform and educate communities about telehealth.
(6) Our AMA supports expanding physician practice eligibility for programs that assist qualifying health care entities, including physician practices, in purchasing necessary services and equipment in order to provide telehealth services to augment the broadband infrastructure for, and increase connected device use among historically marginalized, minoritized and underserved populations.
(7) Our AMA supports efforts to ensure payers allow all contracted physicians to provide care via telehealth.
(8) Our AMA opposes efforts by health plans to use cost-sharing as a means to incentivize or require the use of telehealth or in-person care or incentivize care from a separate or preferred telehealth network over the patient's current physicians.
(9) Our AMA will advocate that physician payments should be fair and equitable, regardless of whether the service is performed via audio-only, two-way audio-video, or in-person.

H-55.971 Screening and Treatment for Breast and Cervical Cancer Risk Reduction

(1) Our American Medical Association supports programs to screen all at-risk individuals for breast and cervical cancer and that government funded programs be available for low income individuals; the development of public information and educational programs with the goal of informing all at-risk individuals about routine cancer screening in order to reduce their risk of dying from cancer; and increased funding for comprehensive programs to screen low income individuals for breast and cervical cancer and to assure access to definitive treatment.
(2) Our AMA encourages state and local medical societies to monitor local public health screening programs to ensure that they are linked to treatment resources in the public or private sector.
(3) Our AMA encourages the Centers for Medicare and Medicaid Services to evaluate and review their current cervical cancer screening policies to ensure coverage is consistent with current evidence-based guidelines.
(4) Our AMA supports further research by relevant parties of HPV self-sampling in the United States to determine whether it can decrease health care disparities in cervical cancer screening.

D-55.997 Cancer and Health Care Disparities Among Minority Women

Our AMA encourages research and funding directed at addressing racial and ethnic disparities in minority women pertaining to cancer screening, diagnosis, and treatment.

H-350.937 Improving Healthcare of Minority Communities in Rural Areas

(1) Our American Medical Association encourages health promotion, access to care, and disease prevention through educational efforts and publications specifically tailored to minority communities in rural areas.
(2) Our AMA encourages enhanced understanding by federal, state and local governments of the unique health and health-related needs, including mental health, of minority communities in rural areas in an effort to improve their quality of life.
(3) Our AMA encourages the collection of vital statistics and other relevant demographic data of minority communities in rural areas.

(4) Our AMA will advise organizations of the importance of minority health in rural areas.
(5) Our AMA will research and study health issues unique to minority communities in rural areas, such as access to care difficulties.
(6) Our AMA will channel existing policy for telehealth to support minority communities in rural areas.
(7) Our AMA encourages our Center for Health Equity to support minority health in rural areas through programming, equity initiatives, and other representation efforts.

H-465.994 Improving Rural Health
(1) Our AMA:
    a. supports continued and intensified efforts to develop and implement proposals for improving rural health care and public health,
    b. urges physicians practicing in rural areas to be actively involved in these efforts, and
    c. advocates widely publicizing AMA's policies and proposals for improving rural health care and public health to the profession, other concerned groups, and the public.
(2) Our AMA will work with other entities and organizations interested in public health to:
    a. Encourage more research to identify the unique needs and models for delivering public health and health care services in rural communities.
    b. Identify and disseminate concrete examples of administrative leadership and funding structures that support and optimize local, community-based rural public health.
    c. Develop an actionable advocacy plan to positively impact local, community-based rural public health including but not limited to the development of rural public health networks, training of current and future rural physicians and public health professionals in core public health techniques and novel funding mechanisms to support public health initiatives that are led and managed by local public health authorities.
    d. Advocate for adequate and sustained funding for public health staffing and programs.

