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REPORT OF THE BOARD OF TRUSTEES

B of T Report 9-I-16

Subject: Product-Specific Direct-to-Consumer Advertising of Prescription Drugs (Second Resolve, Resolution 927-I-15; Resolution 514-A-16)

Presented by: Patrice A. Harris, MD, MA, Chair

Referred to: Reference Committee K (Paul A. Friedrichs, MD, Chair)

INTRODUCTION

The second resolve of Substitute Resolution 927-I-15, "Ban Direct-To-Consumer Advertisements of Prescription Drugs and Implantable Medical Devices," referred for decision by the House of Delegates (HOD), and then directed for a report back[1] by the Board of Trustees asked:

> That Policy H-105.988, "Direct-to-Consumer Advertising of Prescription Drugs and Implantable Medical Devices," be rescinded.

Resolution 514-A-16, "Opposing Tax Deductions for Direct-to-Consumer Advertising," introduced by the California Delegation and referred by the HOD asked:

> That our American Medical Association oppose allowing costs for direct-to-consumer advertising of prescription medications, medical devices, and controlled drugs to be considered deductible business expenses for tax purposes.

AMA Policy H-105.986, "Ban Direct-to-Consumer Advertisements of Prescription Drugs and Implantable Devices," supports a ban on direct-to-consumer advertising for prescription drugs and implantable medical devices. Policy H-105.988 contains a detailed set of guidelines for establishing what the AMA considers to be acceptable product-specific direct-to-consumer advertisements (DTCA) for prescription drugs and implantable medical devices. Although AMA policy supports a ban on DTCA, it may be reasonable and prudent to maintain a policy that provides a framework to evaluate the appropriateness and/or usefulness of DTCA, based principally on the fact that the Supreme Court has ruled that DTCA is protected commercial free speech and therefore, this practice will likely continue in the future. This report summarizes concerns and findings on the impact of DTCA and whether the AMA should maintain a comprehensive policy on what constitutes acceptable product-specific DTCA. Additionally, this report briefly considers whether establishing policy opposing industry tax credits for DTCA is advisable.

BACKGROUND

Food and Drug Administration Regulation of DTCA

Pharmaceutical companies began marketing prescription drugs directly to consumers in the early 1980s. In 1983, the Food and Drug Administration (FDA) imposed a moratorium on DTCA, to

which the industry agreed. Two years later, based on the legal view that DTCA is constitutionally protected free speech, the FDA concluded that it lacked the legal authority to prevent this type of advertising and agreed to allow it as long as DTCAs: (1) were not false or misleading; (2) presented a fair balance between benefit and risk information; and (3) revealed all material facts about risks in the form of a so-called "brief summary." The latter required that ads provide sufficient information about warnings, precautions, and side effects associated with prescription drug products. Based on these substantial informational requirements, most product-specific DTCAs in the 1980s and 1990s were largely restricted to print media.

In 1999, the FDA acted to facilitate DTCA via broadcast media by finalizing the Agency's "Guidance for Industry: Consumer-Directed Broadcast Advertisements."[2] This Guidance relaxed the responsibilities for the industry with respect to providing risk information in DTCA. The key new provision was that the FDA now required pharmaceutical manufacturers to provide only risk information related to the major side effects and contraindications of the advertised drugs in the audio or visual portion of the broadcast (referred to as the "major statement") and make "adequate provision" for obtaining the full prescribing information in connection with the advertisement.[3] The latter could be accomplished by referral to a company-designated toll free phone number or web page, a print advertisement for the product or referral to the patient's physician or pharmacist for additional information.

With these changes, the appearance of DTCA in broadcast media increased substantially. By 2006, the industry was spending $5.4 billion annually on DTCA. The *2007 Food and Drug Administration Amendments Act* gave the FDA the authority to require submission of any television drug advertisement for advisory review not later than 45 days before the ad is publicly disseminated. Although the FDA can make certain recommendations for the DTCA based on information included in the drug's package insert (including addressing efficacy of the drug in specific populations), it has no authority to require changes except for specific disclosure about serious risks, or the date of approval, if the ad would otherwise be deemed false or misleading. In 2012, the FDA issued draft guidance for industry on how it planned to implement the requirement for the pre-dissemination review of DTCA.[3] This guidance establishes several categories of television ads subject to pre-dissemination review (e.g., initial ads for a new drug, any drug with a Risk Evaluation and Mitigation Strategy, controlled substances, and any drug with a black box warning). The FDA's Office of Prescription Drug Promotion (OPDP) is responsible for reviewing prescription drug advertising and promotional labeling to ensure the information contained in the promotional materials is not false or misleading. OPDP also encourages health care providers to report misleading ads through the Bad Ad program.

The regulatory structure around certain aspects of DTCA may change as the FDA moves to enact new regulations regarding risk communication. In 2015, the FDA sought public comments on new guidance for pharmaceutical marketers on communicating risks to consumers in print advertisements. The Agency's proposal is based on accumulated research showing that reprinting highly technical language in print advertisements does very little to communicate risks to consumers. Rather, the FDA is proposing that companies use a new "consumer brief summary" focused on the most important risk information in a way most likely to be understood by consumers. This would move the requirements for risk communication in print advertisements in the same direction as previously made for broadcast advertisements.

DTCA-Pro or Con?

The United States is one of only two countries in the world that allows DTCA in broadcast, print, and electronic media; the other is New Zealand. Last year the industry spent $5.4 billion on such

advertising, a 58% increase from 2012, and equivalent to the peak spending last achieved in 2006.[4] During the same time period, the proportion of total DTCA spending devoted to television increased from 57% to 69%. Considerable debate has focused on whether DTCA is beneficial or harmful to patients or the patient/physician relationship, and whether physician prescribing behavior is significantly affected.

The following lists the major pro and con arguments that have been made regarding DTCA:

Arguments in Support of DTCA

- Educates patients and encourages patient responsibility for their health.
- Increases patient awareness of medical conditions and treatment options.
- Encourages patients to contact their physician, or otherwise engage the healthcare system.
- Results in cost savings; by seeking medical attention, patients have their conditions managed in a more prompt fashion, avoiding unneeded hospital stays or more costly interventions.
- Stimulates thoughtful dialogue and strengthens a patient's relationship with their health care provider.
- Encourages patient adherence, with drug ads serving as reminder aids.
- Reduces underdiagnoses and undertreatment of certain conditions or diseases.
- Removes the stigma associated with certain diseases.

Arguments Opposing DTCA

- Misinforms patients by omitting important information or using an inappropriate literacy level.
- Advertisements often do not exhibit fair balance and may overemphasize or create heightened expectations of drug benefits.
- Drives demand for a new drug before its safety profile in the general population is established, exacerbating harm.
- Leads to the "medicalization" of natural conditions, cosmetic issues, or trivial ailments.
- Promotes inappropriate prescribing and drives choice of more expensive branded products, increasing costs.
- Harms the patient-doctor relationship; wastes appointment time, especially when the advertised drug is inappropriate for the patient's disease or condition.
- Is not sufficiently regulated by the FDA.

While it may seem relatively easy to validate these arguments, the available research suggests both beneficial and harmful effects of DTCA, with each of the arguments above supported by some evidence. Accordingly, the question of whether DTCA results in net benefit or harm remains unsettled even today. Several reviews are available on the subject.[6-17]

Another aspect of DTCA is how it can be structured to improve patient or public health benefits and/or reduce the potential for harm. Some suggested remedies include mandatory FDA preclearance, a moratorium or delay in the advertising for new products, better transparency involving online webpages or advertising, including quantitative information about risks and benefits in the advertisement, using communication strategies to improve patient comprehension about risks and benefits, and including cost information.[8] The FDA continues to study ways in which patients react to DTCA. A recent study, updating a previous 2002 FDA phone survey, found that 46% and 52% of respondents believed that DCTA did not include enough information about

benefits and risks, respectively, suggesting that the educational effects of DTCA can be substantially improved.[18]

There has been renewed Congressional interest in instituting a time-limited moratorium on DTCA for newly approved drugs based on the fact that new and important safety data not evident during the limited clinical trials conducted for FDA approval often emerge during the early marketing phase. The *Responsibility in Drug Advertising Act of 2016* (H.R. 4565) introduced by Rosa DeLauro seeks to establish a 3-year moratorium on advertising for new prescription drugs. Another approach is legislation introduced by Senator Franken. The *Protecting Americans from Drug Marketing Act* would eliminate the tax deduction that pharmaceutical companies can take on monies spent on prescription drug advertising. The AMA has expressed tentative support for this approach, which is consistent with a policy stance that seeks to scale back or eliminate DTCA.

SHOULD AMA POLICY H-105.988 BE RETAINED

DTCA comes in three forms: product-claim ads, reminder ads, and help-seeking ads. AMA policy H-105.988 addresses product-claim ads. Reminder ads (drug and dosage form) make no claims, so the "fair balance" requirement and other legal standards or risk information requirements (i.e., "brief summary" and "adequate provision") are not required. Help-seeking ads are disease- or condition-specific and do not advertise a specific drug.

Current AMA Policy on what constitutes an acceptable DTCA has evolved over more than 20 years. With input from the FDA, the AMA developed an internal set of guidelines in 1993 for "acceptable" DTCAs appearing in the organization's consumer publications. These guidelines eventually became an integral part of Policy H-105.988 with adoption of BOT Report 38-A-99, "Direct-to Consumer Advertising of Prescription Drugs," by the HOD.[19] Policy H-105.988 was further amplified by adoption of BOT Report 9-A-06, "Direct-to-Consumer Advertising of Prescription Drugs."[6] In addition to modifying the existing AMA guidelines for an acceptable DTCA, BOT 9-A-06 also called for FDA pre-approval of all product-claim DTCAs, as well as adequate funding of the FDA to effectively regulate DTCA; a moratorium on DTCA for newly approved prescription drugs until physicians are sufficiently educated about them; and a periodic assessment of DTCA by the Agency for Healthcare Research and Quality. AMA Ethical Opinion E-9.6.7, "Direct-to-Consumer Advertisements of Prescription Drugs," provides additional guidance for physicians on how to respond in a responsible fashion to specific patient requests and inquiries prompted by DCTA.

The Pharmaceutical Research and Manufacturers of America (PhRMA) updated its voluntary principles for the conduct of DTCA in 2008 (see Appendix). In most respects, these voluntary standards are compatible with existing AMA guidelines for an acceptable DTCA. While companies pledge to adhere to these standards, some criticism has been leveled at individual companies for consistently failing to comply with the guiding principles, especially as they relate to minimizing exposure of children to adult content.[20] Given that it is unlikely that DTCA will be eliminated, it makes sense to have a policy in place stressing acceptable attributes and related recommendations.

CONCLUSION

Research suggests that DTCA can be both beneficial and detrimental, with several position points on both sides. Research is ongoing on how DTCA influences patients and physicians and other prescribers, and several remedies have been suggested to improve the likelihood of patient benefit and to reduce potential harm from this practice. DTCA differs from other forms of advertising because a learned intermediary (i.e., the prescriber) is required for the consumer to gain access to

the product. The seminal question for this report is whether the AMA should retain a policy that articulates features comprising what the organization considers to be acceptable for DTCA, in the face of policy supporting a ban on the practice. The Board of Trustees agrees that since DTCA is legally permitted, this framework should be retained and recommends modest amendments to the current policy, including support for eliminating tax deductions for DTCA spending.

RECOMMENDATION

The Board of Trustees recommends that the following statements be adopted in lieu of Second Resolve, Resolution 927-1-15 and Resolution 514-A-16, and the remainder of the report be filed.

1. That Policy H-105.988, "Direct-to-Consumer ~~(DTC)~~ Advertising (DTCA) of Prescription Drugs and Implantable Devices," be amended by addition and deletion to read as follows:

   It is the policy of our AMA:
   1. to support a ban on direct-to-consumer advertising for prescription drugs and implantable medical devices.

   2. That until such a ban is in place, ~~1. That our AMA considers acceptable only those~~ our AMA opposes product-claim~~specific~~ DTCA ~~advertisements~~ that does not satisfy the following guidelines:
   (a) The advertisement should be indication-specific and enhance consumer education about ~~both~~ the drug or implantable medical device, and the disease, disorder, or condition for which the drug or device is used.
   (b) In addition to creating awareness about a drug or implantable medical device for the treatment or prevention of a disease, disorder, or condition, the advertisement should convey a clear, accurate and responsible health education message by providing objective information about the benefits and risks of the drug or implantable medical device for a given indication. Information about benefits should reflect the true efficacy of the drug or implantable medical device as determined by clinical trials that resulted in the drug's or device's approval for marketing.
   (c) The advertisement should clearly indicate that the product is a prescription drug or implantable medical device to distinguish such advertising from other advertising for non-prescription products.
   (d) The advertisement should not encourage self-diagnosis and self-treatment, but should refer patients to their physicians for more information. A statement, such as "Your physician may recommend other appropriate treatments," is recommended.
   (e) The advertisement should exhibit fair balance between benefit and risk information when discussing the use of the drug or implantable medical device product for the disease, disorder, or condition. The amount of time or space devoted to benefit and risk information, as well as its cognitive accessibility, should be comparable.
   (f) The advertisement should present information about warnings, precautions, and potential adverse reactions associated with the drug or implantable medical device product in a manner (e.g., at a reading grade level) such that it will be understood by a majority of consumers, without distraction of content, and will help facilitate communication between physician and patient.
   (g) The advertisement should not make comparative claims for the product versus other prescription drug or implantable medical device products; however, the advertisement should include information about the availability of alternative non-drug or non-operative management options such as diet and lifestyle changes, where appropriate, for the disease, disorder, or condition.

(h) In general, product-claim~~specific~~ DTCA ~~advertisements~~ should not use an actor to portray a health care professional who promotes the drug or implantable medical device product, because this portrayal may be misleading and deceptive. If actors portray health care professionals in DTCA ~~advertisements~~, a disclaimer should be prominently displayed.
(i) The use of actual health care professionals, either practicing or retired, in DTCA to endorse a specific drug or implantable medical device product is discouraged but if utilized, the advertisement must include a clearly visible disclaimer that the health care professional is compensated for the endorsement.
(j) The advertisement should be targeted for placement in print, broadcast, or other electronic media so as to avoid audiences that are not age appropriate for the messages involved.
(k) In addition to the above, the advertisement must comply with all other applicable Food and Drug Administration (FDA) regulations, policies and guidelines.

~~2. That our AMA opposes product-specific DTC advertisements, regardless of medium, that do not follow the above AMA guidelines.~~

3. That the FDA review and pre-approve all DTCA ~~advertisements~~ for prescription drugs or implantable medical device products before pharmaceutical and medical device manufacturers (sponsors) run the ads, both to ensure compliance with federal regulations and consistency with FDA-approved labeling for the drug or implantable medical device product.

~~4~~. That the Congress provide sufficient funding to the FDA, either through direct appropriations or through prescription drug or implantable medical device user fees, to ensure effective regulation of DTCA.

5. That DTCA ~~advertisements~~ for newly approved prescription drug or implantable medical device products not be run until sufficient post-marketing experience has been obtained to determine product risks in the general population and until physicians have been appropriately educated about the drug or implantable medical device. The time interval for this moratorium on DTCA for newly approved drugs or implantable medical devices should be determined by the FDA, in negotiations with the drug or medical device product's sponsor, at the time of drug or implantable medical device approval. The length of the moratorium may vary from drug to drug and device to device depending on various factors, such as: the innovative nature of the drug or implantable medical device; the severity of the disease that the drug or implantable medical device is intended to treat; the availability of alternative therapies; and the intensity and timeliness of the education about the drug or implantable medical device for physicians who are most likely to prescribe it.

6. That our AMA opposes any manufacturer (drug or device sponsor) incentive programs for physician prescribing and pharmacist dispensing that are run concurrently with DTCA ~~advertisements~~.

7. That our AMA encourages the FDA, other appropriate federal agencies, and the pharmaceutical and medical device industries to conduct or fund research on the effect of DTCA, focusing on its impact on the patient-physician relationship as well as overall health outcomes and cost benefit analyses; research results should be available to the public.

8. That our AMA supports the concept that when companies engage in DTCA, they assume an increased responsibility for the informational content and an increased duty to warn consumers, and they may lose an element of protection normally accorded under the learned intermediary doctrine.

9. That our AMA encourages physicians to be familiar with the above AMA guidelines for product-claim~~specific~~ DTCA and with the Council on Ethical and Judicial Affairs ~~(CEJA)~~ Ethical Opinion E-~~5.015~~9.6.7 and to adhere to the ethical guidance provided in that Opinion.

10. That the Congress should request the Agency for Healthcare Research and Quality ~~(AHRQ)~~ or other appropriate entity to perform periodic evidence-based reviews of DTCA in the United States to determine the impact of DTCA on health outcomes and the public health. If DTCA is found to have a negative impact on health outcomes and is detrimental to the public health, the Congress should consider enacting legislation to increase DTCA regulation or, if necessary, to prohibit DTCA in some or all media. In such legislation, every effort should be made to not violate protections on commercial speech, as provided by the First Amendment to the U.S. Constitution.

11. That our AMA supports eliminating the costs for DTCA of prescription drugs as a deductible business expense for tax purposes.

12. That our AMA continues to monitor DTCA, including new research findings, and work with the FDA and the pharmaceutical and medical device industries to make policy changes regarding DTCA, as necessary.

13. That our AMA supports "help-seeking" or "disease awareness" advertisements (i.e., advertisements that discuss a disease, disorder, or condition and advise consumers to see their physicians, but do not mention a drug or implantable medical device or other medical product and are not regulated by the FDA). (Modify Current HOD Policy**)**

2. That Policy H-105.986, "Ban Direct-to-Consumer Advertisements of Prescription Drugs and Implantable Devices," be rescinded as it is now incorporated into amended Policy H-105.988. (Rescind HOD Policy)

Fiscal Note: Less than $500

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Appendix
PhRMA Guiding Principles on Direct-to-Consumer Advertisements of Prescription Drugs

1. These Principles are premised on the recognition that DTC advertising of prescription medicines can benefit the public health by increasing awareness about diseases, educating patients about treatment options, motivating patients to contact their physicians and engage in a dialogue about health concerns, increasing the likelihood that patients will receive appropriate care for conditions that are frequently under-diagnosed and under-treated, and encouraging compliance with prescription drug treatment regimens.
2. In accordance with FDA regulations, all DTC information should be accurate and not misleading, should make claims only when supported by substantial evidence, should reflect balance between risks and benefits, and should be consistent with FDA approved labeling. Accordingly, companies should continue to base promotional claims on FDA approved labeling and not promote medicines for off-label uses, including in DTC advertisements.
3. DTC television and print advertising which is designed to market a prescription drug should also be designed to responsibly educate the consumer about that medicine and, where appropriate, the condition for which it may be prescribed. During the development of new DTC television advertising campaigns, companies should seek and consider feedback from appropriate audiences, such as health care professionals and patients, to gauge the educational impact for patients and consumers.
4. DTC television and print advertising of prescription drugs should clearly indicate that the medicine is a prescription drug to distinguish such advertising from other advertising for non-prescription products.
5. DTC television and print advertising should foster responsible communications between patients and health care professionals to help patients achieve better health and a more complete appreciation of both the health benefits and the known risks associated with the medicine being advertised.
6. In order to foster responsible communication between patients and health care professionals, companies should spend an appropriate amount of time to educate health professionals about a new medicine or a new therapeutic indication and to alert them to the upcoming advertising campaign before commencing the first DTC advertising campaign. In determining what constitutes an appropriate time, companies should take into account the relative importance of informing patients of the availability of a new medicine, the complexity of the risk-benefit profile of that new medicine and health care professionals' knowledge of the condition being treated. Companies are encouraged to consider individually setting specific periods of time, with or without exceptions, to educate health care professionals before launching a branded DTC television or print advertising campaign. Companies should continue to educate health care professionals as additional valid information about a new medicine is obtained from all reliable sources.
7. Working with the FDA, companies should continue to responsibly alter or discontinue a DTC advertising campaign should new and reliable information indicate a serious previously unknown safety risk.
8. Companies should submit all new DTC television advertisements to the FDA before releasing these advertisements for broadcast.
9. DTC print advertisements for prescription medicines should include FDA's toll-free MedWatch telephone number and website for reporting potential adverse events. DTC television advertisements for prescription medicines should direct patients to a print advertisement containing FDA's toll-free MedWatch telephone number and website, and/or should provide the company's toll-free telephone number.
10. Companies that choose to feature actors in the roles of health care professionals in a DTC television or print advertisement that identifies a particular product should acknowledge in the advertisement that actors are being used. Likewise, if actual health care professionals appear in such advertisements, the advertisement should include an acknowledgement if the health care professional is compensated for the appearance.
11. Where a DTC television or print advertisement features a celebrity endorser, the endorsements should accurately reflect the opinions, findings, beliefs or experience of the endorser. Companies should maintain verification of the basis of any actual or implied endorsements made by the celebrity endorser in the DTC advertisement, including whether the endorser is or has been a user of the product if applicable.
12. DTC television and print advertising should include information about the availability of other options such as diet and lifestyle changes where appropriate for the advertised condition.
13. DTC television advertising that identifies a product by name should clearly state the health conditions for which the medicine is approved and the major risks associated with the medicine being advertised.
14. DTC television and print advertising should be designed to achieve a balanced presentation of both the benefits and the risks associated with the advertised prescription medicine. Specifically, risks and safety information, including the substance of relevant boxed warnings, should be presented with reasonably comparable prominence to the benefit information, in a clear, conspicuous and neutral manner, and without distraction from the content. In addition, DTC television advertisements should support responsible patient education by directing patients to health care professionals as well as to print advertisements and/or websites where additional benefit and risk information is available.
15. All DTC advertising should respect the seriousness of the health conditions and the medicine being advertised.
16. In terms of content and placement, DTC television and print advertisements should be targeted to avoid audiences that are not age appropriate for the messages involved. In particular, DTC television and print advertisements containing content that may be inappropriate for children should be placed in programs or publications that are reasonably expected to draw an audience of approximately 90 percent adults (18 years or older).
17. Companies are encouraged to promote health and disease awareness as part of their DTC advertising.
18. Companies should include information in all DTC advertising, where appropriate, about help for the uninsured and underinsured.