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 920
(I-24)

Introduced by: Mississippi

Subject: Revise FAA Regulations to Include Naloxone (Narcan) in the On-Board Medical Kit for Commercial Airlines flying within the Continental United States

Referred to: Reference Committee K

Whereas, for the past 20 years the world has been in the grips of a global opioid epidemic; and

Whereas, it is estimated that in 2021, there were around 60.4 million people engaged in non-medical opioid use worldwide, of whom 31.5 million were users of the opioid's heroin and fentanyl; and

Whereas, the estimated number of people using opioids globally has doubled from 26-36 million people in 2012 to 61.3 million in 2020; and

Whereas, over the past 2 decades, the United States has experienced a growing crisis of Substance Abuse and Addiction that has resulted in the rise of deaths from accidental drug overdoses; and

Whereas, in 2023 the CDC estimated that approximately 108,000 Americans died from accidental drug overdose; and

Whereas, it is estimated that approximately 75% or 81,000 of the 108,000 deaths were the result of opioids, primarily fentanyl; and

Whereas, the United States has the second largest air travel market in the world, with more than 853 million passengers flying in 2022; and

Whereas, the FAA does not require commercial airlines who fly in and out of the United States to have Naloxone (Narcan) or any other opioid antagonist (opioid reversal drug) to be part of the on-board medical kit; therefore be it

RESOLVED, that our American Medical Association work with the FAA and any other appropriate Federal Agency to require Naloxone (Narcan) or any other FDA approved opioid antagonist to be a component of the medical kit of any commercial airline that flies within the Continental United States (Directive to Take Action); and be it further

RESOLVED, that existing house policy "US Airlines Aircraft Emergency Kits" H-45.981 be modified as follows:

2. Our AMA will:
    a. support the addition of ~~naloxone,~~ epinephrine auto injector and glucagon to the airline medical kit.
    b. encourage airlines to voluntarily include ~~naloxone,~~ epinephrine auto injector and glucagon in their airline medical kits.

c. encourage the addition of ~~naloxone,~~ epinephrine auto injector and glucagon to the emergency medical kits of all US airlines (14CFR Appendix A to Part 121 - First Aid Kits and Emergency Medical Kits); and
d. Work with the FAA and any other appropriate Federal Agency to require Naloxone (Narcan) or any other FDA approved opioid antagonist to be a component of the medical kit of any commercial airline that flies within the Continental United States. (Modify Current Policy)

Fiscal Note: Modest – between $1,000 - $5,000

Received: 9/24/2024

RELEVANT AMA POLICY

Improvement in US Airlines Aircraft Emergency Kits H-45.981

1. Our American Medical Association urges federal action to require all US air carriers to report data on in-flight medical emergencies, specific uses of in-flight medical kits and emergency lifesaving devices, and unscheduled diversions due to in-flight medical emergencies; this action should further require the Federal Aviation Administration to work with the airline industry and appropriate medical specialty societies to periodically review data on the incidence and outcomes of in-flight medical emergencies and issue recommendations regarding the contents of in-flight medical kits and the use of emergency lifesaving devices aboard commercial aircraft.
2. Our AMA will:
    a. support the addition of naloxone, epinephrine auto injector and glucagon to the airline medical kit.
    b. encourage airlines to voluntarily include naloxone, epinephrine auto injector and glucagon in their airline medical kits.
    c. encourage the addition of naloxone, epinephrine auto injector and glucagon to the emergency medical kits of all US airlines (14CFR Appendix A to Part 121 - First Aid Kits and Emergency Medical Kits).
3. That our American Medical Association advocate for U.S. passenger airlines to carry standard pulse oximeters, automated blood pressure cuffs and blood glucose monitoring devices in their emergency medical kits.

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 922
(I-24)

Introduced by: Resident and Fellow Section

Subject: Advocating for the Regulation of Pink Peppercorn as a Tree Nut

Referred to: Reference Committee K

Whereas, an allergy to peanuts and tree nuts is the most common cause of death due to allergic reactions in the USA, with a rising prevalence;[1] and

Whereas, the prevalence of an allergy to tree nuts is approximately 1 to 1.2% of the US population, affecting approximately 3 million people;[1,2] and

Whereas, Congress passed the Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA), identifying eight foods as major food allergens: milk, eggs, fish, Crustacean shellfish, tree nuts, peanuts, wheat, and soybeans, with sesame recently being added to the list;[3] and

Whereas, this law requires that food labels identify the food source of all major food allergens used to make the food, and the Food & Drug Administration (FDA) enforces this regulation and provides guidance on food labeling to food manufacturers;[3] and

Whereas, the “Pink Peppercorn” is often sold in peppercorn blends and has been used increasingly in food and drink products as a peppercorn, however, it is actually a dried berry from the family *Schinus terebinthifolius,* which is related to the cashew and pistachio family;[4] and