REPORT 1 OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH (I-16)
Urine Drug Testing
(Reference Committee K)

EXECUTIVE SUMMARY

Objective. The Council on Science and Public Health initiated this report to help promulgate urine drug testing (UDT) as a medical management tool that can be used to better serve patient populations.

Methods. English-language articles were selected from a search of the PubMed database through August 5, 2016 using the search terms “urine drug testing” and “opioids,” and “urine drug testing” and “controlled substances.” Additional articles were identified from a review of the references cited in retrieved publications. Searches of selected medical specialty society websites were conducted to identify clinical guidelines and position statements.

Results. Many urine drug tests (UDTs) utilized in clinical care are grounded in immunoassay (IA) technology. IA UDTs are designed to detect a specific drug or a class of drugs as either present or absent based on a designated threshold concentration. Results based on IAs are considered presumptive and are often used as an initial screening test (i.e., qualitatively positive or negative) in clinical UDT. Point-of-care (POC) tests are typically non-instrumented IA devices (strips, dipcards) that can be used in clinics and are presumptive, qualitative, variable, and have a number of other limitations. The current gold standard and method of confirmatory testing after IA in UDT is separation of a specimen and specific identification of drugs/metabolites using gas or liquid chromatography-mass spectrometry (GC-, LC-MS). Recently, liquid chromatography-tandem mass spectrometry (LC-MS/MS) has been utilized, with success, as screening technique. The detection period for drug exposure varies depending on the disposition characteristics of the drug, dose, and frequency of use. Unexpected findings are common in clinical UDT. Proper interpretation of UDTs can be complex depending on the type of assay, possible adulteration, detection time and thresholds, and therapeutic response.

Conclusion. UDT is an objective means to detect the use of nonprescribed or illicit drugs and to confirm the presence of prescribed drugs. The elements of the drug test such as the composition of the drug test panel and the testing method/technology should be determined by the patient’s physician. Therefore, it is important for physicians to understand the elements of UDT in order to make informed decisions. The value of UDT depends on clinicians appreciating the strengths and weaknesses of the test or the laboratory and their relationship with the laboratory. Understanding the drugs that are detected in IAs and those detectable only via confirmatory methods, cross reactivity, and detection thresholds are critical, as well as the fact that these parameters can change over time. Aberrant UDT results can be used as an objective measure and used to motivate patient change and stimulate healthy physician-directed patient education. Although specific training and application to individual clinical management are outside of the scope of this report, the Council recommends the development of practical guidance to assist clinicians in implementing UDT in their practices and understanding how UDT results may affect patient management.

REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 1-I-16

Subject: Urine Drug Testing

Presented by: Bobby Mukkamala, MD, Chair

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

INTRODUCTION

Over the past two decades, the rate of opioid prescribing, especially for patients with chronic non-cancer pain, has increased dramatically. It is estimated that between 9.6 and 11.5 million Americans are currently being prescribed long-term opioid therapy.[1] The overall increase in prescribing has been associated with a parallel increase in unintentional overdoses and deaths from prescription opioids.[2] In 2014, a total of 47,055 drug overdose deaths occurred in the United States; 61% of these involved some type of opioid, including heroin. Overdose deaths from heroin have quadrupled in recent years, and the majority of past year users of heroin report they used opioids in a nonmedical fashion prior to heroin initiation; hence, the availability of pharmaceutical opioids is relevant to the national heroin use and overdose death epidemics. In the most recent available report, benzodiazepines were involved in 31% of the opioid-related overdoses.[3] Despite clinical recommendations to the contrary, the rate of opioid and benzodiazepine co-prescribing also continues to rise.[3-5]

Identifying patients at risk for drug misuse is a challenge. There is no definitive way for physicians to predict which of their patients will develop misuse problems with controlled substances. Because of this, deciding which individual patients to evaluate with drug testing is an arduous task and in its place "universal precautions" have been recommended by some authors so that drug testing becomes a standard process when patients are receiving chronic opioid therapy.[6]

Urine is the most commonly used biological fluid or specimen used for drug testing. It is non-invasive to collect, a more than adequate volume is usually available, it is easier to process than other matrices,[7] and the time during which most analytes can be detected after exposure is sufficiently long (1-3 days for most).[8] This report therefore focuses on urine drug testing (UDT) and not on the testing of alternative specimens such as oral fluid, blood/serum, hair, or other body tissues or fluids (see Appendix). It is important to emphasize that drug testing can identify the presence or absence of a substance in the tissue or body fluids of an individual and can therefore confirm recent substance use (the undesired use of an unauthorized substance or the failure to adhere to use of a prescribed agent). UDT addresses use, but cannot diagnose, rule out, or rule in substance use disorder or addiction. Cases of non-use can indicate diversion but cannot provide proof of such behavior.

A large national diagnostic laboratory recently published an analysis of more than 3 million urine specimens obtained as part of physician monitoring for prescription drug misuse in 2015.[4] This analysis revealed a 54% rate of drug misuse based on UDT. Among those patients with abnormal findings, 45% had a similar class, non-prescribed, or illicit drug(s) detected; 23% had a different

class, non-prescribed, or illicit drug(s) found; and 32% had at least one prescribed drug that was not detected. Benzodiazepines, followed by opioids, were the most common non-prescribed agents found in UDT samples. These results highlight the lack of patient adherence to recommended treatment plans for controlled substances and the potential for harmful drug combinations.[4] A sub-analysis of more than 150,000 specimens for controlled substances and illicit drugs detected heroin in 1.56% of the samples (age range 18 to 65+), underscoring the increasing threat of heroin use in the United States.[9] The concurrent use of benzodiazepines among heroin users was nearly 30%, mostly in a nonmedical fashion.

Accordingly, UDT is currently considered the most objective tool for monitoring and documenting treatment adherence to prescribed controlled substances and signs of drug misuse. When utilized properly, it is an objective indicator clinicians can employ within the confines of a patient-physician relationship along with other risk mitigation tools such as prescription drug monitoring programs (PDMPs) to help guide pain management strategies while balancing patient needs, safety, and reducing risk.[10] UDT in its clinical applications is not intended to stigmatize or penalize patients, but to monitor for signs of misuse, provide clinically useful information, and promote honest dialogue so that a change in therapy or intervention can be introduced if (or when) needed.[11]

Outside of pain management practice, and the treatment of anxiety disorders or attention deficit hyperactivity disorder (ADHD), UDT is used in addiction medicine to detect unauthorized use of potentially addictive substances. It is also used in quasi-clinical physician health programs and related programs to monitor the status of continuous abstinence from alcohol and other drugs and the ongoing recovery in health care professionals who are receiving or have received treatment for a substance use disorder.

Evidence suggests that combining UDT with other risk mitigation strategies such as pill counts, treatment agreements, and patient education can reduce substance misuse by at least 50%.[10] The Council on Science and Public Health initiated this report to promulgate UDT as a medical management tool that can be used to better serve patient populations.

CURRENT AMA POLICY

AMA Policy H-95.985, "Drug Screening and Mandatory Drug Testing," states that physicians should be familiar with the strengths and limitations of drug screening techniques and programs and it lists several other details of drug testing that this report will update and clarify. Policy H-95.984, "Issues in Employee Drug Testing," advocates for education of physicians and the public regarding drug testing and supports the monitoring of evolving legal issues surrounding the testing of employees. These policies highlight that employment/workplace-related drug testing and clinical drug testing have different aims, ask different questions, and may use different testing methodologies.

METHODS

English-language articles were selected from a search of the PubMed database through August 5, 2016 using the search terms "urine drug testing" and "opioids," and "urine drug testing" and "controlled substances." Additional articles were identified from a review of the references cited in retrieved publications. Searches of selected medical specialty society websites were conducted to identify clinical guidelines and position statements.

FORENSIC VERSUS CLINICAL URINARY DRUG TESTING

Historically drug testing has been forensic in nature and has assumed most donors will provide a negative specimen. In patient-centered UDT in a clinical setting, the majority of specimens provided are expected to be positive for a broad range of drugs that are prescribed for medical purposes which adds to the complexity of the testing and the interpretation of data. Most UDT today that involves drug testing laboratories includes elements of both forensic drug testing and clinical drug testing. Drug testing in clinical settings also includes toxicology testing, usually in hospital emergency departments or emergency psychiatry settings, used to help accurately diagnose possible drug poisoning or overdose. Clinical drug testing is often inaccurately labeled as "toxicology testing" involving "tox screens" when the goal of testing is not to identify a case of acute poisoning but is to assist in treatment planning for a chronic disease, such as chronic non-cancer pain or addiction.

Forensic Urine Drug Testing

In forensic drug testing, results are meant to stand up to legal challenges and meet the rules of evidence in legal proceedings. Chain-of-custody procedures, secure storage of samples, and stringent method validations are utilized with the aim of minimizing or eliminating false positive results, and rigorous laboratory certification programs are used to assure quality. The personnel running the tests in a forensic UDT laboratory usually have training in chemistry or forensic science and they understand chain-of-custody and medicolegal requirements.

Federally Regulated UDT. Mandatory guidelines for federal workplace UDT exist and are regulated by the Substance Abuse and Mental Health Services Administration (SAMHSA); only SAMHSA-certified laboratories can perform workplace drug testing on federal employees. The list of drugs tested under the federal program (often referred to as the SAMHSA-5 or federal-5) is limited and includes only five classes of drugs: amphetamines, marijuana, cocaine, opiates (natural opiates such as codeine and morphine, a metabolite of heroin, but not other synthetic opioids such as oxycodone, hydrocodone, buprenorphine and methadone), and phencyclidine (PCP) (see Table 1). The SAMHSA-5 derives from Congressional legislation mandating drug testing of interstate truck drivers and other commercial vehicle operators; its finite group of analytes is also referred to as the DOT-5, for the U.S. Department of Transportation which regulates commercial vehicle use across state lines.

Federally regulated testing follows a screen-and-confirm paradigm in which lower cost, less specific, and often less sensitive screening methodologies are initially used and more costly, more sensitive, and more specific methods are used to confirm positive screening results. Positive test results based on immunoassays (IA) are only considered presumptive because of cross reactivity and differing sensitivity and specificity (see below). Presumptive positive results must be confirmed using definitive chromatography-mass spectrometry methods and all confirmed results must be evaluated by Medical Review Officers (MROs), who serve as a common point of contact between all participants in a UDT. MROs are licensed physicians who have expertise in drug disposition, training in drug collection procedures and the federal program, and have passed a certification exam.[12]

The concentrations required to generate a positive test result vary for each analyte, but are high (in order to minimize false positive results) compared to clinically-relevant concentrations for the prescription drugs included. The federal UDT program, does, however, set a standard for analytical quality, procedure, and measurement in forensic laboratories as well as in clinical laboratories.

Nonregulated Forensic UDT. Many states and private employers have adopted drug-free workplace programs that include UDT similar to the SAMHSA program. A multitude of other UDT applications exist including pre-employment testing, for-cause testing (in response to on the job impairment or after a workplace accident), reasonable suspicion testing, random workplace testing, return to work testing, school testing, sports testing, as well as testing in the criminal justice system, testing in child custody cases, Department of Transportation testing for required occupations, testing in the military (which is the model for the use of drug testing to prevent drug use),[7] and medical examiner (post-mortem) testing. Most of these testing applications have a testing panel that is broader than the SAMHSA-5 and can therefore include additional analytes such as oxycodone, oxymorphone, and other opioids, benzodiazepines, barbiturates, stimulants, anabolic steroids, emerging designer drugs such as synthetic cannabinoids and cathinones, and others.

Clinical Urine Drug Testing

Clinical drug testing is part of the medical evaluation within an established patient-clinician relationship. It is used for diagnosis, treatment monitoring, or the promotion of long-term recovery from a substance use disorder and in other clinical settings such as pain management.[7] The goal of clinical UDT is to meet the standards of medical practice, not the legal requirements of forensic testing. UDT can improve a clinician's ability to manage therapy with controlled substances and assist in, but not make the diagnosis of, a substance use disorder or addiction. Personnel running the testing in a clinical setting have a broad spectrum of laboratory training, often as a medical technologist, but do not usually have chain-of-custody or evidentiary training. Although most dedicated toxicology testing laboratories started as forensic in nature, some now specialize in testing and interpreting clinical and pain management samples and better understand the needs of physicians and their patients.[13,14]

URINE DRUG TESTING METHODS

The U.S. Food and Drug Administration (FDA) classifies laboratory developed tests, including point-of-care (POC) UDT testing devices, as waived, moderate, or high complexity under the Clinical Laboratory Improvement Amendments (CLIA).[15,16] Waived tests are typically easy to use and pose no reasonable risk if performed incorrectly. Once a CLIA certificate of waiver is obtained, the device or test must be used exactly according to manufacturer's instructions. Moderate and high complexity tests carry a significantly increased risk of inaccurate results, require specialized personnel who have been trained to run the instrumentation, use complex methodologies with multiple steps, and require certification with CLIA.[15,16]

Quality Assurance

Laboratory accreditation programs ensure the integrity of analytical results by providing laboratories a set of standards. The standards guarantee that tests are subjected to rigorous quality assurance criteria, are delivered in a manner that promotes proper interpretation, and are performed by qualified individuals. There are several voluntary accreditation programs including CLIA, SAMHSA, the College of American Pathologists (CAP), The American Society of Crime Laboratory Directors (ASCLAD), New York State Department of Health (NYSDOH), and International Organization for Standardization/International Electrotechnical Commission (ISO/IEC). Each accreditation program has requirements specific for the focus of the laboratory services whether it be medical testing, workplace drug testing, or some other application.

Laboratories typically develop their own testing methods with rigorous quality controls. Most accreditation programs have proficiency testing that is a peer-based competency evaluation program to ensure accurate and reliable test results. The National Institute of Standards and Technology and the Department of Justice recently established the Organization of Scientific Area Committees (OSAC) in order to support the development and promulgation of forensic science standards and guidelines. The Toxicology Subcommittee focuses on standards and guidelines related to the analysis of biological samples for alcohol, drugs, or poisons, and the interpretation of these results.[17] As clinical UDT is a combination of both forensic and medical requirements, there are currently no standards specifically for its application, but accreditation programs for pain management are likely forthcoming.[18]

Requirements for laboratory directors vary depending on the type of testing and the accreditation body, but most require at a minimum a doctoral degree in a physical science, certification from a major body, and a degree of laboratory experience.[18] The qualifications and competency of individuals in UDT laboratories are evaluated by three major certification bodies: the American Board of Clinical Chemistry, the National Registry of Certified Chemists, and the American Board of Forensic Toxicology. Both personnel at the director level and technical personnel have annual continuing education requirements depending on certification/licensure and laboratory accreditation requirements.

Types of Urine Drug Tests

Immunoassays. Many UDTs are grounded in IA biology and technology. IAs are based on competitive binding and use antibodies (ABs) to detect the presence of drugs, drug metabolites, or drug classes. In IAs, a known amount of labeled drug/metabolite is added to a specimen. Any drug/metabolite in the specimen will compete with the labeled drug/metabolite for binding with an AB. The amount of labeled antigen-AB complex remaining in the specimen is determined by the amount of drug/metabolite present in the specimen competing for the binding site.[15] IAs can use enzymatic, chemiluminescent, fluorescent, or colorimetric labeling for detection.

Many IA-based UDTs are designed to detect a specific drug or a class of drugs as either present or absent based on a designated cutoff, or threshold concentration for detection. A negative result could mean that no drug is present, or that the drug concentration is below the threshold. The results of these kinds of tests are considered presumptive; their results can represent either true or false positives, or true or false negatives.

IA UDTs include waived, moderate, and high complexity laboratory tests under CLIA. Many of these tests are available as commercial kits that contain reagents, calibrators, and controls. Urine samples can be analyzed via IA tests at the POC or can be sent to a laboratory where the IA test is performed by laboratory personnel. Methods and instructions differ in complexity and detail, some with many intricate steps and others with one step. The CLIA-waived IA tests include the POC devices described below. Some moderate and high-complexity IA instrumented devices have been adapted for use in larger medical practices and hospital laboratories, but rigorous and costly CLIA certification requirements have limited the implementation of the instruments in these settings.[15,18] Some clinical entities such as methadone clinics (federally-licensed Opioid Treatment Programs or OTPs), large pain clinics, and outpatient or residential addiction treatment facilities may have the economies of scale to purchase their own analyzers, obtain CLIA certification, and use these instruments on-site.

The main advantage of IA UDT is its ability to rapidly detect the presence of substances in urine. One major disadvantage is the limited range of drugs that the assays are able to detect. Because an

AB is used for detection, there must be an AB developed specifically for the drug, metabolite, or class of drug. This requirement restricts the number of compounds that can be screened for based on IA. Most commercial IAs include only the SAMHSA-5 panel of drugs, which limits their clinical utility (even if a physician is not aware of this limitation). Some specialized IAs include semisynthetic and synthetic opioids, benzodiazepines, and other drugs. IAs are typically designed to have a high sensitivity (the ability to detect) balanced with lower degrees of specificity (the AB only binds to the target),[15] but the performance characteristics and limitations of the IA UDT vary between tests. Information supplied by the manufacturer should be given appropriate attention; the sensitivity and selectivity can affect the rate of false positive and false negative results and the designated threshold (being too high) could be clinically irrelevant. Home UDT kits available for retail purchase and used by individuals outside of health care settings use IA methods.

Another confounding variable among IAs is cross-reactivity. Some compounds, despite no structural similarities to the target analyte, may bind to the AB and generate a false positive result. An extensive list of cross-reacting drugs for IAs exists that can cause false positive results (see Table 2).[15,19-22] Other medications and dietary supplements a patient is taking can significantly impact test results. Additionally, some IAs rely on the ability of an AB to bind to a class of drugs and a lack of cross-reactivity among important members of the class can result in false negative results. For example, many opioid IAs react to the natural opiates codeine and morphine, but may not react with the semisynthetic opioids hydrocodone or oxycodone. In hospital or clinic settings, a physician may order a drug test for opiates, and what is tested for by the IA methodology is only the natural opiates; the clinician may be unaware that in the context of drug-testing, the word "opiates" refers only to the natural compounds such as codeine, morphine, and the metabolites of heroin, without testing for "opioids." Many primary metabolites may not be reactive with IA UDTs as well. It is essential to understand the limitations of a specific IA test in this regard.

Unique challenges are associated with IA results for a drug class. IA UDTs do not unequivocally identify which member of a drug class is present in a positive specimen. Even if an IA is labeled "morphine" it may still produce a positive result for any number of opioids, including heroin (and multiple opioids). Conversely, IAs to detect benzodiazepines can have considerable variability in class cross-reactivity depending on which molecule the IA AB is based on. For example, test information may state that the IA will cross-react with alprazolam. A specimen from a patient taking alprazolam containing predominately the major urinary metabolite (α-hydroxyalprazolam) will return a false negative result. Benzodiazepine IAs have very high rate of false negative results and require knowledge of the metabolic pathways of the drugs to properly interpret their results.[23-25] Challenges are also found in the testing of stimulants. Many over the counter products contain sympathomimetics which will generate a false-positive result on an IA for stimulants when the clinician is looking for adherence to psychostimulant therapy or is attempting to detect unauthorized use of methamphetamine or psychostimulants. Prescription drugs such as bupropion, fluoxetine, and others can also produce false-positive IA results for stimulants (see Table 2).