Whereas, studies have shown approximately 76% of people with a cashew (tree nut) allergy show cross reactivity to “pink peppercorn” and may have allergic reactions if consumed;[4,5] and

Whereas, the FDA does not currently regulate pink peppercorn as an allergen, therefore food and drink products including it are not labeled as including tree nuts, increasing the risk of an accidental consumption by a person with a tree nut allergy;[6,7] therefore be it

RESOLVED, that our American Medical Association ask the Food and Drug Administration (FDA), National Institute of Allergy and Infectious Diseases (NIAID), and other relevant stakeholders to develop skin antigen testing for pink peppercorn to further develop research and clinical application (Directive to Take Action); and be it further

RESOLVED, that our AMA ask the FDA, NIAID, and other relevant stakeholders to conduct appropriate studies to determine the cross-reactivity of pink peppercorn as a tree nut, with subsequent regulation, reporting, and public education as appropriate. (Directive to Take Action)

Fiscal Note: Minimal – less than $1,000

Received: 9/24/24

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RELEVANT AMA POLICY:

Preventing Allergic Reactions in Food Service Establishments D-440.932
Our American Medical Association will pursue federal legislation requiring restaurants and food establishments to: (1) include a notice in menus reminding customers to let the staff know of any food allergies; (2) educate their staff regarding common food allergens and the need to remind customers to inform wait staff of any allergies; and (3) identify menu items which contain any of the major food allergens identified by the FDA (in the Food Allergen Labeling and Consumer Protection Act of 2004) and which allergens the menu item contains. [Res. 416, A-15]

Childhood Anaphylactic Reactions D-60.976
Our AMA will: (1) urge all schools, from preschool through 12th grade, to: (a) develop Medical Emergency Response Plans (MERP); (b) practice these plans in order to identify potential barriers and strategies for improvement; (c) ensure that school campuses have a direct communication link with an emergency medical system (EMS); (d) identify students at risk for life-threatening emergencies and ensure these children have an individual emergency care plan that is formulated with input by a physician; (e) designate roles and responsibilities among school staff for handling potential life-threatening emergencies, including administering medications, working with EMS and local emergency departments, and contacting families; (f) train school personnel in cardiopulmonary resuscitation; (g) adopt the School Guidelines for Managing Students with Food Allergies distributed by FARE (Food Allergy Research & Education); and (h) ensure that appropriate emergency equipment to deal with anaphylaxis and acute asthmatic reactions is available and that assigned staff are familiar with using this equipment; (2) work to expand to all states laws permitting students to carry prescribed epinephrine or other medications prescribed by their physician for asthma or anaphylaxis; (3) support increased research to better understand the causes, epidemiology, and effective treatment of anaphylaxis; (4) urge the Centers for Disease Control and Prevention to study the adequacy of school personnel and services to address asthma and anaphylactic emergencies; (5) urge physicians to work with parents and schools to ensure that all their patients with a food allergy have an individualized emergency plan; and (6) work to allow all first responders to carry and administer epinephrine in suspected cases of anaphylaxis. [CSAPH Rep. 1, A-07; Modified: CCB/CLRPD Rep. 2, A-14; Reaffirmed: CSAPH Rep. 01, A-24]

Food Allergic Reactions in Schools and Airplanes H-440.884
Our AMA recommends that all:
(1) schools provide increased student and teacher education on the danger of food allergies;
(2) schools have a set of emergency food allergy guidelines and emergency anaphylaxis kits on the premises, and that at least one member of the school administration be trained and certified in the indications for and techniques of their use; and
(3) commercial airlines have a set of emergency food allergy guidelines and emergency anaphylaxis kits on the premises, and that at least one member of the flight staff, such as the head flight attendant, be trained and certified in the indications for and techniques of their use. [Res. 415, A-04; Reaffirmed: CSAPH Rep. 1, A-14; Reaffirmed: CSAPH Rep. 01, A-24]