Physicians and other prescribers typically utilize IA-based tests as an initial screening test (i.e., qualitatively positive or negative) in opioid-based pain management monitoring programs. Another issue in the clinical use of IA testing is whether confirmation of results is necessary. In some situations the results of an IA UDT may be sufficient, given an understanding of the possible high rates of false positive and false negative results. However, many organizations, including the Federation of State Medical Boards, recommend definitive identification of positive screening results.[26] The definitive identification of IA-based presumptive results requires more sophisticated technology for confirmation. Gas or liquid chromatography-mass spectrometry (GC-MS or LC-MS), discussed below, is the standard method of confirming preliminary (screening test) results generated via IA. Without understanding the limitations of testing devices or the laboratories

conducting the testing, presumptive UDT testing may not be useful. Testing devices are on a continuum from less expensive/less sensitive and specific (e.g., POC devices) to more expensive/more sensitive and specific (confirmatory testing). Clinicians must be reminded that most drug tests they order are IA tests; actions they take in the care of their patient and treatment plan decisions should not be made based on a non-confirmed result from a presumptive test.

Point-of-Care Devices. POC tests are typically non-instrumented IA devices (strips, dipcards, cups with imbedded test strips) that can be used in the clinic (at the "point of" care). Testing can therefore occur outside of a laboratory and is not subject to any accreditation standard. These tests are typically granted CLIA-waived status, they lack quality assurance and quality control, and ensuring the integrity of materials following transportation or storage is largely unregulated. Test results are subjective in nature, usually based on a color-changing dye. POC tests are typically performed by health care workers who have many other office-related duties and who are not specifically trained in drug testing. Although POC tests seem simple and are comparatively affordable, they still require proficiency in execution and good laboratory practice is required to obtain reliable results. Product-use instructions and related information accompanying the test device are important to read and understand, and are often not followed.[27] Choosing a device that includes reliable customer support is beneficial. Some instrumented benchtop and small floor POC devices have the capability to link with electronic health records. These devices are of moderate complexity and require certification with CLIA,[15] can be expensive, and usually contain the SAMHSA-5 routine drug panel. They do, however, eliminate the visual interpretation and decision-making associated with the use of non-instrumented devices.

Understanding the limitations of a POC device is important. IA-based POC devices are presumptive, qualitative, variable, have limited sensitivities, offer limited testing menus, cannot distinguish between members of a drug class, and cannot differentiate a drug from its metabolite.[7,28] The possibility of cross-reactivity with other prescription, over-the-counter, and dietary supplement medications exists, which increases the probability of false positive and false negative results. Many POC IA products have not been optimized for use in a medical setting and are designed with federally-regulated UDT in mind.[15] Threshold concentrations and the drug targets may provide inadequate results for clinicians. The device information provided by the manufacturer includes often-unread advice that presumptive positive IA results must be confirmed with definitive testing, which is not a requirement for clinical UDT, but could be required based on the conditions of the CLIA waiver.[13] IA-based POC devices do, however, offer rapid results within minutes and can allow physicians to make presumptive in-office clinical decisions, if needed, before results are confirmed. This type of POC test can be useful as long as clinicians are well informed of the limitations.

Analytical Methods (GC-MS, LC-MS, LC-MS/MS). The current gold standard in UDT is separation of a specimen using GC-MS, LC-MS, or LC tandem mass spectrometry (LC-MS/MS). Separation via chromatography allows each compound in the specimen to be isolated and enter the mass spectrometer individually. The mass spectrometer provides a unique identifying fingerprint for each molecule. The use of GC- or LC-MS depends on the compounds being detected; volatile, nonpolar compounds are more suited for GC (often parent drugs). Chromatography-mass spectrometry is considered high complexity testing, is subject to FDA guidelines, and requires CLIA certification to operate.

GC- or LC-MS can be used for confirmatory testing after IA. Recently, LC-MS/MS has been used as a screening method[7] to identify many unique drugs and/or metabolites from different classes of drugs (see Table 1), for example opioids (natural, semi-synthetic, and synthetic), benzodiazepines, and stimulants in lieu of IA. Although LC-MS/MS is a more sophisticated technique than GC- or

LC-MS, it can separate and identify many drugs from many classes in a single analysis from a single specimen. With this advantage, a test profile or panel can include many different analytes and detect relatively low concentrations of drug or metabolite from low volumes of starting material and be ideal for an analytical qualitative screening method. More sensitive quantitative GC-MS and LC-MS analytical methods that are drug class specific can then be used for confirmatory testing if desired. There are limitations, however, with MS technology; the greater the number of analytes included in an analysis, the lower the sensitivity of the assay; and not all substances are capable of detection–the structure of the drug or its metabolites must be known, therefore, some emerging drugs of abuse and designer drugs remain a challenge for MS detection.

Other reasons that these analytical methods may be necessary include the specific identification of a drug; IA can provide information about the class of a drug only. Additionally, a number of drugs, such as tramadol, carisoprodol, and designer drugs such as synthetic cathinones and cannabinoids, are not readily detected using IA and require chromatography testing. Sometimes specialty analytical testing is necessary, for example only GC-MS with a chiral column will be able to distinguish between d-methamphetamine (the illicit drug of abuse) and l-methamphetamine (the compound in Vick's inhalers). Chromatography-MS tests also can aid in validating disputed test results. Analytical methods also are quantitative methods, allowing the amount of drug excreted in urine to be quantified with the use of calibration curves and reference standards. Although this can be useful for gauging adherence, quantitative GC-MS, LC-MS, or LC-MS/MS data cannot be used to verify dosage exposure.[7] POC testing has a high rate of false positive and negative results, which is not a concern with GC-MS, LC-MS, or LC-MS/MS. Chromatography-MS instrumentation is relatively expensive, reading and interpreting mass spectrum data requires expertise, and the cost for a test is variable depending on the testing panel chosen.

TESTING: WHY, WHO, WHEN, AND WHAT

While UDT is an objective means to detect the use of nonprescribed or illicit drugs, the design of the testing program (including the clinical questions to ask and answer), the patient population to test, the frequency of testing, and the drug test panel are all determined by the ordering clinician and should be patient-centered.[29] One of the most common failings of UDT in clinical practice is its application only to high risk patients or those who are suspected of drug misuse.[30] Despite the objective evidence UDT can provide as a clinical tool and recommendations for its use as a risk mitigation strategy, UDT is underutilized and misapplied, and a lack of understanding exists that functions as a barrier for introducing successful testing programs into clinical care.[31-38]

Why Test?

Standard methods of adherence monitoring for prescribed substances, for example, self-reporting[8,39-41] and monitoring of symptoms or patient behaviors,[42] are unreliable for controlled substances. As noted above, a high rate of substance misuse occurs in the patients receiving prescriptions for controlled substances. Seminal studies[43-45] evaluating the use of UDT in patients with chronic pain revealed that approximately 50% of UDTs yielded appropriate results; the others showed illicit drugs and/or nonprescribed medications, absence of prescribed opioid(s), and/or specimen adulteration. In many cases, abnormal test results are not accompanied by behavioral clues or differences in other demographic or clinical variables.[44] UDT is objective and an abnormal result is the most frequently detected signal of opioid misuse. It is similarly useful in managing patients prescribed benzodiazepines or psychostimulants. UDT plays an important role in providing a more complete diagnostic picture for clinicians.[46] As noted earlier, the identification of a drug or metabolite in a UDT provides evidence of exposure to that drug and information about recent use of drugs, but it can only provide this information if the substance is present in the urine at levels

above the threshold of detection. UDTs cannot identify the presence of a substance use disorder or the presence of physical dependence.[7] Before implementing UDT, physicians should understand the question they want to answer, understand the advantages and limitations of the testing technology and the interpretation of data, and ensure that the cost of testing aligns with the expected benefits for their patients.

Whom to Test?

Practice guidelines on pain management intended to promote safe and competent opioid prescribing recommend various measures to mitigate risk including UDT, but some disagreement persists on who should be subjected to routine UDT and its frequency.[7,26,29,47-51]

UDT can be useful in many medical specialty practices including but not limited to palliative medicine,[52] psychiatry,[7] geriatrics,[53] adolescent medicine,[54] addiction medicine,[29] and primary care.[55,56] The routine use of UDT in pain medicine[57] is recommended in several clinical guidelines.[21,26,48,58-60] As stated previously, UDT utilized in emergency settings is typically intended to diagnose acute drug poisonings or make immediate treatment decisions as opposed to chronic care situations. An American College of Emergency Physicians policy does address the use of UDT in the context of psychiatric patients.[61] Although medically appropriate opioid use in pregnancy is not uncommon, there has been a renewed focus on maternal opioid dependence, opioid exposure during pregnancy, and the increase in infants born with neonatal abstinence syndrome.[62-69] UDT can aid in obtaining a complete picture of drug exposure. Two studies in the Kaiser Health System involving nearly 50,000 obstetric patients demonstrated improved maternal and fetal outcomes when treatment for substance use disorders were linked with prenatal visits and UDT allowing for resources to be appropriately allocated for postnatal care.[70,71] The American Society of Addiction Medicine (ASAM) supports the use of UDT during pregnancy.[7,66] The American Congress of Obstetricians and Gynecologists (ACOG) also supports the use of UDT during pregnancy when substance use is suspected, but not during routine well care visits.[72-74]

Given the challenges inherent in deciding whom to test and the issues described in the paragraphs above on why to test, many clinicians have adopted recommendations to utilize “universal precautions” in opioid prescribing. This approach informs patients at the onset of a plan of care that the standard procedure for the clinician’s practice is to test *every* patient at the initiation of opioid therapy, and periodically on a random basis during the course of care. This avoids any patient feeling singled out and reduces the potential for stigma, discrimination, and clinical errors based on incomplete clinical information.

When to Test?

Although uniform agreement is lacking, an evolving consensus recommends testing new patients before prescribing controlled substances for a chronic disorder, in those seeking increased doses, in patients who resist a full evaluation, in those requesting specific controlled substances, in patients displaying aberrant behaviors, in pain management patients recovering from addiction, and special populations.[8,47,48] It is recommended that tests be administered at unscheduled and unpredictable times (random testing) so specimen donors are less likely to try to circumvent the test (see below).[7] Considerations about how often to test are influenced by concerns about cost and the proper stewardship of health care resources; both underutilization and overutilization of clinical drug testing are concerns. The recommended periodicity of testing in given clinical situations continues to be addressed. Currently, ASAM is developing a guideline for addiction medicine specialists engaged in varying levels of care (outpatient, intensive outpatient/partial hospitalization, residential) and within various special populations (for example, health professionals or others in

safety-sensitive occupations who are receiving addiction care). Other specialty societies have been encouraged to develop similar guidelines for their physician members and the populations they serve.

What to Test For?

Clinical drug testing should be individualized and not determined from a device, kit, or forced panel of drugs. It is important to know the clinical question to be answered to properly utilize UDT as a management tool. Although no device or testing panel may be ideal, any testing should be patient-centered. Testing should not be limited to only prescribed controlled substances; it is advantageous to include substances that have been problematic for that patient in the past if a history of drug misuse exists. Local patterns of substance misuse should be considered when designing the testing panel as well.[7]

The choice of drugs to include on a testing panel is complicated by the fact that many drugs and illicit substances are subject to misuse based on their "rewarding" properties and they may not be included in or detected on a standard drug test. Internet-based and other sources exist that are dedicated to informing users about chemistry, laws, laboratory tests, and how to evade detection of the most commonly tested substances. Additionally, there is a new and ever-evolving drug industry based on "designer drugs" which are being synthesized to evade existing drug tests and laws.[75]

INTERPRETATION OF UDT RESULTS

The valid detection period for drug exposure varies depending on the disposition characteristics of the drug, dose, and frequency of use. Specific characteristics of a urine sample include its appearance, temperature within 4 minutes of voiding, pH, creatinine concentration, and specific gravity.[8] The color of urine is based on the concentration of its constituents[8,76] and can vary based on medications, foods, or disease states; excess hydration can cause it to appear colorless. Concentrated urine specimens are usually more reliable than dilute specimens.

Manipulation/Adulteration, Specimen Validity Testing, Normalization, and Collection

One drawback of a urine specimen is that it is easy to tamper with. Collection in a medical setting is typically unmonitored and the potential for manipulation exists and should be considered. Dilution is usually done in an attempt to lower the concentration of illicit substance(s) below detection levels. Specimens that are excessively dilute will have low creatinine levels. Commercial "cleansing" beverages exist that when consumed in large volumes dilute urine and contain B vitamins to restore urine color.

Urine spiking with a specific substance is done to simulate adherence to medication taking and is not uncommon. For example, patients who know they will be subjected to adherence testing but who have not been taking the prescribed medication per instructions can add crushed drugs hidden under a fingernail to a urine specimen to generate a positive test result.[28] Diversion is sale or distribution of a prescribed medication to an unintended recipient. UDT cannot detect diversion, but a negative specimen may indicate diversion or some other maladaptive drug-taking behavior (i.e., periods of reduced medication use or abstinence followed by binging).[8] These behaviors can occur with buprenorphine prescribed for the treatment of opioid addiction, though the patient's aberrant behavior can be easily recognized when confirmatory testing data is interpreted and the relative amounts of parent compound and the primary metabolite, norbuprenorphine (if present) are evaluated.

Substitution is the switching of donor urine with drug-free synthetic urine, urine from another individual, or urine from an animal.[77] This is easily detected in many cases because house pets produce urine that has a very different pH from human urine. Test results are typically reported as "specimen incompatible with human urine" (or similar) when testing procedures include pH analysis.

Adulteration is the addition of oxidizing chemicals or other substances directly to the specimen that may interfere with the UDT. Some adulterants can be other drugs such as dextromethorphan or salicylates, which are known to cause false negative results with some IA UDTs; other adulterants are common household products or substances that are otherwise easily obtainable including salt, vinegar, bleach, soap, Visine®, glutaraldehydes, chromate-containing compounds, and sodium nitrate.[14] Being aware of this, many clinicians will not utilize any drug testing methodology that does not include testing for common commercially-available adulterants.

Most testing laboratories will perform specimen validity testing (SVT) on urine specimens.[78] SVT includes testing the specimen for creatinine, specific gravity, pH, nitrates, chromates, and other easy-to-obtain over-the-counter adulterant products, and assuring that values are consistent with those of normal human urine. Values outside of typical ranges may indicate the specimen has been tampered with or adulterants have been added.[14] Many laboratories will also normalize urine samples since urine drug concentrations vary significantly between individuals and can have an effect on UDT; if a urine specimen is dilute, a drug may be present, but below a measurable level. Normalization is a mathematical method using specific gravity or creatinine concentrations to adjust for dilution, thereby allowing the UDT results to be interpreted or compared. Often this can be useful when comparing serial analyte measurements or to minimize false negative results.[8,14]

To minimize specimen tampering many collection protocols require patients to leave outerwear and personal belongings in exam rooms, and to show pocket contents. Some relatively inexpensive POC collection devices (cups) incorporate validity testing such as temperature, pH, specific gravity, and oxidation and add an extra layer of assurance to specimen collection. Some testing laboratories will provide staff to physicians' offices to facilitate collections; third party collectors exist as well. Some third party vendors will send a single collector to a location and many third-party specimen collection sites exist for the employment drug testing market, for use by professional sports leagues for their testing protocols, or for monitoring programs for licensed health professionals, rather than for clinical drug testing. Once the specimen is collected, it should be refrigerated to minimize drug degradation, especially if testing is delayed. As noted, chain-of-custody handling of specimens between the site of collection and the laboratory bench are components of forensic and some employment-related testing, rather than clinical drug testing.

Interpretation of Results

Clinicians' predictions of UDT results are often inaccurate[21] and evidence suggests a majority of physicians have a poor understanding of how to interpret UDT results. Others may have a false sense of confidence about interpreting their patients' UDT results because they lack specific knowledge or don't fully understand the breadth of abnormal or unexpected toxicology findings that are possible.[10,33,79-81]

Unexpected findings are common in clinical UDT; results are much more than just a positive or negative result. There are complexities to consider in order to properly interpret UDT such as the type of assay, possible adulteration, detection time, detection thresholds, and therapeutic response. Therapeutic response can be variable and can be affected by drug potency, chemical properties, metabolism, dose, preparation, drug-drug or drug-herbal interactions, and the patient (diet, drug

ingestion, weight, genetic makeup, disease state).[82,83] Appropriate interpretation of toxicology testing results requires a working knowledge of drug metabolism; although beyond the scope of this report, there are many intricate details involved in opioid pharmacokinetics and pharmacodynamics to consider.[82,83]

If POC devices are being utilized, consultation of product inserts is recommended and choosing devices with readily available customer support is advantageous. If a laboratory is used for UDT, then contacting the professionals at the laboratory, such as a toxicologists or laboratory director, is recommended whenever the clinician feels a need for guidance on interpretation of reported results. Additionally, physicians should be sure to obtain a full prescription and over-the-counter medication history (including dietary and herbal supplements), and use this information in the context of the UDT or provide this information to the testing laboratory since it could be relevant to interpreting UDT results.

CONCLUSIONS

UDT is an objective means to detect the use of nonprescribed or illicit drugs and to confirm the presence of prescribed drugs. The elements of the drug test such as the composition of the drug test panel (the list of analytes in a given test) and the testing method/technology should be determined by the ordering clinician. Therefore, it is important for physicians to understand the elements of UDT in order to make informed decisions. The value of UDT depends on clinicians appreciating the strengths and weaknesses of the test or the laboratory and their relationship with the laboratory. Understanding the drugs that are detected in IAs and those detectable only via confirmatory methods, cross-reactivity, and detection thresholds is critical, as is the fact that these parameters can change over time. Some clinicians have adapted the SAMHSA workplace drug testing model for clinical drug testing with success (IA screen with MS confirmation), but the range of analytes in the SAMSHA-5 itself is likely too narrow to be of use in most clinical scenarios. Some laboratories offer LC-MS/MS UDT without IA and have been successful; other labs rely only on IA and find that acceptable for their clientele. Just as clinicians use HbA1c as an objective measure for the diagnosis of pre-diabetes, aberrant UDT results can be used as an objective measure[30] and used to motivate patient change and stimulate healthy physician-directed patient education. Although specific training and application to individual clinical management are outside of the scope of this report, the Council recommends the development of practical guidance to assist clinicians in implementing UDT in their practice and understanding how UDT results may affect patient management.

RECOMMENDATIONS

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

1. That Policy H-95.985, "Drug Screening and Mandatory Drug Testing," be amended by addition and deletion as follows:

   Drug ~~Screening and Mandatory Drug~~ Testing

   The AMA believes that physicians should be familiar with the strengths and limitations of drug ~~screening~~ testing techniques and programs:

   1. Due to the limited specificity of the inexpensive and widely available non-instrumented devices such as point-of-care drug testing devices ~~screening techniques, forensically~~

acceptable clinical drug testing programs ~~must~~ should include the ability to access highly specific, analytically acceptable ~~technically more complicated and more expensive~~ confirmation techniques, which ~~unequivocally~~ definitively establish~~es~~ the identities and quantities of drugs, in order to further analyze results from presumptive testing methodologies. Physicians should consider the value of data from non-confirmed preliminary test results, and should not make major clinical decisions without using confirmatory methods to provide assurance about the accuracy of the clinical data.

2. Results from ~~such~~ drug testing programs can yield accurate evidence of prior exposure to drugs. Drug testing does not provide any information about pattern of use of drugs, dose of drugs taken, ~~abuse of or~~ physical dependence on drugs, the presence or absence of a substance use disorder, or about mental or physical impairments that may result from drug use.

3. Before implementing a drug testing program, physicians should: (a) understand the objectives and questions they want to answer with testing; (b) understand the advantages and limitations of the testing technology; (c) be aware of and educated about the drugs chosen for inclusion in the drug test; and (d) ensure that the cost of testing aligns with the expected benefits for their patients. ~~, and~~ Physicians also should be satisfied that the selection of drugs (analytes) and subjects to be tested as well as ~~and~~ the screening and ~~confirming~~ confirmatory techniques that are used meet the stated objectives.

4. Since physicians often are called upon to interpret results, they should be familiar with the disposition characteristics ~~pharmacokinetic properties~~ of the drugs to be tested before interpreting any results. ~~and the use to which the results will be put.~~ If interpretation of any given result is outside of the expertise of the physician, assistance from appropriate experts should be pursued. (Modify Current HOD Policy)

2. That our AMA, in conjunction with the AMA Opioid Task Force, develop practical guidance and educational materials to assist physicians with implementing urine drug testing as part of a risk mitigation strategy when opioid analgesics are prescribed for chronic use. (Directive to Take Action)

Fiscal note: $30,000

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Table 1. Drugs often included in urine drug testing (UDT) (adapted from[8]).

Drug/Drug Class	Drug or Metabolite Included in Testing
Amphetamines	Amphetamine[a]
	Methamphetamine[a]
	MDA[a]
	MDEA[a]
	MDMA[a]
	Phentermine
Barbiturates	Butalbital
	Phenobarbital
Benzodiazepines	Alprazolam
	Clonazepam
	Diazepam
	Flurazepam
	Lorazepam
	Nordiazepam
	Oxazepam
	Temazepam
Cocaine[a]	Benzoylecgonine[a]
Heroin	Heroin (diacetylmorphine)
	6-AM[a]
	6-acetylcodeine
Marijuana[a]	THCA[a]
Opioids	Buprenorphine
	Norbuprenorphine
	Codeine[a]
	Norcodeine
	Dihydrocodeine
	Fentanyl
	Hydrocodone
	Norhydrocodone
	Hydromorphone
	Meperidine
	Normeperidine
	Methedone
	EDDP
	Morphine[a]
	Oxycodone
	Noroxycodone
	Oxymorphone
	Tapentadol
	Tramadol
	O-desmethyl-tramadol
	N-desmethyl-tramadol
PCP[a]	PCP[a]
Carisoprodol	Carisoprodol
	Meprobamate
Anticonvulsants	Gabapentin
	Pregabalin

[a]Drugs/metabolites included in federally regulated SAMHSA UDT
6-AM=6-monoacetylmorphine; EDDP=2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine; MDA=3,4-methylenedioxyamphetamine; MDEA=3,4-methylenedioxyethylamphetamine; MDMA=3,4-methylenedioxymethamphetamine; PCP=phencyclidine; THCA=delta-9-tetrahydrocannabinol-9-carboxylic acid

Table 2. Compounds causing potential false positive results with immunoassay testing.

IA Test	Compound Causing a Potential False Positive		
Amphetamines	Amantadine Aripiprazole Benzphetamine Brompheniramine Bupropion Cathine Cloroquine Chlorpromazine Ciprofloxacin Clobenzorex Desipramine Dimethylamylamine Doxepin Ephedra Ephedrine Fenfluramine Fenproporex Fluorescein Fluoxetine Ginkgo	Isometheptene Isoxsuprine Labetalol m-Chlorophenylpiperazine (mCPP) MDA MDMA MDPV Mefenamic acid Mephentermine Metformin Methamphetamine[a] l-methamphetamine (Vick's Inhaler) Methylphenidate Metronidazole Ofloxacin Phenmetrazine Phenothiazines Phentermine	Phenylephrine Phenylethylamine Phenylpropanolamine Promethazine Propranolol Propylhexedrine Pseudoephedrine Pyrovalerone Ranitidine Ritodrine Salbutamol Selegiline Sodium Cyclamate Thioridazine Tolmetin Trazadone Trimethobenzamide Trimipramine Tyramine
Barbiturates	NSAIDS (ibuprofen, naproxen)	Phenytoin	Tolmetin
Benzodiazepines	Chlorpromazine Efavirenz Fenoprofen	Flurbiprofen Indomethacin Ketoprofen	Oxaprozin Sertraline Tolmetin
Buprenorphine	Codeine Dihydrocodeine	Morphine Methadone	Tramadol
Cocaine	Coca leaf tea[a] Ecgonine	Ecgonine methyl ester Tolmetin	Topical anesthetics containing cocaine[a]
Fentanyl	Trazadone	Risperidone	
Marijuana (THC)	Acetylsalicylic acid Baby wash/Soap Dronabinol[a]	Efavirenz Hemp-containing foods[a] NSAIDs (ibuprofen, naproxen)	Proton pump inhibitors (pantoprazole) Rifampin Tolmetin
Methadone	Chlorpromazine Clomipramine Cyamemazine Diphenhydramine	Doxylamine Phenothiazine compounds Olanzapine	Quetiapine Tapentadol Thioridazine Verapamil
Opiates	Dextromethorphan Diphenhydramine Doxylamine Heroin[a] Poppy seeds[a]	Procaine Quinine (tonic water) Fluoroquinolones (ciprofloxacin, gatifloxacin, levofloxacin, moxifloxacin)	Ranitidine Rifampin Tolmetin Verapamil
Phencyclidine	Dextromethorphan Diphenhydramine Doxylamine Ibuprofen	Imipramine Ketamine Lamotrigine Meperidine	Mesoridazine Thioridazine Tramadol Venlafaxine, O-desmethyl-venlafexine
Tricyclic Antidepressants	Carbamazepine Cyclobenzaprine Cyproheptadine	Diphenhydramine Hydroxyzine	Promethazine Quetiapine

[a]Contain or metabolize to target analyte

Table information from[15,19-22]

MDA=3,4-methylenedioxyamphetamine; MDMA=3,4-methylenedioxymethamphetamine; MDPV= Methylenedioxypyrovalerone; NSAIDS=non-steroidal anti-inflammatory drugs

Table 3. Common causes of false negative results with immunoassay testing.

Potential Causes of False Negative IA Test	Example
Lack of cross reactivity for the desired tested drug class	An IA targeted for natural opiates does not readily detect semisynthetic opioids such as oxycodone.
Drug metabolites do not cross react with IA	An IA detects alprazolam but does not reliably detect the predominant metabolite, α-hydroxyalprazolam. Opioid normetabolites are also a concern (e.g., norhydrocodone).
Threshold of IA is too high	Many IAs were developed for workplace UDT and have thresholds > 300 ng/mL (and as high as 2,000 ng/mL). A more appropriate threshold for clinical UDT is ≤ 100 ng/mL.
Specimen is dilute	Fluid intake can cause drug concentration to fall below the threshold concentration.
Adulterated or substituted specimen	Added adulterants can mask the presence of some drugs. Substituted specimens can contain urine from another person, animal, synthetic urine, or some other fluid.
Desired drugs not included in testing	Many commonly abused prescription drugs require separate IAs to detect and could be overlooked in a POC device (e.g., natural opiates, oxycodone, synthetic opioids, methadone, tapentadol, buprenorphine) and others may not be included in IA presumptive testing (e.g., carisoprodol).

IA=immunoassay; UDT=urine drug testing; POC=point-of-care testing

Appendix: Alternative Specimens for Drug Testing

Although urine is the most common matrix used for drug testing, other matrices are available including oral fluid, blood/serum, breath, hair, nails, and sweat. Differences in the collection and interpretation for each specimen type as well as some strengths and weaknesses are associated with each matrix.[8,14]

Matrix	Detection Window	Collection	Interpretation	Strengths	Weaknesses
Oral Fluid	Acute use: ~4 hrs Chronic use: 24-48 hrs	Non-invasive; observed; non-standardized procedures; use of collection device highly recommended	Disposition of parent drug exceeds metabolites; drug concentrations 10-100x lower than urine	Harder to adulterate; use for shy bladder, renal impairment, suspected urine tampering	Some drugs a challenge (e.g. transdermal buprenorphine); sample volume could be hard to obtain; POC devices developed for forensic use and not recommended for clinical testing
Blood/ Serum	Limited to current drug use (hours)	Invasive; difficult to properly store and transport	Disposition of parent drug exceeds metabolites	Can detect low levels of drug (usually in a legal context)	Generally requires lengthy testing procedures; expensive
Breath	Limited to current drug use (hours)	Non-invasive	Limited to the evaluation of alcohol	Well correlated with blood alcohol levels	Most other drugs not sufficiently volatile for breath analysis
Hair	Weeks, months, years (depending on hair length)	Non-invasive; easy to collect; difficult to cheat; easy to store	External contamination possible; color bias; hair treatments may alter drug disposition; drugs may not be detectable for weeks following exposure; segmental analysis variable	Possible use for past drug use	Not all drugs equally incorporated; labor intensive sample preparation; low drug concentrations; expensive; not recommended for clinical testing
Nails[84]	Fingernails: 3-5 months Toenails: 8-14 months	Non-invasive; nail clippings	Disposition of parent drug usually exceeds metabolites	Possible use for past drug use	Mechanisms of incorporation not fully understood
Sweat[85,86]	~1 week	Non-invasive; adherent patch	Less sensitive than urine	Extended detection time	Unreliable adherence so limited utility; rash; external contamination

REPORT 3 OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH (I-16)
Genome Editing and its Potential Clinical Use
(Reference Committee K)

EXECUTIVE SUMMARY

Objectives. The promise of gene therapy has increased substantially over the last decade due to rapid advancements in two technologies: DNA sequencing and genome engineering. Concurrently, techniques have been discovered that allow modification of the genome with a level of efficiency and precision that had not previously been achieved. One such technique, termed CRISPR-Cas9, has triggered a surge of research efforts to harness it for correcting mutations that are disease-causing, and to understand how it could be used as a therapeutic intervention in individuals with disease. Along with the scientific and medical advances in genome editing, ethical concerns also are evident, especially about the permanent editing of fertilized embryos. The Council on Science and Public Health has initiated this report to inform physicians and the House of Delegates about the remarkable advances in genome editing seen in recent years and its potential clinical applications in gene therapy, as well as concerns about it and proposals to ensure its responsible use.

Data Sources. Literature searches were conducted in the PubMed database for English-language articles published between 2006 and 2016 using the search terms “gene editing,” “genome editing,” and “CRISPR.” To capture reports not indexed on PubMed, a Google search was conducted using the same search terms. Genome editing information posted on the websites of the National Academies of Sciences, Engineering, and Medicine and the American Society of Human Genetics also was reviewed. Additional articles were identified by manual review of the references cited in these publications.

Results. Progress in gene therapy is likely to accelerate with the CRISPR-Cas9 genome editing techniques, which allows for precise and permanent modification of the genome without the complications that accompany other gene therapy techniques. The most immediate uses of genome editing have been in biomedical research settings. However, the relative ease of using CRISPR-Cas9 and other programmable nucleases has triggered the modeling of human disease and proof-of-concept studies in a number of species and in human cell lines. Early phase clinical trials are beginning to test genome editing as a therapeutic tool in select diseases. Translation of applications to the clinic will require the careful consideration of a number of factors, including the safety of the technology, its possible use in editing the germline, and high costs that could result in access problems and health disparities.

Conclusions. The last few years have seen unprecedented progress in the development of genome editing mechanisms and their potential applications for gene therapy. Much work remains to ensure the safety and effectiveness of genome editing, and questions remain about the appropriate use of germline editing. The Council supports continued research into the clinical applications of genome editing, but urges caution and thoughtful consideration before clinical germline editing is undertaken.

REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 3-I-16

Subject: Genome Editing and its Potential Clinical Use

Presented by: Bobby Mukkamala, MD, Chair

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

BACKGROUND

The promise of gene therapy has increased substantially over the last decade due to rapid advancements in two technologies: DNA sequencing and genome engineering. Next-generation DNA sequencing techniques, reviewed by this Council in 2012, have allowed analysis of the genome and discovery of the genetic basis of disease with unprecedented speed and accuracy.[1,2] Concurrently, techniques have been discovered that allow modification of the genome with a level of efficiency and precision that had not previously been achieved.[3] One such technique, termed CRISPR-Cas9,[4] has triggered a surge of research efforts to harness it for correcting mutations that are disease-causing, and to understand how it could be used as a therapeutic intervention in individuals with disease.[5] Along with the scientific and medical advances in genome editing, ethical concerns also are evident, especially about the permanent editing of fertilized embryos, altering the genome of every differentiated cell that arises from that embryo and the offspring of that individual.[6]

The Council on Science and Public Health has initiated this report to inform physicians and the House of Delegates about the remarkable advances in genome editing seen in recent years and its potential clinical applications in gene therapy, as well as concerns about it and proposals to ensure its responsible use.

METHODS

Literature searches were conducted in the PubMed database for English-language articles published between 2006 and 2016 using the search terms “gene editing,” “genome editing,” and “CRISPR.” To capture reports not indexed on PubMed, a Google search was conducted using the same search terms. Genome editing information posted on the websites of the National Academies of Sciences, Engineering, and Medicine and the American Society of Human Genetics also was reviewed. Additional articles were identified by manual review of the references cited in these publications.

GENE THERAPY

The concept of gene therapy, broadly defined as the use of genes or other genetic sequences to counteract or replace malfunctioning genes that cause disease, arose decades ago. Yet it has been slow in becoming a widespread therapeutic option, due in part to the complex mechanisms required to deliver genetic material to the cell and drive appropriately timed therapeutic gene expression, while avoiding the disruption of endogenous cellular function.[7] The first successful attempt at gene therapy occurred in the early 1990s in two children with severe combined immune deficiency

(SCID) caused by defects in the adenosine deaminase (ADA) gene. Normal copies of the *ADA* gene were inserted into their T-cells at repeated time points, resulting in sustained immune function.[8] Other gene therapy trials in the 1990s and 2000s were considered successful, but they were small, early-phase trials, and limited to only a few participants with very rare genetic diseases that were well characterized at the time. Challenges to using gene therapy more widely persisted, including the transient expression of genes inserted to the cell but not permanently into the cell's genomic DNA (called "transgenes"), requiring continual therapy; limitations in the ability of viral vectors to deliver functional genes to cells; insertional mutagenesis, the propensity of genetic sequences to randomly insert into genomic DNA, causing mutations and resultant disease; and immune responses to the introduced foreign DNA.[7,9]

Nevertheless, research to overcome gene therapy barriers continued, and important successes have been realized. In 2015, it was reported that gene therapy was successful in several patients with Wiskott-Aldrich syndrome (WAS), a severe primary immunodeficiency caused by mutations in the *WAS* gene.[10] The trial was one of the first to use an engineered viral vector that could limit insertional mutagenesis and reduce associated complications. Other gene therapy successes have included the use of modified T-cells to treat relapses in acute lymphoblastic leukemia;[11] restoration of vision in patients with Leber congenital amaurosis, an inherited abnormality of the retina that causes blindness;[12] and reduction of bleeding episodes in patients with severe hemophilia B.[13] Another milestone was achieved in 2012 with the approval by the European Medicines Agency (EMA) of the first gene therapy product available in Europe. Alipogene tiparvovec, marketed as Glybera, is designed for the treatment of the rare disease lipoprotein lipase deficiency.[14] This year, the EMA also approved Strimvelis, a gene therapy product for the treatment of ADA-caused SCID.[15,16] No human gene therapy products have been approved to date by the FDA, although development of products is underway in the biotechnology industry.[17]

Genome Editing

Progress in gene therapy is likely to accelerate with newly discovered techniques that allow for precise and permanent modification of the genome without the complications that accompany other gene therapy techniques. The risk for insertional mutagenesis is drastically reduced because the therapeutic genetic sequences used are engineered to insert into the cell's genomic DNA at precise locations.[7] Additionally, because the therapeutic sequence is inserted into the cell's genomic DNA rather than being expressed as a transgene, expression of it can be more tightly controlled.[7] Termed "genome editing" or "genome engineering," these techniques are being tested for gene therapy applications that could correct or inactivate disease-causing mutations, introduce protective mutations, insert functional genes, or disrupt foreign DNA (such as that present in viral or bacterial infections).[18]

HOW DOES GENOME EDITING WORK?

DNA Editing

The genome editing process is illustrated in the Figure (see page 14). It is dependent on an engineered DNA-cleaving enzyme (a nuclease) that is programmed to cut genomic DNA at specific locations. Four major classes of nucleases can be engineered for site-specific editing; of these four classes, the CRISPR-Cas9 class can be easily targeted to almost any location in the genome and carries out its nuclease activity most efficiently.[19] The Cas9 nuclease was first discovered in bacterial adaptive immunity experiments. Bacterial genomes carry DNA sequences called "clustered regularly interspaced short palindromic repeats" (or "CRISPR"), which are located in close proximity to the coding sequence of a CRISPR-associated ("Cas") DNA-cleaving enzyme. In

bacteria, the CRISPR sequences act as guides for Cas9's nuclease activity, providing a defense mechanism against phage infection.[19] Further studies demonstrated that Cas9 could be engineered to cleave the DNA of many organisms' cells, including humans', at specific locations by providing it with the correct guide.[19,20]

Once Cas9 is engineered to cleave genomic DNA at a specific location, it can be inserted into the cell to carry out its nuclease activity. It finds the location it has been engineered to recognize and cuts both strands of the DNA (Figure). When the DNA strand is cut, the cell uses its own DNA repair mechanisms to attempt to repair the cut. Two different repair mechanisms result in different outcomes. In one mechanism, called non-homologous end joining (NHEJ), the two ends of the DNA strand that have been cut are directly rejoined.[18] However, this process is often inaccurate and results in the insertion or deletion of a small number of nucleotides, disrupting normal gene function (Figure). This is the genome editing mechanism used to inactivate a gene. By cutting a gene in its coding region and forcing repair through NHEJ, the small insertions or deletions that occur in the coding region suppress gene function or inactivate the gene altogether.[18] An example of the way in which this type of genome editing could be used therapeutically is in sickle cell disease.[3] Sickle cell disease is caused by mutations in the *HBB* gene, which render γ-globin dysfunctional. Functional γ-globin can be restored by upregulating the expression of the *HBG* gene. However, *HBG* is suppressed by the gene *Bcl11A*. By using genome editing to inactivate *Bcl11A*, *HBG* gene function is activated and γ-globin expression can be restored.[3]

The other repair mechanism used by cells after the DNA strand has been cut is called homologous recombination (HR). In HR, the cell uses a DNA fragment that exactly matches the sequences surrounding the cut as a template to direct repair (Figure). Genome editing takes advantage of the use of these DNA fragments to direct repair; an exogenous DNA fragment containing a new gene or a corrected sequence of nucleotides, along with sequences that match those surrounding the site of the DNA cut, is inserted into the cell along with Cas9.[18] When Cas9 cuts the DNA in the location it has been engineered to recognize, the cell uses the exogenous DNA fragments as a template to repair the cut (Figure). This is the genome editing mechanism that is used to correct a mutation or insert a functional gene. The exogenous DNA repair fragment can be engineered to carry a correction to a mutation or a new functional gene that will be incorporated into the genome. In the example of sickle cell disease discussed above, this method could be used to either correct the mutation in the *HBB* gene, or insert a functional *HBB* gene in another location, restoring γ-globin expression.[3]

Delivery mechanisms

For genome editing to occur, the engineered nuclease has to be introduced into target cells. This can occur either *ex vivo* or *in vivo*. In *ex vivo* delivery, a portion of the cell population that is targeted for editing is removed from the body, undergoes genome editing, and then is returned to the host. In this mechanism, the engineered nuclease and DNA repair fragments (for HR editing) can be introduced into the cultured target cells through several methods, including electroporation, a pulse of electricity that briefly opens pores in the cell membrane to allow the nuclease and DNA repair fragments to enter; or non-pathogenic viruses that insert the nuclease and DNA repair fragments directly into the cell.[18] *Ex vivo* delivery results in high editing rates, and therefore is often used for gene therapy applications. However, because it is difficult for some target cell populations to survive manipulation outside of the body, *ex vivo* delivery is usually limited to tissues with adult stem cell populations that are amenable to culture and manipulation, such as those from the hematopoietic system.[18]

In *in vivo* delivery, the engineered nuclease and DNA repair fragments are delivered to targeted cells in their native environment within the body. This has been achieved by using non-pathogenic viral vectors with affinity for the target tissue; the viruses are packaged with the nuclease and the DNA repair fragments (for HR editing), which are deposited directly into the cell when the virus "infects" it.[18] *In vivo* delivery is preferred when the target tissue is not amenable to culture or manipulation outside of the body. It can also be used to efficiently target multiple tissue types, allowing for its therapeutic use in a wider range of diseases.[18] However, the viruses that can be used as vectors are sometimes limited in their affinity for multiple tissue types, and while they are non-pathogenic, the amount of virus necessary for use in therapeutic genome editing may induce an immune response.[18]

CLINICAL APPLICATIONS OF GENOME EDITING

The most immediate uses of genome editing have been in biomedical research settings. The relative ease of using the CRISPR-Cas9 system, as well as other programmable nucleases, has triggered the modeling of human disease and proof-of-concept studies in a number of species and in human cell lines.[21] A few experimental uses have progressed to early clinical trial stages in humans. Selected examples that are most promising for gene therapy are discussed in this section.

Monogenic Disorders

Nearly 8,000 diseases are monogenic, i.e., caused by mutations in single genes.[3] Many of these diseases are candidates for gene editing because, simplistically speaking, the modification needed is only in one gene. At this time, successful genome editing for several monogenic diseases has been achieved in model organisms. For example, in a mouse model of Duchenne muscular dystrophy (DMD), which mimics the human form of DMD with a mutation in the *dystrophin* gene, a viral vector was used to deliver Cas9 *in vivo* to mouse muscle cells.[22-25] The Cas9 was engineered to cut the *dystrophin* gene in two places flanking the mutation, thereby removing the mutation from the cells' genomic DNA, then the cut ends of *dystrophin* were repaired by the NHEJ mechanism.[22-25] The technique only partially restored Dystrophin protein function, but it was enough to restore partial muscle function in the mice. Particularly exciting was the finding that gene editing occurred in satellite cells, stem cells that are present in muscle, implying that the satellite cells could populate the muscles with cells carrying the partially repaired *dystrophin* gene.[25]

Preclinical studies using genome editing to correct the mutations that cause cystic fibrosis have also been promising. Organoids are small amounts of functional tissue derived from human stem cells. In intestinal organoid tissue derived from patients carrying mutations in the *CFTR* gene, which causes cystic fibrosis, the CRISPR-Cas9 system was used to correct the mutations through the HR mechanism.[26] The corrected *CFTR* was fully functional and was able to "rescue" the cystic fibrosis phenotype in the organoids.[26] Together with other experiments showing that cultured intestinal organoids can be transplanted into and become functional in the colons of mice,[27] this provides a potential strategy for gene therapy in patients with cystic fibrosis.