Dietary Supplements and Herbal Remedies H-150.954
(1) Our AMA supports efforts to enhance U.S. Food and Drug Administration (FDA) resources, particularly to the Office of Dietary Supplement Programs, to appropriately oversee the growing dietary supplement sector and adequately increase inspections of dietary supplement manufacturing facilities.
(2) Our AMA supports the FDA having appropriate enforcement tools and policies related to dietary supplements, which may include mandatory recall and related authorities over products that are marketed as dietary supplements but contain drugs or drug analogues, the utilization of risk-based inspections for dietary supplement manufacturing facilities, and the strengthening of adverse event reporting systems.
(3) Our AMA supports continued research related to the efficacy, safety, and long-term effects of dietary supplement products.
(4) Our AMA will work with the FDA to educate physicians and the public about FDA's Safety Reporting Portal (SRP) and to strongly encourage physicians and the public to report potential adverse events associated with dietary supplements and herbal remedies to help support FDA's efforts to create a database of adverse event information on these forms of alternative/complementary therapies.
(5) Our AMA strongly urges physicians to inquire about patients' use of dietary supplements and engage in risk-based conversations with them about dietary supplement product use.
(6) Our AMA continues to strongly urge Congress to modify and modernize the Dietary Supplement Health and Education Act to require that:
(a) dietary supplements and herbal remedies including the products already in the marketplace undergo FDA approval for evidence of safety and efficacy;
(b) dietary supplements meet standards established by the United States Pharmacopeia for identity, strength, quality, purity, packaging, and labeling;
(c) FDA establish a mandatory product listing regime that includes a unique identifier for each product (such as a QR code), the ability to identify and track all products produced by manufacturers who have received warning letters from the FDA, and FDA authorities to decline to add labels to the database if the label lists a prohibited ingredient or new dietary ingredient for which no evidence of safety exists or for products which have reports of undisclosed ingredients; and
(d) regulations related to new dietary ingredients (NDI) are clarified to foster the timely submission of NDI notifications and compliance regarding NDIs by manufacturers.
(7) Our AMA supports FDA postmarketing requirements for manufacturers to report adverse events, including drug interactions; and legislation that declares metabolites and precursors of anabolic steroids to be drug substances that may not be used in a dietary supplement.
(8) Our AMA will work with the Federal Trade Commission (FTC) to support enforcement efforts based on the FTC Act and current FTC policy on expert endorsements and supports adequate funding and resources for FTC enforcement of violations of the FTC Act.
(9) Our AMA strongly urges that criteria for the rigor of scientific evidence needed to support a structure/function claim on a dietary supplement be established by the FDA and minimally include requirements for robust human studies supporting the claim.
10) Our AMA strongly urges dietary supplement manufacturers and distributors to clearly label all products with truthful and not misleading information and for the product labeling to:
(a) not include structure/function claims that are not supported by evidence from robust human studies;
(b) not contain prohibited disease claims;
(c) eliminate "proprietary blends" and list and accurately quantify all ingredients contained in the product;
(d) require advisory statements regarding potential supplement-drug and supplement-laboratory interactions and risks associated with overuse and special populations; and
(e) include accurate and useful disclosure of ingredient measurement.
(11) Our AMA supports and encourages the FDA's regulation and enforcement of labeling violations and FTC's regulation and enforcement of advertisement violations of prohibited disease claims made on dietary supplements and herbal remedies.
(12) Our AMA urges that in order to protect the public, manufacturers be required to investigate and obtain data under conditions of normal use on adverse effects, contraindications, and possible drug interactions, and that such information be included on the label.
(13) Our AMA will continue its efforts to educate patients and physicians about the risks associated with the use of dietary supplements and herbal remedies and supports efforts to increase patient, healthcare practitioner, and retailer awareness of resources to help patients select quality supplements, including educational efforts to build label literacy. [Res. 513, I-98; Reaffirmed: Res. 515, A-99; Amended: Res. 501 & Reaffirmation I-99; Reaffirmation A-00; Reaffirmed: Sub. Res. 516, I-00; Modified: Sub. Res. 516, I-00; Reaffirmed: Sub. Res. 518, A-04; Reaffirmed: Sub. Res. 504, A-05; Reaffirmation A-05; Reaffirmed in lieu

of Res. 520, A-05; Reaffirmation I-09; Reaffirmed in lieu of Res. 501, A-10; Reaffirmation A-11; Reaffirmation I-14; Modified: Res. 511, A-16; Reaffirmation: A-17; Reaffirmation: A-19; Modified: CSAPH Rep. 3, I-20; Reaffirmed: Res. 510, A-24]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 923
(I-24)