Other studies demonstrated successful proof-of-concept results using genome editing for the treatment of many other monogenic diseases, including hemophilia B, hereditary tyrosinemia, ADA-caused SCID, sickle cell disease, and β-thalassemia.[3,18,19] The biotechnology company Editas has stated that it will begin a clinical trial in 2017 using CRISPR-Cas9 as a gene therapy mechanism to correct mutations causing Leber congenital amaurosis.[28]

Cancers

With more than 1.5 million cases of cancer diagnosed and half a million deaths from cancer each year,[29] the prospect of treating cancer using genome editing-based technologies is appealing. However, it is widely thought that direct repair of acquired or inherited mutations in cancer cells would not be effective.[18] Mutations in cancer cells give them a fitness advantage over non-cancerous cells, i.e., they divide quickly and do not respond to the cells' signals to halt growth or self-destruct. Even the most efficient genome editing could not repair every cancer cell present in a tissue or throughout the body, so cancer cells with repaired mutations would quickly be outcompeted by their non-repaired counterparts, rendering the therapy ineffective.[18]

Despite the inability to directly correct mutations in cancer cells, research has shown exciting results using engineered T-cells to harness the immune system's ability to fight cancer. T-cells are harvested from patients with certain types of cancer, engineered to express receptors that have specific and strong affinity for tumor antigens, and then infused back into patients, where they attack tumor cells.[30,31] This technique has been the most successful in trials for melanomas and leukemias and lymphomas of B-cell origin.[31]

Genome editing is now being explored as a technique to engineer T-cells that more stably and permanently express the receptors that target them to cancer cells. In June 2016, the National Institutes of Health approved a proposal to use the CRISPR-Cas9 system to edit T-cells from patients with one of three cancer types: multiple myeloma, sarcoma, or melanoma.[32] The genome editing will include inserting a gene that helps the T-cells better recognize cancer cells, inactivating a gene that interferes with the recognition process, and inactivating a gene that allows cancer cells to prevent T-cell attacks.[32] Recruitment could begin late in 2016, once FDA and institutional review board approval are granted.[33] Another trial using genome-edited T-cells is set to begin this year in China in patients who have metastatic non-small cell lung cancer and for whom chemotherapy, radiation therapy, and other treatments have failed. In that trial, CRISPR-Cas9 will be used to inactivate the gene that encodes PD-1, which normally acts as a check on the cell's capacity to launch an immune response.[34]

Non-Genetic Disorders

In addition to the use of genome editing to correct diseases caused by genetic mutations, it also is being investigated for use in treating infectious diseases and a variety of other health conditions. For example, the discovery that patients who carry mutations disabling the HIV receptor CCR5 are nearly completely resistant to HIV infection provided the basis for a genome editing-based clinical trial for treating HIV. A small, early-phase clinical trial removed T-cells from patients with HIV, used an engineered nuclease to mutate the *CCR5* gene, and then transplanted the edited T-cells back into the patients.[3,18,35] Preliminary results showed that in the majority of patients receiving the edited T-cells, HIV DNA levels in the blood decreased, and in one patient, HIV was undetectable.[35] Unlike the fitness disadvantage that directly edited cancer cells have when compared to their non-edited counterparts, T-cells with the edited *CCR5* gene have a fitness advantage over the non-edited T-cells; in the trial, the edited T-cell population had lower rates of cell death than did non-edited T-cells, suggesting that they are more stable.[35] Complete removal of the virus will be challenging, however, and will depend on extremely efficient delivery and editing strategies;[18] phase II trials are now ongoing to test such strategies. Similar genome editing mechanisms have also shown promising results in treating hepatitis B virus infection.[36,37]

Genome editing also is being explored as a therapy to reduce cardiovascular disease risk. The gene *PCSK9* was recently discovered as a modulator of LDL cholesterol function. People carrying

dominant gain-of-function mutations in *PCSK9* have highly elevated LDL level and premature coronary heart disease, and those carrying homozygous loss-of-function mutations have a nearly 80 percent reduction in LDL level with no apparent adverse clinical consequences.[38,39] PCSK9-targeting monoclonal antibodies are currently being tested in clinical trials as LDL-lowering therapies.[40] Genome editing of *PCSK9* has been tested in the pre-clinical setting. A viral vector was used for *in vivo* delivery of Cas9, engineered to introduce mutations in the *PCSK9* gene using the NHEJ mechanism, to liver cells of mice.[41] Editing occurred in more than half of the liver cells, and resulted in a 35-40 percent reduction in total cholesterol and reduced LDL plasma fractions.[41] This study has contributed to the notion that the future of cholesterol management may first be a bi-weekly or monthly intervention using PCSK9-inhibitor antibody drugs, then eventually become a one-time intervention that permanently and selectively modifies the genome to inactivate *PCSK9* and thereby reduce cholesterol.[42]

CONSIDERATIONS BEFORE CLINICAL USE

The pace of exploration of genome editing as a potential tool for gene therapy has been rapid in recent years. However, translation of applications to the clinic will require the careful consideration of a number of factors, including the safety of the technology, its possible use in editing the germline, and high costs that could result in access problems and health disparities.

Safety

The specificity of engineered nucleases, i.e., their ability to cut DNA at precisely targeted positions and avoid cutting at non-targeted locations, will be a key factor in the translation of this mechanism of gene therapy into clinical practice. Genetic modifications resulting from genome editing are permanent, so off-target modifications could create cells with functional impairment or even oncogenic potential. CRISPR-Cas9 genome editing appears to result in only rare instances of off-target modification; one study estimated that one error in 300 trillion base pairs could occur, and given that the human genome is only 3 billion base pairs, that equates to one off-target modification per 100,000 cells.[43] However, more sophisticated methods are needed for evaluating the likelihood of off-target modification for each potential clinical use, and studies are ongoing to develop ways of preventing off-target modification.[44,45] Clinical use of genome modification would not be appropriate without mechanisms to ensure that off-target modifications are extremely rare and result in negligible clinical consequence.[18,46]

Another safety concern lies with using viral vectors as delivery mechanisms. Adeno-associated virus (AAV) vectors are approved for clinical use,[47] and have high delivery efficacy for a number of tissue types. But AAV vectors pose some challenges. In some cases, nucleases packaged within AAV vectors are constitutively active, increasing the chances of off-target modification.[18]Also, many people who have been naturally exposed to AAV have developed immunity to it, so it may not be an appropriate delivery mechanism for them.[18] Immunotoxicity also may occur upon exposure to certain engineered nucleases, including Cas9, since they are microbially derived.[48] Alternative delivery systems, including lipids and nanoparticles, are being explored to avoid the potential for immunotoxicity.[49,50]

Germline Editing

The most ethically-fraught conversations about genome editing center on the use of the technology to modify the genome of germline cells (eggs and sperm) or early-stage embryos. Such editing would result in permanent modifications to the individual arising from the germline cells or embryo, and would permanently change the gene pool since those modifications would be passed

on to future generations. Conversations about these issues took on new urgency when researchers in China demonstrated that CRISPR-Cas9 could be successfully used to edit the genome of early-stage human embryos.[51] The embryos used in the study were genetically incapable of maturing into viable zygotes, and important limitations in the efficiency of CRISPR-Cas9 in human embryos were discovered, but the study nonetheless illustrated the application of genome editing to human embryos before ethical standards for its use have been widely promulgated. Further evidence that genome editing is close to being used in human embryos comes from a study that used CRISPR-Cas9 to induce genome modifications in one-cell stage embryos of cynomolgus monkeys, resulting in live births.[52] Cynomolgus monkeys are so genetically close to humans that they are often used to model human disease. The genome-edited animals are now being studied to determine the efficiency of the editing and potential health consequences stemming from it.[52]

Several organizations, including the National Academies of Sciences, Engineering, and Medicine (NASEM) and the American Society of Human Genetics (ASHG), have convened expert working groups to study the issue and define principles by which germline editing should or should not occur. Discussions center on the use of genome editing to treat or cure diseases for which no other equally effective therapy exists, and what types of disorders are sufficiently debilitating that extreme measures like genome editing are needed. The case for germline editing is most compelling when both parents are homozygous for a disease-related gene variant; however, that is a rare occurrence.[53] Another question that arises is whether genome editing has any value over preimplantation genetic diagnosis, which allows prospective parents who carry heritable disease-causing genes to select embryos lacking those genes.[54] Genome editing for complex polygenic diseases is likely not possible because those genes usually have very weak effects on their own and are often involved in a variety of physiological functions, some of which may be beneficial.[53,54] Discussions also focus on the potential for non-medical use of germline editing, such as for selecting desirable traits, and the autonomy of parents to make genetic modifications in their offspring, who themselves are not able to consent.[53]

NASEM, along with the Royal Academy and the Chinese Academy of Sciences, held a summit late in 2015 during which a committee of scientific and ethics experts discussed genome editing and developed conclusions about its use.[55] The consensus conclusions support preclinical research on genome editing, as well as its use in somatic gene therapy concordant with regulatory law. However, the committee does not support clinical use of germline editing until "(i) the relevant safety and efficacy issues have been resolved, based on appropriate understanding and balancing of risks, potential benefits, and alternatives, and (ii) there is broad societal consensus about the appropriateness of the proposed application."[55] The committee will complete a comprehensive study of the scientific underpinnings of human genome editing technologies, their potential use in biomedical research and medicine, including human germline editing, and the clinical, ethical, legal, and social implications of their use by late 2016.[56]

Similarly, ASHG has convened a Workgroup on the Implications of Genome Editing to craft policy on genome editing; in addition to ASHG, the Canadian Association of Genetic Counselors, International Genetic Epidemiology Society, National Society of Genetic Counselors, and Association of Genetic Nurses and Counselors (United Kingdom and Ireland) participated in the Workgroup.[57] It developed a draft policy outline that supports research into the use of germline editing as long is does not culminate in a human pregnancy, and believes that clinical application should not proceed unless, at a minimum, there is "a) a compelling medical rationale, b) an evidence base that supports its clinical use, c) an ethical justification, and d) a transparent public process to solicit and incorporate stakeholder input."[57] ASHG has solicited member comments on the draft policy and will finalize it in the coming months.

The AMA Code of Medical Ethics contains similar sentiments regarding gene therapy and genetic engineering. Opinion 7.3.6, "Research in Gene Therapy & Genetic Engineering," states that genetic manipulation should be reserved for therapeutic purposes, and that efforts to enhance "desirable" characteristics are contrary to the ethical tradition of medicine. It sets out a number of conditions that should be met before physicians engage in research involving gene therapy or genetic engineering, including evidence that the intervention will be safe and effective, that no other suitable or effective therapies are available, and that it is restricted to somatic cells. The full opinion is in the Appendix. The Council believes that the principles set forth in Opinion 7.3.6 should guide AMA policy on genome editing.

Costs and Health Disparities

As is the case for many expensive therapies, access problems are likely to occur if genome editing-based gene therapies become viable clinical options. Use of the first gene therapy product approved by the EMA, Glybera, has been limited to only one patient because it carries a price tag of more than $1 million. It was covered by the patient's insurance company, but only after her physician worked intensely to obtain authorization.[16] It is not known what the cost of the newly EMA-approved gene therapy Strimvelis will be, but its manufacturer, GlaxoSmithKline, has stated that it will be "significantly less" than the $1 million mark.[16] According to the manufacturer of Glybera, UniQure, the high cost of gene therapy drugs is based on the substantial development costs, the fact that the market for the rare diseases they treat is exceptionally small, and in Glybera's case, that it is administered only once, rather than repeatedly over a period of time.[58] Compared to the $250,000 per year average cost of other orphan drugs that treat rare diseases, a one-time dose of a $1 million drug could be considered cost-saving. However, that cost is so high that it is unlikely patients who need the therapies could afford them, or that insurance companies would authorize payment. This undoubtedly would create health disparities issues, in which only the wealthiest patients, or those fortunate enough to have coverage through insurers who will approve the therapy, could have access to it. Although Glybera and Strimvelis are based on transgene expression rather than permanent genome modification, it is reasonable to assume that genome editing-based gene therapies would have similarly expensive development processes, leading to high costs for patients.

CONCLUSIONS

The last few years have seen unprecedented progress in the development of genome editing mechanisms and their potential applications for gene therapy. While most research is at the preclinical stages, a small number of clinical trials in humans have begun, with others planned for the near future. Much work remains to ensure the safety and effectiveness of genome editing, and questions remain about the appropriate use of germline editing. The Council supports continued research into the clinical applications of genome editing, but urges caution and thoughtful consideration before clinical germline editing is undertaken. The Council also urges continued work to develop international consensus standards for permissible therapeutic uses of germline editing.

RECOMMENDATIONS

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

1. That our American Medical Association (AMA) encourage continued research into the therapeutic use of genome editing. (New HOD Policy)

2. That our AMA urge continued development of consensus international principles, grounded in science and ethics, to determine permissible therapeutic applications of germline genome editing. (New HOD Policy)

Fiscal Note: Less than $1000

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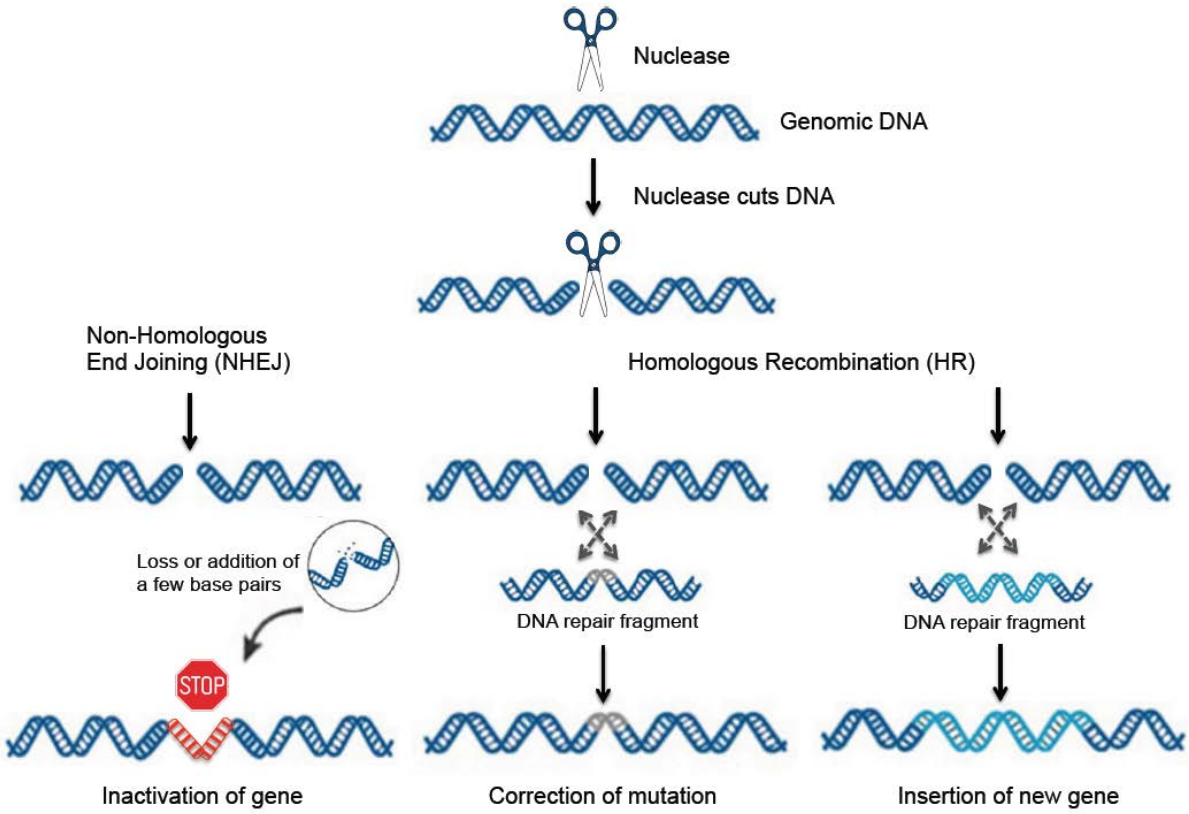
Figure. The genome editing process.



A nuclease engineered to cleave genomic DNA at a precise location is inserted into the cell. Once the DNA is cut, the cell uses either non-homologous end-joining (NHEJ) or homologous recombination (HR) to repair the cut. In NHEJ, the two ends of the DNA strand that have been cut are directly rejoined, but this process results in the insertion or deletion of a small number of nucleotides, disrupting normal gene function. In HR, an exogenous DNA fragment containing a new gene or a corrected sequence of nucleotides, along with sequences that match those surrounding the site of the DNA cut, is inserted into the cell. The cell uses the exogenous DNA fragment as a template to repair the cut, incorporating the sequence present into the genomic DNA, correcting a mutation or inserting a functional gene. (Figure adapted from http://www.calyxt.com/technology/targeted-genome-editing/.)

Appendix. AMA Code of Medical Ethics, 7.3.6, Research in Gene Therapy & Genetic Engineering

Gene therapy involves the replacement or modification of a genetic variant to restore or enhance cellular function or the improve response to nongenetic therapies. Genetic engineering involves the use of recombinant DNA techniques to introduce new characteristics or traits. In medicine, the goal of gene therapy and genetic engineering is to alleviate human suffering and disease. As with all therapies, this goal should be pursued only within the ethical traditions of the profession, which gives primacy to the welfare of the patient.

In general, genetic manipulation should be reserved for therapeutic purposes. Efforts to enhance "desirable" characteristics or to "improve" complex human traits are contrary to the ethical tradition of medicine. Because of the potential for abuse, genetic manipulation of nondisease traits or the eugenic development of offspring may never be justifiable.

Moreover, genetic manipulation can carry risks to both the individuals into whom modified genetic material is introduced and to future generations. Somatic cell gene therapy targets nongerm cells and thus does not carry risk to future generations. Germ-line therapy, in which a genetic modification is introduced into the genome of human gametes or their precursors, is intended to result in the expression of the modified gene in the recipient's offspring and subsequent generations. Germ-line therapy thus may be associated with increased risk and the possibility of unpredictable and irreversible results that adversely affect the welfare of subsequent generations.

Thus in addition to fundamental ethical requirements for the appropriate conduct of research with human participants, research in gene therapy or genetic engineering must put in place additional safeguards to vigorously protect the safety and well-being of participants and future generations.

Physicians should not engage in research involving gene therapy or genetic engineering with human participants unless the following conditions are met:

(a) Experience with animal studies is sufficient to assure that the experimental intervention will be safe and effective and its results predictable.

(b) No other suitable, effective therapies are available.

(c) Gene therapy is restricted to somatic cell interventions, in light of the far-reaching implications of germ-line interventions.

(d) Evaluation of the effectiveness of the intervention includes determination of the natural history of the disease or condition under study and follow-up examination of the participants' descendants.

(e) The research minimizes risks to participants, including those from any viral vectors used.

(f) Special attention is paid to the informed consent process to ensure that the prospective participant (or legally authorized representative) is fully informed about the distinctive risks of the research, including use of viral vectors to deliver the modified genetic material, possible implications for the participant's descendants, and the need for follow-up assessments.

Physicians should be aware that gene therapy or genetic engineering interventions may require additional scientific and ethical review, and regulatory oversight, before they are introduced into clinical practice.

REPORT 4 OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH (I-16)
Hormone Therapies: Off-Label Uses and Unapproved Formulations
(Resolution 512-A-15)
(Reference Committee K)

EXECUTIVE SUMMARY

Objective. To develop a report, update recommendations, and inform physicians about the use of off-label and unapproved uses of hormones, especially compounded hormone therapies (bioidentical hormones).

Methods. English-language articles were selected from a search of the PubMed database through August 2016 using the search terms “off-label hormone therapy,” “bioidentical hormone,” and “off-label” with the terms “estrogen,” “progesterone,” “thyroid hormone,” “dehydroepiandrosterone,” “testosterone,” “growth hormone,” and “hCG.” Additional articles were identified from a review of the references cited in retrieved publications. Searches of selected medical specialty society websites were conducted to identify clinical guidelines and position statements. Additionally, Internet searches were conducted for “wellness clinics.”

Results. Females, males, children, transgender individuals, and athletes are all recipients of hormone therapies. The use of the therapies can be categorized as FDA-approved, off-label use supported by scientific evidence; off-label use in the absence of scientific evidence, and use of non-FDA-approved products. A number of FDA-approved hormone products exist and are being used for labeled indications as well as for off-label uses, both with and without support of scientific evidence. In addition, many hormones being prescribed for both medical and non-medical indications are not FDA-approved products, including dietary supplements and compounded products. Even though compounded hormone therapies are not FDA-approved, they do require a prescription. Little scientific evidence exists to support specific claims of efficacy of compounded hormone therapy preparations; a literature review produced no adequate randomized placebo-controlled trials to support their use.

Conclusion. Current AMA policy supports the clinical decision-making authority of a physician to use an FDA-approved product off-label when such use is based upon sound scientific evidence or sound medical opinion; however, to date the use of compounded hormone therapies is not supported by such evidence. Additionally, traditional compounding is recognized as a legal and important therapeutic approach when an FDA-approved drug product is not available or does not meet the clinical needs of individual patients. However, in the case of many of the uses for compounded hormones, comparable FDA-approved therapies are available. Further concern is prompted by the fact that compounding pharmacies are exempt from including specific and important safety information on labeled instructions. That lack of information may put some patients at risk.

REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 4-I-16

Subject: Hormone Therapies: Off-Label Uses and Unapproved Formulations (Resolution 512-A-15)

Presented by: Bobby Mukkamala, MD, Chair

Referred to: Reference Committee K (Paul A. Friedrichs,, MD, Chair)

INTRODUCTION

Resolution 512-A-15, "Off-Label Use of Hormone Therapy," introduced by the Women Physicians Section and referred by the House of Delegates asked:

> That our American Medical Association work with national health care organizations to advocate on behalf of the public and our patients on the appropriate evaluation and treatment of hormone deficiencies, as well as the side effects from use of hormone therapy without objective evidence to guide treatment, especially when given to promote weight loss or a general feeling of well-being.

Hormone therapy is the treatment of diseases or conditions with hormones that are derived from endocrine glands or substances that simulate or modulate hormonal effects.[1] The most common uses of U.S. Food and Drug Administration (FDA) approved hormone therapies include replacement during menopause, oncology therapies, and for endocrine or genetic disorders. Although oral contraceptives are a common use of hormones, their primary use for the prevention of pregnancy is not considered a therapy. Over the past several years there has been a large expansion in the use of hormones for off-label uses such as "well-being," anti-aging, low libido and sexual dysfunction and other conditions in the absence of an evidence base to guide treatment (e.g., human chorionic gonadotropin (hCG) for weight loss).[2] Clinicians prescribing hormone therapies off-label are found in primary care clinics or practices, hospital settings, specialty practices, and "commercial wellness clinics." Products being prescribed include both FDA-approved pharmaceuticals and unapproved hormones, including compounded preparations.

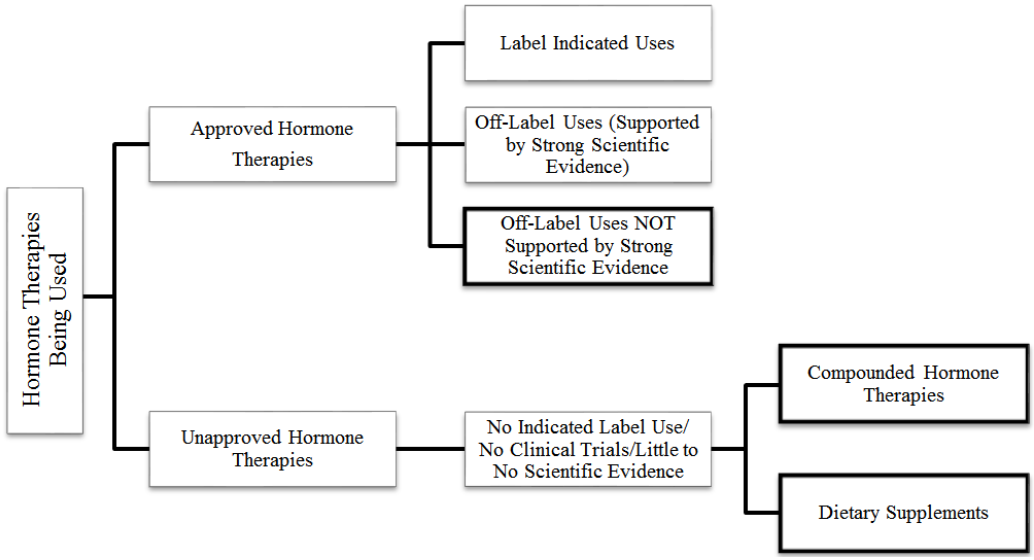
Recently, the pursuit of individual health and well-being has been put in the spotlight and become an evolving trend. The global wellness industry is now a $3.4 trillion market, more than 3-fold larger than the worldwide pharmaceutical industry.[3] In the U.S., the sale of compounded hormone therapies is estimated at $1.5 billion, with continued growth projected over the next several years.[4]

Females, males, children, transgender individuals, and athletes are all recipients of hormone therapies. These therapies can be categorized as follows (see Figure 1):

- Use of approved drugs according to a labeled indication
- Off-label use of FDA-approved hormone therapies supported by scientific evidence
- Off-label use of FDA-approved hormone therapies in the absence of scientific evidence

- Widespread use of unapproved hormone therapies, including compounded hormone therapies. While subject to some FDA regulation, hormone-containing dietary supplements can also be considered in this category.

Figure 1. Flow chart of hormone therapy uses (bold boxes indicate the focus of this report).



CURRENT AMA POLICY

Current AMA Policy H-120.988, "Patient Access to Treatments Prescribed by Their Physicians," supports the decision-making authority of a physician and the lawful use of FDA-approved drug products for an off-label indication when such use is based upon sound scientific evidence or sound medical opinion. Policy D-120.969, "FDA Oversight of Bioidentical Hormone (BH) Preparations," is a set of directives urging stronger FDA oversight over bioidentical hormones; this report will update this policy. Policy H-100.962, "The Use of Hormones for Anti-Aging: A Review of Efficacy and Safety," based on a previous Council report, states that proponents of anti-aging therapies have the responsibility to prove claims of a positive risk/benefit profile through well-designed, randomized, placebo-controlled clinical trials. The goal of Policy H-460.907, "Encouraging Research Into the Impact of Long-Term Administration of Hormone Replacement Therapy in Transgender Patients," is reflected in the title of the policy. Finally, Policy D-140.957, "Ethical Physician Conduct in the Media," seeks to establish guidelines for physician endorsement and dissemination of medical information in the media.

METHODS

English-language articles were selected from a search of the PubMed database through August 2016 using the search terms "off-label hormone therapy," "bioidentical hormone," and "off-label" with the terms "estrogen," "progesterone," "thyroid hormone," "dehydroepiandrosterone," "testosterone," "growth hormone," and "hCG." Additional articles were identified from a review of the references cited in retrieved publications. Searches of selected medical specialty society websites were conducted to identify clinical guidelines and position statements. Additionally, Internet searches were conducted for "wellness clinics."

BACKGROUND

Women's Health Initiative

The findings of the Women's Health Initiative (WHI) are an important backdrop to the marketing of off-label hormone therapies. The initial results of the WHI were summarized in CSAPH Report 5-A-09.[5] Briefly, following publication and analysis of the results of the WHI, the U.S. Preventive Services Task Force (USPSTF) recommended against the routine use of combined hormone therapy (estrogen plus progestin) for the prevention of chronic conditions in postmenopausal women and the routine use of estrogen alone for the prevention of chronic conditions in postmenopausal women who have had a hysterectomy. Subsequently, the FDA also required estrogen/progestin or estrogen-only products to contain a black box warning on the potential serious adverse events associated with long-term administration.[5] A reanalysis of the WHI data suggests that combined hormone therapy may be appropriate for younger, low-risk women who are seeking short-term relief from menopause symptoms, but the USPSTF continues to recommend against the use of combined hormone therapy for disease prevention or long-term health improvement.[6]

Off-Label Prescribing

When the FDA approves a drug or device and its product labeling, it does so for a specific use or indication. When a physician prescribes a drug for an indication that is not included in the product labeling, or at a dosage outside the recommended range, or uses a different route of administration, or for a patient from a population excluded from the label recommendation (e.g., pediatric), such uses are termed "unlabeled" or "off-label." Off-label prescribing is not illegal because the FDA does not regulate the practice of medicine (21 U.S.C. § 396). Once a drug product has been approved for marketing, physicians may prescribe it for uses or in treatment regimens or patient populations that are not included in the approved product labeling. AMA Policy H-120.988 strongly supports the option of off-label prescribing "when such use is based upon sound scientific evidence or sound medical opinion."

The prevalence and clinical importance of off-label prescribing in routine patient care are substantial. In general, off-label prescribing ranges from 10-20%, but is much higher in certain medical specialties (e.g., oncology) and patient populations (e.g., pediatrics, patients with rare diseases).[7-12] Accordingly, the spectrum of off-label uses is wide. They can be a source of innovation and new practices, represent primary therapy or the standard of care, or they may represent the only available therapy or be a therapy of last resort. Concerns include a lack of substantial evidence supporting safety and efficacy for many off-label uses and the potential for increased costs when newer branded drugs are used in this manner. Recently, the lack of strong scientific evidence to support many common off-label uses, and an increased frequency of adverse events leading to discontinuation of therapy, have led to calls for more scrutiny of such practices.[10,13,14]

In one study of hormone prescribing in primary care clinics, more than 20,000 new prescriptions were issued between 2005 and 2009; 5.2% of them were for off-label uses.[15] Additionally, a recent survey of the activity of compounding pharmacies estimated that 26 to 33 million hormone therapy prescriptions are compounded annually for 2 to 3 million individuals.[4,16] All compounded preparations are by definition not FDA-approved, even if they include FDA-approved drugs. Limited pathways exist for non-FDA-approved drugs to be compounded and supplied to patients.

APPROVED HORMONE THERAPIES

A number of FDA-approved hormone products exist. These include, but are not limited to, steroidal hormones, aromatase inhibitors, gonadotropin releasing hormones (GnRHs), GnRH analogs, GnRH antagonists, selective estrogen receptor modulators (SERMs), antiandrogens, somatostatin analogs, growth hormone (hGH), hGH secretagogues, human chorionic gonadotropin (hCG), and thyroid hormones. There are several labeled uses for these hormone therapies; Table 1 provides class examples of FDA-approved hormones and examples of indicated uses for the class. Table 1 also notes some off-label uses of hormone therapies, most of which lack supporting scientific evidence.

UNAPPROVED HORMONE THERAPIES

Beyond the pattern of FDA-approved medications being used off-label without support of scientific evidence, many hormones being prescribed for both medical and non-medical indications are not FDA-approved products. These include dietary supplements and compounded products.

Dietary Supplements

Dietary supplements are regulated by the Dietary Supplement Health and Education Act of 1994 (DSHEA).[17] Under DSHEA, dietary supplements are not regulated as drugs. Manufacturers, not the FDA, are responsible for evaluating the safety and labeling of products before marketing to ensure that they meet all legal requirements. Thyroid hormone and dehydroepiandrosterone (DHEA) are two common hormones found in commercially available dietary supplements. Recent studies have revealed that one in three older adults are using five or more prescription medications and approximately half regularly use over-the-counter dietary supplements and medications.[18] In addition to concerns with dietary supplement quality and contamination,[19] there is a high risk of adverse events associated with the use of multiple medications and dietary supplements. Half of all potential major drug-drug interactions identified in outpatients involved over-the-counter products.[18]

Compounded Hormone Therapies (Bioidentical Hormones)

Bioidentical hormones are semi-synthetic hormones that are chemically synthetized from a natural starting material, most commonly a plant sterol sourced from soybeans or the Mexican yam.[20] Bioidentical hormones are structurally identical to hormones produced in the body. Some are commercially available products approved by the FDA (e.g., micronized estradiol), and many are compounded preparations that are not FDA-approved. Compounded bioidentical hormones have become popular because of direct-to-consumer marketing by compounding pharmacies, commercial wellness clinics, and some individuals outside of the medical community along with media depiction as safer, natural, and more effective alternatives to prescription hormone therapies. Although compounded bioidentical hormones are not FDA-approved, they do require a prescription. The term bioidentical hormones does not include over-the-counter herbal preparations or plant-based products with estrogenic activity.

The term “bioidentical hormone” does not have a standardized definition, which adds to the confusion regarding the identity, use, and safety of the products. Depending on the context in which it is used, the term can imply natural (not synthetic), compounded, plant derived, or structurally identical to human hormones.[21] The term “bioidentical hormone therapy” has been recognized by the FDA and The Endocrine Society as a marketing term and not a description based on scientific evidence.[20,22-24] Therefore “compounded hormone therapy” (CHT) will be used to

describe these preparations throughout this report. Furthermore, CHT often not only refers to compounded hormone preparations, but may be inclusive of the initial diagnostic testing and monitoring that is repeated over time on a patient.

Regulation. CHTs are prepared in compounding pharmacies and are regulated under sections 503A and 503B of the Federal Food, Drug, and Cosmetic Act (the FD&C Act). Section 503A applies to traditional compounding pharmacies and §503B applies to compounding outsourcing facilities which produce bulk amounts of products (e.g., for hospitals or in the event of drug shortages). The vast majority of the products that are the focus of this report are compounded in traditional compounding pharmacies and are therefore regulated under §503A. Compounded drugs are not subject to the same rigorous evaluation and approval process as prescription drugs that are FDA-approved. Section 503A describes that compounded drug products are exempt from three sections of the FD&C Act including those concerning current good manufacturing practice (cGMP); the labeling of drugs with adequate directions for use, standardized labels, or product inserts (including any black box warnings); and the approval of the drugs under new drug applications (NDAs) or abbreviated new drug applications (ANDAs).[25] Additionally, the statute puts restrictions on the compounding of products that are essentially copies of drugs that are commercially available.[26] Previously, §503A also included restrictions on advertising or promotion of the compounding of drugs or drug classes or the solicitation of prescriptions for compounded drugs, but these provisions were deemed unconstitutional by the U.S. Supreme Court in 2002.[27] Traditional compounding pharmacies are not required to register with the FDA, investigate or report adverse events, or report sales under §503A. Currently, individual state boards of pharmacy maintain oversight of traditional compounding pharmacies under §503A while the FDA maintains a risk-based enforcement approach with respect to violations of the FD&C Act.

Evidence Base. Little scientific evidence exists to support specific claims of efficacy of CHT preparations. A literature review produced no adequate randomized placebo-controlled trials. Authors of a literature review of randomized controlled trials of CHT progesterone cream for the relief of menopause-related vasomotor symptoms found three studies.[28] None of the trials applied FDA methodology for evaluating symptom relief and the search authors determined in their review that the data presented do not support the use of CHT progesterone cream for the relief of menopause-related vasomotor symptoms.

Two observational studies were found evaluating menopausal symptom relief for 3-6 months in patients receiving CHT preparations from a wellness clinic which offer low-level evidence that CHT improves menopausal symptoms. The first study involved 296 women receiving various CHT treatments, doses, and routes of administration and showed a statistically significant improvement in emotional symptoms such as irritability and anxiety.[29] The second study involved 200 women receiving estrogen, progesterone, testosterone, or some combination of the three hormones either via topical or sublingual administration. The results of this study showed that topical CHT was not as effective as sublingual CHT at reducing vasomotor, mood, and quality-of-life symptoms.[30]

CHT preparations can be inconsistent in dose and purity. After reports of quality control problems associated with CHT, the FDA conducted two surveys to evaluate compounded drugs. In 2001, the FDA evaluated 29 compounded drugs from 12 different compounding pharmacies and reported that while none of the samples failed identity testing, 10 (34%) of the samples failed standard quality testing, including potency testing.[31] In another survey in 2006, the FDA collected 198 samples from compounding pharmacies; 73 were finished compounded drug products; 33% of these products did not conform to information on the label.[32] Other reports of both subpotent products and products containing excessive amounts of active ingredient(s) exist.[22] One preliminary pharmacokinetic study in which plasma estradiol levels achieved with CHT doses

commonly thought to be bioequivalent to FDA-approved products were compared to the FDA-approved estradiol patch. The plasma levels achieved with all doses of the CHTs were significantly lower than with the estradiol patch.[33]

The Endocrine Society, The American Association of Clinical Endocrinologists, American Congress of Obstetricians and Gynecologists, American Society for Reproductive Medicine, The North American Menopause Society, and The Women's Health Practice and Research Network of the American College of Clinical Pharmacy have issued position statements outlining their concerns regarding CHT, specifically mentioning patient safety because of the lack of evidence-based research regarding clinical effectiveness and inherent risks associated with hormone compounding.[1,23,34-37] Policy D-120.969, "FDA Oversight of Bioidentical Hormone (BH) Preparations," urges the FDA to take several actions regarding bioidentical hormones.

CHT Marketing and Conflicts of Interest. There have been some ethical and conflict of interest issues associated with commercial wellness clinics and compounding pharmacies that prescribe and dispense CHT. Some compounding pharmacies that sell CHT also market the products to the public by providing listings of their offerings and offer referrals to providers who can prescribe the CHT. Some proprietors of commercial wellness clinics have published peer-reviewed journal articles that have been viewed as misleading[38] and questionable rhetorical approaches may be used to appeal to those lacking scientific literacy, for example, failing to distinguish between "cutting edge medicine" and "untested or unproven therapies."[39]

CHT proponents often use the WHI trial results as part of a marketing approach to promote CHT as safer than traditional hormone therapies, emphasizing that CHT is different from the hormones used in the WHI study, and either implying or directly claiming that CHT is safer than FDA-approved preparations, despite a lack of evidence to substantiate this claim.[39,40] In addition, the FDA requires that patient package inserts and class labeling black box warnings reflective of the findings of the WHI be included with all FDA-approved estrogen and progesterone products. Because CHTs are not FDA-approved products, they are exempt from FDA labeling and warning requirements, and patient package inserts and the black box warnings are not included.[22] The lack of warnings may lead some patients to conclude CHTs are safer.[1]

Additional claims often employed as marketing tactics by CHT prescribers and compounders also cannot be substantiated.[21,41] For example, the claim that CHT has improved delivery compared to FDA-approved hormone therapies has not been evaluated in clinical trials.[21] Some clinicians also advocate for saliva testing as a way to provide customized therapy for patients, an approach that lacks scientific validity (see below).[35]

Patient Perspective. Surveys indicate that approximately one in three individuals who use hormone therapy rely on CHT and believe it is "natural."[16] Using terms such as "bioidentical" and "natural," health care providers are able to market and prescribe CHT as distinctly different treatments from traditional hormone replacement therapies and as alternatives to prescription drugs. CHT appeals to consumers who seek more holistic healthcare approaches and tend to reject synthetic, manufactured pharmaceutical drugs.[42] Surveys indicate that patients who seek CHT do so because of a lack of satisfaction with their primary care physicians. Wellness practitioners are perceived as better listeners, and as validating their symptoms and willing to find solutions.[42] There is abundant promotion from celebrities who have published popular books and magazine articles discussing hormone therapies.[39,43-46]

Among patients receiving hormone replacement therapies, only 14% of respondents knew that CHT was not FDA-approved.[47] Additionally, those patients view the fact that compounding of

CHT is not under FDA purview as part of the appeal. Furthermore, they view the customization as less dangerous even though opponents view this as one of the biggest risks of CHT.[42] Even when it is pointed out that a lack of safety data and product information does not mean CHT is safe, patients continue to believe CHTs are safer than FDA-approved hormone therapies.[48]

Hormone Customization. A major appeal of CHT is that the treatment is marketed as customized to each individual patient, compared to mass-produced FDA-approved pharmaceuticals. Most compounding pharmacies have the capability to prepare hormone therapies for various routes of administration including oral, sublingual, percutaneous, implant, injectable, or suppository. The pharmacokinetic properties are unknown for the majority of these compounded hormone preparations.

To achieve "individualized" hormone therapy for each patient, many CHT clinicians recommend saliva (and occasionally blood, serum, or urine) hormone testing. The implication is that the results of the saliva hormone test will aid in the determination of the type, dosage, and route of administration of hormone therapy prescribed for the patient.[34] However, actual hormone customization is very difficult to achieve because of hormone pharmacokinetics and physiologic variation. There is no evidence that hormonal concentrations in saliva are biologically meaningful, can be used to customize hormone therapies, or predict therapeutic effect.[37] Furthermore, saliva hormone assays do not have independent quality control programs, lack an accepted reference range[36] and the FDA has stated that no scientific evidence supports the use of saliva testing to titrate hormone dosages or monitor hormone levels.[35]

Commonly Prescribed CHTs. Two of the most commonly prescribed CHTs in the United States are bi-est (two estrogens) and tri-est (three estrogens).[21] Bi-est is a formulation of 20% 17β-estradiol and 80% estriol and tri-est is a formulation of 10% estrone, 10% 17β-estradiol, and 80% estriol (see Table 2). These percentages are calculated on a milligram-per-milligram basis and not estrogenic potency or concentration. Because these formulations are not FDA-approved, the actual milligram amounts can vary depending on the specific prescription that is written for each patient. No placebo-controlled clinical trials evaluating the safety or effectiveness of bi-est or tri-est preparations have been conducted. Also of note is that there is no form of estriol that is an FDA-approved product; however, estriol can be legally compounded because a USP monograph on estriol exists.