Introduced by: Resident and Fellow Section

Subject: Updated Recommendations for Child Safety Seats

Referred to: Reference Committee K

Whereas, motor vehicle crashes are the leading cause of death in children aged 5-14 and each year, more than 2,000 children and adolescents under the age of 21 years die in motor vehicle crashes[1-3]; and

Whereas, in 2020 more than 63,000 children less than 13 years of age were injured in a motor vehicle crash with nearly 23,000 (36%) of these children not being buckled into the vehicle[4]; and

Whereas, American Indian and Alaska Native children and Black children are more likely to die in a motor vehicle crash than White children, and children in rural areas are more likely to die in a motor vehicle crash compared to urban areas[5,6]; and

Whereas, over the past decades, car seat technology has steadily improved in safety and ease-of-use features and provided higher weight and length limits at each stage; and

Whereas, multiple reasons exist for not using a car seat, one of which includes lack of access to affordable car seats[4]; and

Whereas, being unrestrained in a vehicle increases the risk of being killed in a crash; a 2021 National Highway Traffic Safety Administration Report using fatal crash data found that 30% of 0-3-year-olds and 36% of 8-12–year-olds killed in motor vehicle crashes were not buckled up[7]; and

Whereas, car safety seats and booster seats have been shown to be superior to a seatbelt alone in preventing death and serious injury for young children by reducing the risk of injury by up to 71-82% for car seats and 45% for booster seats[4]; and

Whereas, the choice of car seat, booster seat, or seat belt should be determined based on age and size of the child, which may not always be common knowledge to parents; and

Whereas, the American Academy of Pediatrics (AAP) and Center for Disease Control and Prevention (CDC) offer guidance on motor vehicle transportation of children, however, AMA policies have not been updated with newer recommendations surrounding the specific use of child safety seats[2,4]; therefore be it

RESOLVED, that our American Medical Association supports the following evidence-based principles in education and advocacy efforts around proper child safety seat use:

(1) The use of rear-facing car safety seats with a harness from birth for as long as possible, until children reach the maximum height or weight specifications of their rear-facing car seat;

(2) The use of forward-facing car safety seats from the time children outgrow rear-facing seats until they reach the maximum height or weight specifications of their forward-facing car seat;

(3) The use of belt-positioning booster seats from the time children they outgrow forward-facing car seats until a seat belt fits properly with the lap belt across the upper thighs and the shoulder belt across the center of the shoulder and chest;

(4) The use of lap and shoulder seat belts for all who have outgrown booster seats; and

(5) That all children under age 13 are seated only in the back row (New HOD Policy); and be it further

RESOLVED, that our AMA rescind policy 15.950, “Child Safety Seats – Public Education and Awareness.” (Rescind HOD Policy)

Fiscal Note: Minimal – less than $1,000

Received: 9/24/2024

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RELEVANT AMA POLICY:

Child Safety Seats - Public Education and Awareness H-15.950
Our American Medical Association supports efforts to require child safety seat manufacturers to include information about the importance of rear-facing safety seats until children are at least four years of age or until they reach the maximum height or weight specifications of their car seat, at which time they should be placed in a forward-facing child safety system with a harness as recommended by the American Academy of Pediatrics. [Res. 922, I-14; Res. 922, I-14Modified: CSAPH Rep. 01, A-24]

Amending Child Restraint Laws H-440.870
Our AMA supports: (1) federal legislation that increases law enforcement standards for child safety seat use in the United States; and (2) state and federal legislation that updates child car seat violation codes from a secondary to primary law. [Res. 913, I-07; Reaffirmed: BOT Rep. 22, A-17]

Modification of Three-Point Shoulder Harness Seat Belt to Enable Use by Small Children H-15.988
The AMA (1) recognizes the value of using appropriately designed three-point safety belt restraints to reduce auto-related injuries and fatalities; (2) supports auto industry modifications in restraints for safe use by children and small adults; and (3) supports the development of standards required for such modifications by appropriate authorities. [Sub. Res. 33, A-83; Reaffirmed: CLRPD Rep. 1, I-93; Reaffirmed and Modified: CSA Rep. 8, A-05; Reaffirmed: CSAPH Rep. 1, A-15]

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 926
(I-24)

Introduced by: New Jersey

Subject: Development of Climate Health Education Tools for Physicians

Referred to: Reference Committee K

Whereas, the American Medical Association recognizes the urgent need for physicians to have access to comprehensive education and resources regarding the health impacts of climate change; and recognizes the profound impact of climate change on public health; and