The Wiley Protocol is a commonly prescribed, patented[49] CHT that uses high amounts of estradiol and progesterone in a "cyclical and rhythmic pattern" as opposed to "static dosing" to mimic the hormone levels of a 20 year-old female. Since the development of the first protocol, additional protocols have been developed utilizing testosterone (for women), testosterone and DHEA (for men), thyroid hormones, and cortisol (see Table 2).[50] One study examined the standardization of Wiley Protocol CHT preparation concentrations from a selection of the compounding pharmacies approved to distribute the product. Despite the use of standardized instructions and compounding materials distributed with the Wiley Protocol products, not all pharmacies passed quality control measures for the CHTs tested.[51] This study did not evaluate the clinical effectiveness of the Wiley Protocol but made the claim that clinical studies are currently underway evaluating its effectiveness in pre- and post-menopausal women and in patients with cancer, osteoporosis, and multiple sclerosis. No evidence of such trials could be located in PubMed, clinicaltrials.gov, or the Cochrane Register of Controlled Clinical Trials.[51]

TX-001HR is solubilized 17β-estradiol and natural progesterone combined in a single gelatin capsule for the treatment of vasomotor symptoms in postmenopausal women.[52] It is currently being evaluated in a phase 3 placebo-controlled clinical trial (REPLENISH) for the treatment of

menopause-related moderate to severe vasomotor symptoms. If it is approved, TX-001HR would become the first FDA-approved hormone therapy that combines 17β-estradiol and natural progesterone in a single treatment similar to CHT.[52]

SPECIFIC CONDITIONS

Below are some disorders and conditions for which CHT and off-label therapies are commonly prescribed.

Aging

Hormone therapy for anti-aging was reviewed in CSAPH Report 5-A-09.[5] The decline of endogenous hormones is common with aging and the off-label use of hormone therapies to reverse the effects of aging is wide-spread. Large scale, randomized, placebo-controlled studies are still lacking to support the use of any hormone therapies for anti-aging purposes. Studies evaluating their long-term effects and risks when used off-label are also lacking.[53]

Female Sexual Dysfunction, Low Libido, and Sexual Desire

The most common sexual dysfunction in women is known as female sexual interest/arousal disorder (FSAD) in *DSM-5* (previously hypoactive sexual desire disorder (HSDD) in *DSM-IV-TR*).[54] Treatment options include non-pharmacologic approaches such as education, counseling, and psychotherapy. There is currently one FDA-approved product, flibanserin, for FSAD.[55] It is a non-hormone, mixed function serotonin agonist/antagonist. In addition to flibanserin, several hormone therapies have been used off-label to treat FSAD. Randomized controlled trials using testosterone for sexual dysfunction in women had mixed results and efficacy is unclear. Testosterone may benefit secondary outcomes such as well-being and vitality, but these are difficult to distinguish from the combined effects of testosterone and estrogen.[36] The American Congress of Obstetricians and Gynecologists reaffirmed their Practice Bulletin in 2015 summarizing clinical management guidelines for female sexual dysfunction. These guidelines support the use of transdermal testosterone as an effective short-term treatment of FSAD (≤ 6 mos), with little evidence to support longer use.[56] Other possible off-label hormone therapies for this condition include conjugated estrogens, the SERM ospemifene, and DHEA, but evidence to support their use is limited or inconsistent.[1,57,58] CHT has become an option because the limited number of FDA-approved products containing testosterone does not meet the needs of all women and the ability to customize a hormone therapy is readily available.[1] However, the inconsistencies in CHT dose and purity remain a concern.

Perimenopause/Menopause

Currently, numerous FDA-approved hormone replacement therapies are available to treat menopausal symptoms and to prevent osteoporosis including estrogen-only therapies, progestin-only therapies, combination estrogen/progestin therapies, and combination estrogen/SERM therapy.[59] These formulations vary in dosage, route of administration, and source (i.e., some are considered bioidentical, others are synthetic, and some are derived from animals). Non-oral estrogen formulations may be associated with reduced risk of venous thromboembolism and stroke.[36] Women who still have a uterus and are taking estrogen therapy for the relief of menopausal symptoms are advised to also take progestin therapy; evidence shows that progestins inhibit estrogen-induced endometrial stimulation and reduce the risk of endometrial hyperplasia and cancer.[60] Topical progesterone is not adequate for endometrial protection, and there are case reports of endometrial cancer associated with its use.[61-64]

Many women have turned to CHTs as a treatment for menopausal symptoms despite the limited data to support improved safety or efficacy with these therapies.[1] In one comparative pharmacokinetic study, plasma estradiol levels achieved with CHTs (commonly thought to be bioequivalent to FDA-approved products) were significantly lower than with the estradiol patch. Even higher doses of the compounded product resulted in lower levels of estradiol than the patch. Also of note were the variable patterns of estrogen absorption observed with some of the compounded formulations.[33] There is no evidence to support the use of CHTs with unpredictable pharmacokinetics in place of several FDA-approved and tested choices for hormone replacement therapy.

Male Hypogonadism and Infertility

Although the term hypogonadism commonly refers to low testosterone levels, by definition, it describes impaired spermatogenesis and low hormonal production. Testosterone supplementation in hypogonadic men further decreases sperm production and many of these patients seek alternative treatments for increasing testosterone in order to maintain (or restore) spermatogenesis and fertility. The goal in these patients is typically to inhibit the negative feedback on the hypothalamic-pituitary axis, promote endogenous testosterone production, and increase the production of the gonadotropins LH and FSH. The hormone therapies used for male hypogonadism and fertility include hCG injections, hCG and human menopausal gonadotropin (hMG) injections, the SERM clomiphene citrate, hCG injections with testosterone, or aromatase inhibitors such as anastrozole. All of these therapies are off-label except for the hCG injections.[65,66] Evidence is lacking to support the routine use of aromatase inhibitors for this condition.[65,67,68]

Gender Re-affirming

Several hormone therapies are used in transition therapy for transgender individuals. All of the treatments for gender re-affirming therapy are off-label. No randomized clinical trials have been conducted to determine the optimal dosages and treatment paradigms for gender re-affirming hormone therapies, but specific treatment guidelines have been recommended.[69-71]

The treatment goal for transgender men (female to male patients) is to induce virilization, including the cessation of menses and the development of male-pattern hair growth and physique.[69] Hormone therapies recommended in The Endocrine Society's Clinical Practice Guideline include testosterone cypionate, enanthante, and undecanoate injections, transdermal testosterone gels, and testosterone patches.[70] Other therapies being used include implantable testosterone pellets, medroxyprogesterone or lynestrenol (for cessation of menses), and finasteride (for treatment of male pattern baldness that may occur with testosterone treatments).[69,72]

The treatment goals for transgender females (male to female patients) are to induce breast formation, obtain a more female distribution of fat, and reduce male-pattern hair growth. To accomplish these goals, endogenous action of androgens must be stopped.[69] Hormone therapies recommended in The Endocrine Society's Clinical Practice Guideline include estradiol valerate or cypionate injections, transdermal estradiol patches, oral estradiol tablets, the antiandrogens spironolactone and cyproterone acetate (which is not an approved drug in the U.S.), and GnRH agonists (such as goserelin). Other therapies, not considered first-line, that are used include the antiandrogens flutamide, nilutamide, or bicaluatmide, and 5α-reductase inhibitors finasteride, and dulasteride.[69,72] Some clinics that provide services for transgender individuals recommend CHT preparations made by compounding pharmacies such as topical testosterone and estradiol creams for cost saving purposes, since many of the necessary drug therapies are not covered by

insurance.[72] There is no evidence that custom CHTs are safer or more effective than FDA-approved therapies.

Adverse effects are a concern with the use of any hormone therapy. However, serious short-term complications appear to be uncommon, or at least have yet to be reported in literature, for transition therapy; long-term effects have not been characterized. Policy H-460.907 encourages research into the long-term administration of hormone replacement therapy in transgender patients.

SPECIFIC HORMONE THERAPIES

Some FDA-approved drugs and individual CHTs are used as stand-alone therapies for several medical (and non-medical) conditions, and are prescribed by clinicians in various settings.

Testosterone

Testosterone is FDA-approved only for men who have low testosterone levels (≤ 300 ng/dL) in conjunction with an associated medical condition such as cancer chemotherapy or a genetic or endocrine disorder.[73] Replacement therapy for idiopathic low levels or low testosterone due to aging are off-label uses for the drug.[74] A significant proportion of men receiving testosterone therapies lack adequate testosterone serum measurements prior to receiving prescriptions.[74,75] The most common diagnoses for testosterone therapy include hypogonadism, fatigue, erectile dysfunction, and psychosexual dysfunction.[76] The FDA warns about a potential link between exogenous testosterone and the risk of heart attacks and strokes[77] and is requiring manufacturers of testosterone products to conduct a clinical trial to determine the effects of testosterone replacement therapy on cardiovascular outcomes.[74,78] The American Association of Clinical Endocrinologists and the American College of Endocrinology conclude in a position statement, that there is no convincing evidence of an increase or decrease in cardiovascular risk related to testosterone therapy and randomized controlled trials are needed.[79] If physicians choose to prescribe testosterone off-label, they should be well-informed about any potential risks, especially the cardiovascular outcomes.[75]

Androgen deficiency syndrome in women is a controversial concept. For women, testosterone has been used for the treatment of diminished libido, decreased well-being, dysphoric mood, and unexplained fatigue. However, there are no FDA-approved testosterone therapies for women.[36] Patients are increasingly utilizing compounding pharmacies for these therapies, at times in combination with estrogen and progestin. The use of CHT can result in excessive doses and adverse effects.[75]

Dehydroepiandrosterone, Dehydroepiandrosterone Sulphate, and Androstenedione

DHEA and dehydroepiandrosterone sulphate (DHEAS), the sulphate ester of DHEA, are converted to androstenedione and then to estrone or testosterone and further to estradiol or estriol. Studies have associated low DHEA and DHEAS with a myriad of conditions affecting both sexes including depression and reduced cognition, as well as decreased bone mineral density, arthritis, systemic lupus erythematosus and decreased libido and sexual dysfunction in women, and congestive heart failure and increased mortality in men. High levels have been associated with postmenopausal breast cancer and decreased sense of well-being in women.[36,58] Currently, DHEA and DHEAS are not FDA-approved; no pharmaceutical grade DHEA or DHEAS is available in the U.S.; and there are no indications for their use. Nonpharmaceutical grade DHEA and DHEAS are available in over-the-counter dietary supplement products and from compounding pharmacies, but DHEA and

DHEAS content can vary significantly.[36,42] Evidence that DHEA or DHEAS is beneficial for any condition is lacking.

Androstenedione was previously available over-the-counter as a prohormone in dietary supplements. The Anabolic Steroid Control Act of 2004 amended the Controlled Substances Act, classified androstenedione as a Schedule III controlled substance, and it was removed from the market.[80]

Human Chorionic Gonadotropin (hCG)

Human chorionic gonadotropin (hCG) is a hormone produced by the human placenta. Injectable hCG is an FDA-approved prescription hormone therapy for treating some forms of female infertility and male hypogonadism. First described in 1954, the "hCG diet" has reemerged as a fad where injectable and/or oral forms of hCG have been prescribed by physicians or distributed by commercial wellness clinics, and a modified version of the diet has been promoted on television.[81,82] Homeopathic hCG-containing products also are sold via the Internet and over-the-counter for weight loss.[83]

Patients on this diet are typically restricted to approximately 500 calories per day and receive hCG doses of approximately 200 international units daily. The hCG diet has been repeatedly refuted in studies and meta-analyses. Experts agree that it is inappropriate and that any weight loss is due to the severe caloric restriction.[2,84-86]

FDA-approved hCG preparations are injections while many of the purported hCG products being sold on the Internet are oral and nasal formulations. There is no evidence to support absorption of hCG via oral or nasal routes of administration. The FDA has received reports of serious adverse events associated with hCG use for weight loss, and there have been recent reports of adverse events and risks associated with the hCG diet in the literature.[2,85] The FDA requires the following warning statement on approved hCG products:

> HCG has not been demonstrated to be effective adjunctive therapy in the treatment of obesity. There is no substantial evidence that it increases weight loss beyond that resulting from caloric restriction, that it causes a more attractive or 'normal' distribution of fat, or that it decreases the hunger and discomfort associated with calorie-restricted diets.

hCG is also used as a doping agent by athletes to stimulate endogenous production of testosterone or to prevent testicular atrophy during prolonged administration of other anabolic substances. It also stimulates the endogenous production of epitestosterone which means that the ratio of testosterone to epitestosterone (T/E ratio), a common parameter in antidoping testing, stays within a normal range and increases the chances of evading detection.[87] There have been, however, analytical tests developed to directly detect doping with hCG.[88]

Human Growth Hormone (hGH)

Human growth hormone (hGH) is an FDA-approved hormone therapy available since the late 1980s for short stature caused by specific diseases or syndromes. In 2003, it was approved despite controversy for the treatment of idiopathic short stature in children. The American Association of Clinical Endocrinologists and the Pediatric Endocrine Society, in position statements[89,90] concluded that information on the safety and effectiveness of hGH for idiopathic short stature was limited and its use should be individualized and carefully monitored.

hGH also is commonly used off-label for its purported anti-aging effects and ability to increase performance, endurance, lean muscle mass, and exercise capacity. Although studies have evaluated hGH for performance enhancement, none of them have produced evidence to support use by athletes for this purpose.[91] There also is insufficient evidence to support the use of hGH as an anti-aging medicine.[53]

Thyroid Hormone

Thyroid hormone has been used for weight loss and depression in euthyroid individuals despite a lack of evidence for these indications.[92,93] In some cases, thyroid hormone has been found in commercial dietary supplements in doses equal to or greater than those used as replacement therapy in patients with hypothyroidism.[94] These products can cause serious adverse events, including thyrotoxicosis.

FDA-approved formulations of the endogenous thyroid hormones, levothyroxine (LT4) and liothyronine (LT3), are highly effective and safe therapies for the treatment of hypothyroidism. LT4 monotherapy is the recommended first-line hormone therapy. LT4 and LT3 can be administered in a combination therapy with a LT4/LT3 ratio of approximately 14:1 to mimic the ratio secreted by the thyroid gland.[36,95]

"Natural" desiccated, non-synthetic thyroid products of porcine or bovine origin also are available. Compounding pharmacies can use any of the available thyroid medications to create preparations containing various ratios or concentrations according to the prescription request.

CONCLUSIONS

Off-label use of hormone therapies that is not supported by scientific evidence and the use of unapproved hormone therapies (Figure 1, bold) have been the focus of this report. Patients receiving off-label therapies not backed by scientific evidence are more likely to experience adverse drug events.[13,15] Patients are relying on media information to educate themselves about their medical conditions–whether accurate or not.[96] Marketing veiled as educational material and promotion by celebrities has made CHT appear as panacea for many ailments.

Policy H-120.988 supports the clinical decision-making authority of a physician to use an FDA-approved product off-label when such use is based upon sound scientific evidence or sound medical opinion; however, to date the use of compounded hormone therapies is not supported by such evidence. Additionally, traditional compounding is recognized as a legal and important therapeutic when an FDA-approved drug product is not available or does not meet the clinical needs of individual patients. However, in the case of many of the uses for compounded hormones, comparable FDA-approved therapies are available. Further concern is prompted by the fact that compounding pharmacies are exempt from including specific and important safety information on labeled instructions. That lack of information may put patients at risk.

RECOMMENDATIONS

The Council on Science and Public Health recommends the following recommendations be adopted in lieu of Resolution 512-A-15 and the remainder of the report be filed:

1. That Policy D-120.969 be amended by addition and deletion to read as follows:

    D-120.969 ~~FDA Oversight of Bioidentical~~ Compounded Hormone ~~(BH)~~ Therapy Preparations

Our AMA ~~will~~: (1) recognizes the term “bioidentical hormone” as a marketing term not grounded in science; use of the term “compounded hormone therapy” is preferred; (~~1~~2) will urge that renewed attention be devoted to the ~~of the Food and Drug Administration (FDA) to conduct surveys for~~ purity and potency ~~dosage accuracy~~ of ~~all~~ compounded hormone therapy ~~"bioidentical hormone"~~ formulations; (~~2~~3) will urge continued attention to the ~~FDA to require mandatory~~ reporting ~~by drug manufacturers, including compounding pharmacies,~~ of adverse events related to the use of compounded hormone therapies ~~"bioidentical hormones"~~; ~~(3) urge the FDA to create a registry of adverse events related to the use of compounded "bioidentical hormone" preparations~~; (4) recommends that physicians and other prescribers fully inform patients of the potential side effects and risks of the use of compounded hormone replacement therapy; and (5) will request that when drug ingredients with black box warnings are used in compounded products, patients should be informed about the ~~FDA require the inclusion of uniform patient information, such as~~ warnings and precautions associated with the use of such drug ingredients~~, in packaging of compounded "bioidentical hormone" products; and (5) urge the FDA to prohibit the use of the term "bioidentical hormones" unless the preparation has been approved by the FDA. (Res. 706, I-06)~~ (Modify HOD Policy)

2. Our AMA supports that patients be informed that compounded products are not FDA-approved (New HOD Policy)

3. That our AMA urge the United States Pharmacopeia to re-examine the validity of the current estriol monograph. (Directive to Take Action)

Fiscal Note: Less than $500

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Table 1. Examples of FDA approved hormones.

Class	Class Examples	Examples of Indicated Uses (for Class)	Examples of Off-Label Use (for Class)
Steroidal Hormones	Estradiol Progesterone Testosterone	HRT Breast, endometrial, prostate cancer Male hypogonadism	Gender re-affirming therapy[a] FSAD Low Testosterone, ED, fatigue[a]
Aromatase Inhibitors	Letrozole Anastrozole	Breast cancer treatment; endocrine disorders	Sports doping[a]
GnRH Analogs	Leuprolide Goserelin	Prostate cancer	Gender re-affirming therapy[a]
SERMs	Raloxifene Fulvestrant	Chemoprevention of breast cancer; metastatic breast cancer	FSAD[a] Male hypogonadism
Antiandrogens	Flutamide Bicalutamide	Prostate cancer	Gender re-affirming therapy[a]
Somatostatin Analogues	Octreotide	Acromegaly, gigantism, thyrotropinoma, carcinoid syndrome, VIPomas	Sports doping[a]
Growth Hormone	hGH	hGH deficiency; cachexia from AIDS; SHOX deficiency; Turner syndrome; chronic renal failure; Prader-Willi syndrome; children of short stature because of intrauterine growth retardation; idiopathic short stature	Antiaging[a]; sports doping[a]
hGH secretagogues	Tesamorelin	HIV-associated lipodystrophy	Sports doping[a]; anti-aging[a]
GnRHs	LH FSH	Infertility therapy; reversal of anovulation	Sports doping[a]
GnRH antagonists	Ganirelix Abarelix	Infertility therapy; prostate cancer	
Human Chorionic Gonadotropin	hCG	Infertility therapy	Weight loss[a]
Thyroid Hormone	Levothyroxine Liothyronine	Hypothyroidism	Weight loss[a]; Sports doping[a]

HRT = hormone replacement therapy; ED = Erectile dysfunctin; FSAD = female sexual interest/arousal disorder; GnRH = gonadotropin releasing hormone; SERMs = selective estrogen receptor modulator; VIPomas = vasoactive intestinal peptide-secreting tumors; hGH = human growth hormone; SHOX = Short stature homeobox gene; LH = lutenizing hormone; FSH = Follicle stimulating hormone; HCG = Human chorionic gonadotropin

[a]Lacks scientific evidence

Table 2. Common Compounded Hormone Preparations[a]

Compounded Formulation	Ingredients	Dose	Route of Administration
Bi-est	20% estradiol 80% estriol[c]	1.25-2.5 mg/d[b]	Oral, transdermal, sublingual, or vaginal
Tri-est	10% estradiol 10% estrone 80% estriol[c]	1.25-2.5 mg/d[b]	Oral, transdermal, sublingual, or vaginal
Estriol	Estriol[c]	2.0-8.0 mg/d[b]	Oral, transdermal, sublingual, or vaginal
Progesterone	Progesterone	100-200 mg/d[b]	Oral, transdermal, sublingual, vaginal, or injectable
Wiley Protocol Original™[49]	Estradiol and Progesterone	Multi-phasic rhythmic dosing (amounts vary throughout a 28 day cycle)[49]	Topical
Wiley Protocol for Men™	DHEA and Testosterone	Multi-phasic rhythmic dosing	Topical
Wiley Protocol Thyroid™		Multi-phasic rhythmic dosing	Topical
Wiley Protocol Testosterone™ for Women	Testosterone	Multi-phasic rhythmic dosing	Topical
Wiley Protocol Sparc™ Therapy	Cortisol	Multi-phasic rhythmic dosing	Topical

[a]Data was compiled from several Internet sources and Files et al.[21]
[b]mg amounts can vary depending on the compounding pharmacy
[c]Not an FDA approved drug

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 901
(I-16)

Introduced by:	Virginia, American College of Radiology, Alabama, Georgia, Kentucky, District of Columbia, Mississippi, West Virginia, South Carolina
Subject:	Disclosure of Screening Test Risk and Benefits, Performed Without a Doctor's Order
Referred to:	Reference Committee K (Paul A. Friedrichs, MD, Chair)

Whereas, Numerous companies have launched health and wellness programs marketed directly to patients; and

Whereas, These programs often include health screenings and tests that are conducted outside of the normal physician-patient encounter; and

Whereas, Patients are often uninformed or misinformed and indeed may be confused or misled about the value of these tests; and

Whereas, Patients may often be enticed to pay for unnecessary services that offer little or no medical value and may cause harm in some cases; and

Whereas, These programs drive up medical costs for patients who do not need the tests or receive false positive results and then request additional testing from their physician; and

Whereas, There is currently very little oversight regulating how these entities conduct business and their impact on patients and overall healthcare costs; therefore be it

RESOLVED, That our American Medical Association advocate that if a screening test is being marketed as having a medical benefit and is offered and performed by a wellness program vendor without a specific order by the individual’s physician or other licensed provider, they must provide the patient with the test specific evidence based guidance that supports the utility of the test (Directive to Take Action); and be it further

RESOLVED, That our AMA advocate that if the procedure is not supported by specific evidence based guidance as a screening test for that patient and the patient still would like the screening test, the Wellness Program Vendor must offer the patient the opportunity to discuss the risks, benefits, and alternatives with a physician licensed to practice medicine in the state in which the test is being performed (New HOD Policy); and be it further

RESOLVED, That our AMA engage with federal regulators on whether vendors of health and wellness programs are in compliance with regulations applicable to marketing to patients in view of the impact of such programs on patients (Directive to Take Action); and be it further

RESOLVED, That, where possible, our AMA continue to work with state medical societies, interested medical specialty societies and state agencies to provide public education regarding appropriate use of vendor wellness programs. (Directive to Take Action)

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

Received: 09/14/16

RELEVANT AMA POLICY

9.6.8 Direct-to-Consumer Diagnostic Imaging Tests

Diagnostic imaging tests are sometimes marketed directly to consumers before they have been scientifically validated. This can help consumers prevent disease and promote health, but may also expose patients to risk without benefit, create conflicts of interests for physicians, and be abused for profits.