Whereas, the World Health Organization (WHO) has referred to climate change as the most significant health threat facing humanity, contributing to increased morbidity and mortality from heat-related illnesses, vector-borne diseases, extreme weather events, exacerbation of chronic diseases and other climate-related health conditions climate change and environmental degradation threatens human health in myriad ways including impacts on cardiovascular and pulmonary systems, cancer, adverse birth outcomes, endocrinologic and gastroenterologic disease, neurologic and psychiatric effects, and autoimmune conditions along with changes in vector ecology and infections; and

Whereas, climate change and environmental degradation threatens human health in myriad ways including impacts on cardiovascular and pulmonary systems, cancer, adverse birth outcomes, endocrinologic and gastroenterologic disease, neurologic and psychiatric effects, and autoimmune conditions along with changes in vector ecology and infections; and

Whereas, physicians play a critical role in addressing the health impacts of climate change by providing preventive care, advocating for policies that mitigate environmental risks, and educating patients and communities on climate-related health risks; and

Whereas, studies have demonstrated the inadequacy of current medical education in preparing physicians to address climate-related health risks, with many medical students and practicing physicians reporting limited knowledge and training in this critical area the incorporation of climate health education into medical training has been shown to enhance physician preparedness to recognize, prevent, and treat climate-related health conditions, ultimately improving patient outcomes and community resilience; and

Whereas, the incorporation of climate health education into medical training has been shown to enhance physician preparedness to recognize, prevent, and treat climate-related health conditions, improving patient outcomes and community resilience; and

Whereas, incorporating climate health education into medical training can equip physicians with the knowledge and skills necessary to effectively address climate-related health challenges and promote resilience in patients and communities; and

Whereas, the development and dissemination of climate health education tools and resources tailored to the needs of physicians can facilitate the integration of climate health into medical

curricula and clinical practice, empowering healthcare providers to address the health impacts of climate change more effective; and

Whereas, the medical profession has a responsibility to prioritize climate health as an essential component of medical education and practice; therefore be it

RESOLVED, that our American Medical Association commits to developing a comprehensive suite of climate health education tools and resources for physicians, including online modules, case studies, clinical guidelines, and patient education materials (Directive to Take Action); and be it further

RESOLVED, that our AMA collaborates with subject matter experts, medical educators, and healthcare organizations to ensure the accuracy, relevance, and accessibility of climate health education materials (Directive to Take Action); and be it further

RESOLVED, that our AMA establishes a dedicated task force or working group within the AMA to oversee the development, review, and dissemination of climate health education tools, with representation from diverse medical specialties and stakeholder groups (Directive to Take Action); and be it further

RESOLVED, that our AMA encourages medical schools, residency programs, and continuing medical education providers to integrate AMA-developed climate health education resources into their curricula and training programs (New HOD Policy); and be it further

RESOLVED, that our AMA advocates for funding and support from governmental agencies, philanthropic organizations, and other stakeholders to facilitate the widespread adoption and implementation of climate health education tools within the medical community (Directive to Take Action); and be it further

RESOLVED, that our AMA advocates for funding and support from governmental agencies, philanthropic organizations, and other stakeholders to facilitate the widespread adoption and implementation of climate health education tools within the medical community (Directive to Take Action); and be it further

RESOLVED, that our AMA shall communicate this resolution to relevant stakeholders, including medical schools, residency programs, healthcare organizations, and government agencies, to mobilize support and resources for the development and dissemination of climate health education tools for physicians. (Directive to Take Action)

Fiscal Note: $765,754 Contract with third-parties to develop educational content and development of a taskforce

Received: 9/24/2024

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AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 928
(I-24)

Introduced by: New York Delegation

Subject: Public Safety Agencies Data Collection Enhancement

Referred to: Reference Committee K

Whereas, clinical researchers and scientists are eager to study the causes and circumstances of accidental traumatic injuries, in order to promote the safety and general welfare of the public through primary & secondary prevention thereof; and

Whereas, legislators and policymakers depend upon clinical researchers and scientists to provide valid evidence upon which data-driven legislation to protect the public may be developed and enacted. Historical examples include Standard 208 of the National Traffic and Safety Act in 1967, which required automobiles to have seatbelts, and banning tobacco advertisement on television and radio in 1971; both of which have saved millions of lives; and

Whereas, currently, Public Safety Agencies, e.g., Emergency Medical Services and Police Departments, collect limited data on vehicular accidents and injury-related events by requiring only general descriptions of location, e.g., the road names or intersection where an accident occurs, or that a fall occurred “in the home”; and

Whereas, regarding road or traffic accidents, details such as types of vehicles, including but not limited to micro-transit (scooters or motorized/electric bicycles); speed of the vehicles, and whether the event occurred in a crosswalk (zebra lines), bike lane, or main thoroughfare are relegated to non-mandatory “free-text” fields, which are not readily searchable; and

Whereas, regarding falls in the home, more specific data on location and mechanism of injury, i.e., the kitchen, bathroom or stairs, as well as, the presence of obstacles or hazards, such as clutter, are relegated to non-mandatory “free-text” fields, which are not readily searchable; and

Whereas, in order to develop data-driven, evidence-based safety and preventative policies, more specific and granular information must be reliably and searchably collected by Public Safety Agencies across the state and the nation; therefore be it

RESOLVED, that our American Medical Association shall actively collaborate with the National Emergency Medical Services Information System (NEMSIS) to promote a listing of necessary data points and variables to be added to the currently available information collection systems, in a mandatory and searchable fashion, to facilitate the required research (Directive to Take Action); and be it further

RESOLVED, that our AMA shall actively collaborate with the American College of Surgeons to promote addition of these variable fields to data collection systems of the National Trauma Data Bank (NTDB) and the Trauma Quality Improvement Program (TQIP), in a mandatory and searchable fashion, to facilitate the required research (Directive to Take Action); and be it further

RESOLVED, that our AMA shall advocate to the US Congress to mandate the collection of these data and fund the transition to and the ongoing collection of these data. (Directive to Take Action)

Fiscal Note: Moderate – between $5,000 - $10,000

Received: 9/24/2024

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 929
(I-24)

Introduced by: New York Delegation

Subject: Safety Concerns Regarding Inadequate Labeling of Food Products Upon Ingredient Changes with Known Major Food Allergens

Referred to: Reference Committee K

Whereas, the American Medical Association is dedicated to promoting the highest standards of medical care and advocating for the well-being of patients and physicians; and

Whereas, there are millions of Americans who have food allergies and hypersensitivities; and

Whereas, the FDA has provided guidelines to the food industry consumers and stakeholders on the best ways to assess and manage allergen hazards in food; and

Whereas, the FDA has identified the following 9 items as major food allergens: milk, eggs, fish, crustacean shellfish, tree nuts, peanuts, wheat, soybeans and sesame; and

Whereas, Federal law requires that food manufacturers and sellers identify by label all of the food source of all major food allergens used to make the food; and

Whereas, there is no guidance by the FDA to ensure additional labeling requirements or notifications identifying when ingredients have been substituted with major food allergens prior to sale other than simply listing the ingredient among all the other ingredients; and

Whereas, a recent unfortunate death of a 25-year-old female due to anaphylaxis from ingesting a food item that contained a new ingredient consisting of a major food allergen which was not included in the list of ingredients on the label; and

Whereas, the cause of the mislabeling is still under investigation, the deadly ramifications of incorrectly marked ingredients is apparent especially with a food product which had been changed by the food manufacturer with the addition of a food allergen, but repackaged by the retailer without the newly added major food allergen ingredient change identified in the labeling; and

Whereas, there is an ongoing investigation to review the details of the miscommunication of a change of ingredient by the developer and the retailer when repackaging the food that now had a major food allergen as an ingredient; and

Whereas, the FDA ‘s guidelines do not suggest any “red flag” or “warning” notifications labeling, or any other method to accentuate a major food allergy addition to a previously formulated food product; therefore be it

RESOLVED, that our American Medical Association support legislation or regulation that any repackaging entity verify with the food manufacturer/distributor as an ordinary and routine

transaction of commerce that no major food allergen ingredient changes have occurred (New HOD Policy); and be it further

RESOLVED, that our AMA support legislation or regulation requiring major food allergen ingredient changes be labeled and packaged with accentuated, obvious warning labeling identifying such change. (New HOD Policy)

Fiscal Note: Minimal – less than $1,000

Received: 9/24/2024

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 930
(I-24)

Introduced by: Association for Clinical Oncology, American Society of Hematology

Subject: Economic Factors to Promote Reliability of Pharmaceutical Supply

Referred to: Reference Committee K

Whereas, pharmaceutical drug shortages are frequent, and have had serious negative effects on the health of American patients, including those with curable diseases including cancer; and

Whereas, supply of generic sterile injectable drugs faces multiple challenges, including a limited number of manufacturers, limited API (active pharmaceutical ingredient) sourcing and tracking, and limited quality control – all ultimately stemming from competition for the lowest price; and

Whereas, AMA policy H-100.956 "National Drug Shortages" establishes a framework to address drug shortages, including support for "measures designed to drive greater investment in production capacity for products that are in short supply," as well as a recommendation for analysis of economic drivers of drug shortages; and

Whereas, federal legislators have drafted potential legislation which would address some of these economic drivers of drug shortages, with interventions including federal incentives for practices to enter into contracts for time and volume commitment with stable pricing with manufacturers of generic drugs; therefore be it

RESOLVED, that our American Medical Association amend H-100.956 "National Drug Shortages" by addition of a new Resolve:

> Our AMA support federal drug shortage prevention and mitigation programs that create payer incentives to enable practitioners and participating entities to voluntarily enter contracts directly with manufacturers that will pay more than prevailing market price for generic sterile injectable drugs at high risk of shortage to promote stable manufacturing and reliability of these products. (Modify Current HOD Policy)

Fiscal Note: Minimal – less than $1,000

Received: 9/24/2024

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RELEVANT AMA POLICY

National Drug Shortages H-100.956
1. Our American Medical Association 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 and pharmacy benefit managers 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 continued analysis of the root causes of drug shortages that includes consideration of federal actions, evaluation of manufacturer, Group Purchasing Organization (GPO), pharmacy benefit managers, and distributor practices, contracting practices by market participants on competition, access to drugs, pricing, and analysis of economic drivers, and supports efforts by the Federal Trade Commission to oversee and regulate such forces.
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 or caused to stop production 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 and distributors to provide greater transparency regarding the pharmaceutical product supply chain, including production locations of drugs, any unpredicted changes in product demand, and provide more detailed information regarding the causes and anticipated duration of drug shortages.
12. Our AMA supports the collection and standardization of pharmaceutical supply chain data in order to determine the data indicators to identify potential supply chain issues, such as drug shortages.
13. Our AMA encourages global implementation of guidelines related to pharmaceutical product supply chains, quality systems, and management of product lifecycles, as well as expansion of global reporting requirements for indicators of drug shortages.
14. Our AMA urges drug manufacturers to accelerate the adoption of advanced manufacturing technologies such as continuous pharmaceutical manufacturing.
15. Our AMA supports the concept of creating a rating system to provide information about the quality management maturity, resiliency and redundancy, and shortage mitigation plans, of pharmaceutical manufacturing facilities to increase visibility and transparency and provide incentive to manufacturers. Additionally, our AMA encourages GPOs and purchasers to contractually require manufacturers to disclose their quality rating, when available, on product labeling.
16. Our AMA encourages electronic health records (EHR) vendors to make changes to their systems to ease the burden of making drug product changes.
17. Our AMA urges the FDA to evaluate and provide current information regarding the quality of

outsourcer compounding facilities.
18. 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.
19. Our AMA urges the Drug Enforcement Agency and other federal agencies to regularly communicate and consult with the FDA regarding regulatory actions which may impact the manufacturing, sourcing, and distribution of drugs and their ingredients.
20. Our AMA supports innovative approaches for diversifying the generic drug manufacturing base to move away from single-site manufacturing, increasing redundancy, and maintaining a minimum number of manufacturers for essential medicines.
21. Our AMA supports the public availability of FDA facility inspection reports to allow purchasers to better assess supply chain risk.
22. Our AMA opposes the practice of preferring drugs experiencing a shortage on approved pharmacy formularies when other, similarly effective drugs are available in adequate supply but otherwise excluded from formularies or coverage plans.
23. Our AMA shall continue to monitor proposed methodologies for and the implications of a buffer supply model for the purposes of reducing drug shortages and will report its findings as necessary.