Individually, physicians who offer diagnostic imaging services that have not been scientifically validated and for which a patient has not been referred by another physician have an ethical obligation to:

(a) Perform a requested diagnostic imaging test only when, in the physician's judgment, the possible benefits of the service outweigh its risks.

(b) Recognizing that in agreeing to perform diagnostic imaging on request, the physician:

(i) establishes a patient-physician relationship, with all the ethical and professional obligations such relationship entails;
(ii) assumes responsibility for relevant clinical evaluation, including pre- and post-test counseling about the test, its results, and indicated follow-up. Physicians may choose to refer the patient for post-test counseling to an appropriate physician who accepts the patient.

(c) Obtain the patient's informed consent. In addition to the usual elements of informed consent, the physician should disclose:

(i) that the diagnostic imaging test has not been validated scientifically;
(ii) the inaccuracies inherent in the proposed test;
(iii) the possibility of inconclusive results;
(iv) the likelihood of false positive and false negative results;
(v) circumstances that may require further assessments and additional cost.

(d) Ensure that the patient's interests are primary and place patient welfare above physician interests when the physician has a financial interest in the imaging facility.

(e) Ensure that any advertisements for the services are truthful and not misleading or deceptive, in keeping with ethical guidelines and applicable law.

Collectively, physicians should:

(f) Advocate for the conduct of appropriate trials aimed at determining the predictive power of diagnostic imaging tests and their sensitivity and specificity for target populations.

(g) Develop suitable guidelines for specific diagnostic imaging tests when adequate scientific data become available.

AMA Principles of Medical Ethics: I,II,V,VIII

H-160.921 Store-Based Health Clinics
1. It is AMA policy that any individual, company, or other entity that establishes and/or operates store-based health clinics should adhere to the following principles: a. Store-based health clinics must have a well-defined and limited scope of clinical services, consistent with state scope of practice laws. b. Store-based health clinics must use standardized medical protocols derived

from evidence-based practice guidelines to insure patient safety and quality of care. c. Store-based health clinics must establish arrangements by which their health care practitioners have direct access to and supervision by MD/DOs, as consistent with state laws. d. Store-based health clinics must establish protocols for ensuring continuity of care with practicing physicians within the local community. e. Store-based health clinics must establish a referral system with physician practices or other facilities for appropriate treatment if the patient's conditions or symptoms are beyond the scope of services provided by the clinic. f. Store-based health clinics must clearly inform patients in advance of the qualifications of the health care practitioners who are providing care, as well as the limitation in the types of illnesses that can be diagnosed and treated. g. Store-based health clinics must establish appropriate sanitation and hygienic guidelines and facilities to insure the safety of patients. h. Store-based health clinics should be encouraged to use electronic health records as a means of communicating patient information and facilitating continuity of care. i. Store-based health clinics should encourage patients to establish care with a primary care physician to ensure continuity of care. 2. Our AMA will continue to monitor the effects of store-based health clinics on the health care marketplace, and report back to the House of Delegates. 3. Health insurers and other third-party payers should be prohibited from waiving and/or lowering co-payments only for patients that receive services at store-based health clinics. (CMS Rep. 7, A-06; CMS Rep. 5, A-07; Reaffirmed: CSAPH Rep. 4, I-14)

H-180.948 Opposition to Incentives for Care in Non-Physician Clinics
Our AMA will communicate with large insurance companies that providing incentives to patients toward non-physician clinics outside the primary care physician relationship can lead to decisions made on limited information, duplication of testing and procedures, ultimately higher health care costs and a reduction in the quality of health care for the patients of America. (Res. 708, A-11)

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 902
(I-16)

Introduced by: Medical Student Section

Subject: Removing Restrictions on Federal Public Health Crisis Research

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Instances in which government funding for scientific research on public health crises issues, such as tobacco, the HIV/AIDS epidemic, contraception, and gun violence, has been restricted for purposes of influencing political discourse are numerous;[1,2,3.4,5,6,7,8,9,10,11,12,13,14,15,16,17] and

Whereas, In each of these instances, the AMA has had to respond by drafting individual new policies, which delays the organization's official response to emerging public health challenges, potentially at critical points in the discourse (ex. H-75.998, H-120.947, H-145.976, H-145.984, H-495.978, H-495.988, H-460.982, H-460.930 etc.); and

Whereas, The National Science Foundation (NSF) continues to battle concerted efforts by Congress to dictate funding within the agency and selectively defund social science research;[18] and

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[1] Corless, I.B., and Lindeman, M.P. AIDS: Priciples, Practices, & Politics. Hemisphere Publishing Corporation. 1989. p496
[2] Johnson, JA. CRS Report for Congress: AIDS Funding for Federal Government Programs: FY1981-FY2009. Congressional Research Service. 2008. Available at http://fpc.state.gov/documents/organization/104280.pdf
[3] Plante, H. "Reagan's Legacy." San Francisco AIDS Foundation. 2011. Available at http://sfaf.org/hiv-info/hot-topics/from-the-experts/2011-02-reagans-legacy.html
[4] Francis, D.P. Commentary: Deadly AIDS policy failure by the highest levels of the US government: A personal look back 30 years later for lessons to respond better to future epidemics. J Public Health Policy. 2012;33(3):290-300
[5] Drucker E. Failed drug policies in the United States and the future of AIDS: a perfect storm. J Public Health Policy. 2012;33(3):309-16.
[6] Helms, J. S.AMDT.963 to H.R.3058: Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriations Act, 1988. 100th Congress of the United States of America. Available at https://www.congress.gov/amendment/100th-congress/senate-amendment/963
[7] Helms, J. S.AMDT.1992 to S.1220: AIDS Federal Policy Act of 1988. 100th Congress of the United States of America. Available at https://www.congress.gov/amendment/100th-congress/senate-amendment/1992
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[9] Hirschhorn, N. Evolution of the tobacco industry's positions on addiction to nicotine: a report prepared for the Tobacco Free Initiative, World Health Organization. WHO. 2008. Available at: http://apps.who.int/iris/bitstream/10665/43988/1/9789241597265_eng.pdf
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[12] Harris, G. Surgeon General Sees 4-Year Term as Compromised. New York Times. 2007 July 11.
[13] Carmona, R. The Trauma of Politics: a surgeon general's perspective. Am J Prev Med. 2013;45(6):742-744.
[14] Jamieson, C. Gun violence research: history of the federal funding freeze. Psychological Science Agenda. 2013 Feb. Available at http://www.apa.org/science/about/psa/2013/02/gun-violence.aspx
[15] Kellermann, A.L. and Rivara, F.P. Silencing the Science on Gun Research. JAMA. 2013;309(6):549-550.
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[17] Missouri State Senate. Bill 656 Modifies provisions relating to firearms and corporate security advisors. 2014. Available at http://www.senate.mo.gov/14info/pdf-bill/tat/SB656.pdf
[18] Mervis, J. House budget plan would rearrange and restrict federal research portfolio. Science. 2016. Available at http://www.sciencemag.org/news/2016/03/house-budget-plan-would-rearrange-and-restrict-federal-research-portfolio

Whereas, Multiple former US Surgeons General have confirmed under oath that they were pressured against addressing public health issues during their terms, had scientifically sound but politically-charged topics removed from their speeches, and had reports delayed until after they had left office to prevent the issues from entering public discussion;[19,20,21] and

Whereas, Medical practitioners and researchers are likely to encounter non-scientifically-founded opposition to federal funding for many topics in public health research and medical practice in the future; therefore be it

RESOLVED, That our American Medical Association recognize the importance of timely research and open discourse in combatting public health crises (New HOD Policy); and be it further

RESOLVED, That our AMA oppose efforts to restrict funding or suppress the findings of biomedical and public health research for the purpose of influencing political discourse. (Directive to Take Action)

Fiscal Note: Minimal - less than $1,000.

Received: 08/29/16

RELEVANT AMA POLICY

Availability of Professionals for Research H-460.982
(1) In its determination of personnel and training needs, major public and private research foundations, including the Institute of Medicine of the National Academy of Sciences, should consider the future research opportunities in the biomedical sciences as well as the marketplace demand for new researchers. (2) The number of physicians in research training programs should be increased by expanding research opportunities during medical school, through the use of short-term training grants and through the establishment of a cooperative network of research clerkships for students attending less research-intensive schools. Participation in research training programs should be increased by providing financial incentives for research centers, academic physicians, and medical students. (3) The current annual production of PhDs trained in the biomedical sciences should be maintained. (4) The numbers of nurses, dentists, and other health professionals in research training programs should be increased. (5) Members of the industrial community should increase their philanthropic financial support to the nation's biomedical research enterprise. Concentration of support on the training of young investigators should be a major thrust of increased funding. The pharmaceutical and medical device industries should increase substantially their intramural and extramural commitments to meeting postdoctoral training needs. A system of matching grants should be encouraged in which private industry would supplement the National Institutes of Health and the Alcohol, Drug Abuse and Mental Health Administration sponsored Career Development Awards, the National Research Service Awards and other sources of support. (6) Philanthropic foundations and voluntary health agencies should continue their work in the area of training and funding new investigators. Private foundations and other private organizations should increase their funding for clinical research faculty positions. (7) The National Institutes of Health and the Alcohol, Drug Abuse and Mental Health Administration should modify the renewal grant application system by lengthening the funding period for grants that have received high priority scores through peer review. (8) The support of clinical research faculty from the National Institutes of Health Biomedical Research

[19] Harris, G. Surgeon General Sees 4-Year Term as Compromised. New York Times. 2007 July 11.
[20] Carmona, R. The Trauma of Politics: a surgeon general's perspective. Am J Prev Med. 2013;45(6):742-744.
[21] Kennedy, E. Letter to Department of Health and Human Services Secretary Michael Leavitt. August 30, 2007. Available at http://www.help.senate.gov/imo/media/doc/2007_08_30.pdf

Support Grants (institutional grants) should be increased from its current one percent. (9) The academic medical center, which provides the multidisciplinary research environment for the basic and clinical research faculty, should be regarded as a vital medical resource and be assured adequate funding in recognition of the research costs incurred.
Citation: (BOT Rep. NN, A-87; Reaffirmed: Sunset Report, I-97; Reaffirmed: CSA Rep. 13, I-99; Reaffirmed: CME Rep. 4, I-08; Modified: Res. 305, A-12; Modified: CME Rep. 2, A-12)

A Declaration of Professional Responsibility H-140.900
Our AMA adopts the Declaration of Professional Responsibility
DECLARATION OF PROFESSIONAL RESPONSIBILITY: MEDICINE's SOCIAL CONTRACT WITH HUMANITY
Preamble
Never in the history of human civilization has the well being of each individual been so inextricably linked to that of every other. Plagues and pandemics respect no national borders in a world of global commerce and travel. Wars and acts of terrorism enlist innocents as combatants and mark civilians as targets. Advances in medical science and genetics, while promising to do great good, may also be harnessed as agents of evil. The unprecedented scope and immediacy of these universal challenges demand concerted action and response by all.
As physicians, we are bound in our response by a common heritage of caring for the sick and the suffering. Through the centuries, individual physicians have fulfilled this obligation by applying their skills and knowledge competently, selflessly and at times heroically. Today, our profession must reaffirm its historical commitment to combat natural and man-made assaults on the health and well being of humankind. Only by acting together across geographic and ideological divides can we overcome such powerful threats. Humanity is our patient.
Declaration
We, the members of the world community of physicians, solemnly commit ourselves to: (1) Respect human life and the dignity of every individual.
(2) Refrain from supporting or committing crimes against humanity and condemn any such acts.
(3) Treat the sick and injured with competence and compassion and without prejudice.
(4) Apply our knowledge and skills when needed, though doing so may put us at risk.
(5) Protect the privacy and confidentiality of those for whom we care and breach that confidence only when keeping it would seriously threaten their health and safety or that of others.
(6) Work freely with colleagues to discover, develop, and promote advances in medicine and public health that ameliorate suffering and contribute to human well-being.
(7) Educate the public and polity about present and future threats to the health of humanity.
(8) Advocate for social, economic, educational, and political changes that ameliorate suffering and contribute to human well-being.
(9) Teach and mentor those who follow us for they are the future of our caring profession.
We make these promises solemnly, freely, and upon our personal and professional honor.
Citation: (CEJA Rep. 5, I-01; Reaffirmation A-07)

Support for Public Health D-440.997
1. Our AMA House of Delegates request the Board of Trustees to include in their long range plans, goals, and strategic objectives to support the future of public health in order "to fulfill society's interest in assuring the conditions in which people can be healthy." This shall be accomplished by AMA representation of the needs of its members? patients in public health-related areas, the promotion of the necessary funding and promulgation of appropriate legislation which will bring this to pass.
2. Our AMA: (A) will work with Congress and the Administration to prevent further cuts in the funds dedicated under the Patient Protection and Affordable Care Act to preserve state and local public health functions and activities to prevent disease; (B) recognizes a crisis of inadequate public health funding, most intense at the local and state health jurisdiction levels,

and encourage all medical societies to work toward restoration of adequate local and state public health functions and resources; and (C) in concert with state and local medical societies, will continue to support the work of the Centers for Disease Control and Prevention, and the efforts of state and local health departments working to improve community health status, lower the risk of disease and protect the nation against epidemics and other catastrophes.
Citation: (Res. 409, A-99; Modified CLRPD Rep. 1, A-03; Reaffirmed: CSAPH Rep. 1, A-13; Appended: Res. 206, A-13; Reaffirmation A-15)

Health Court Principles H-435.951
AMA PRINCIPLES FOR HEALTH COURTS
- These principles are intended to serve as legislative guidelines for state medical associations and can be amended on an as needed basis.
- Health courts should be structured to create a fair and expeditious system for the resolution of medical liability claims - with a goal of resolving all claims within one year from the filing date.
- Health court judges should have specialized training in the delivery of medical care that qualifies them for serving on a health court.
- Negligence should be the minimum threshold for compensation to award damages.
- Health court judgments should not limit the recovery of economic damages, but non-economic damages should be based on a schedule.
- Qualified experts should be utilized to assist a health court in reaching a judgment.
- Health court pilot projects should have a sunset mechanism in place to ensure that participating physicians, hospitals, and insurers do not experience a drastic financial impact based on the new judicial format.
I. Health Court Structure
Jurisdiction
- Health courts should only be established at the state or local level.
- If a health court is established on a statewide or local basis, then it should be established within the state's trial court of general jurisdiction. Using the already established system would lessen the financial and administrative burden.
- To capture all medical liability cases, a health court that is established as a statewide or local program should have exclusive jurisdiction over any lawsuit (contract or tort) which involves an injury arising from the alleged negligence of a health care provider.
- Appeals should be handled within the health court system as well.
- The jurisdiction's discovery rules should be modified to be consistent with the timeline for resolving a case before a health court.
- Eventually, health courts should have expanded jurisdiction over the validity of advance directives, managed care independent review decisions, and other health law issues.
Trial Format
- One option for a health court is to have a bench trial before a specially trained judge.
- Another option is for a health court to have a jury trial under the authority of a specially trained judge.
- Health courts utilizing a jury should provide juries with a specialized educational session on the basics of medical care delivery and the distinction between negligence and adverse outcomes as well as appropriate guidelines on the purpose of awarding non-economic damages.
Administrative Option
- An administrative system (e.g. established by a hospital or insurer) should include many of the same requirements that the AMA supports for a health court established within a jurisdiction's standard judicial system.
- Health court pilot programs established through an insurer or hospital should have jurisdiction over patients who choose to opt in to the system.
II. Health Court Judges
Selection of Health Court Judges

- Health court judges should be appointed by a health court task force.
- The health court task force should be comprised of four physicians, four lawyers, and four laypersons.
- The majority and minority leaders in each of the state's legislative chambers should pick one member from each category (i.e., house majority leader would pick one physician, one lawyer, and one layperson for the task force. The house minority leader, the senate majority leader, and the senate minority leader would do the same.)
- The health court task force chairmanship should rotate on an annual basis.
- The majority and minority leaders in each legislative chamber should ask the state medical association for a list of health court task force candidates before making an appointment.
- Governmental entities should adjust the term of a health court judge based on the length of terms in their state for other special courts.

Training for Health Court Judges

- Health court judges should complete a judicial training program which provides an overview of medical and legal issues that often arise in medical liability cases.
- The curriculum should be established by the health court task force.
- The medical portion of the training program should include both in-classroom clinical training and an internship whereby the judge "shadows" a physician in different health care settings.
- States and other government bodies with an existing judicial training program should have this office administer the special training program for judges assigned to the health court.

III. Health Court Procedure

Threshold for Patient Compensation

- Negligence must be proven for a patient to recover in a health court proceeding.

Damages

- Economic damages should not be limited. Injured parties should be fully compensated for their economic losses.
- Non-economic damage awards should be established by a schedule. Consistent injuries should result in consistent non-economic damage awards based on the schedule. The health court task force should establish the schedule.
- One option for the schedule is to base it on type/severity of the injury. Another option is to have the schedule link non-economic damages awards to the amount of economic damages included in the judgment.
- Punitive damages, if allowed, should not be awarded unless the party alleging such damages meets the burden of producing clear and convincing evidence of oppression, fraud, malice, or the opposing party's intent to do harm.
- Health court judges should give jury instructions that provide clear delineations between the purposes of economic damages (for economic loss), non-economic damages (for pain and suffering), and punitive damages (for punishment to prevent future bad behavior). The instructions should also distinguish the different burden of proof needed for punitive damages.
- Future damages should be paid on a periodic basis as authorized by a health court.

Other Procedural Issues

- Health courts should be designed to resolve claims within one year from the filing date.
- Health courts should limit attorney's fees to maximize the award to the patient.
- Collateral payment sources should be admissible as evidence in a health court proceeding.
- Health court damage awards should include mandatory offsets for collateral payments for the same injury.
- An affidavit/certificate of merit should be a prerequisite to filing a medical liability case before a health court.
- A pre-trial screening panel should be utilized prior to the start of a trial before a health court.
- The statute of limitations in a health court should be two years from the act or omission.
- The period for suspending the application of state statutes of limitations for minors should be no more than six years after birth. The statute should include a three-year statute of repose from

manifestation as well for minors.
- In a health court proceeding, statements of sympathy, apology or regret made by a health care provider or their staff to an alleged victim or family of the victim relating to the discomfort, pain, suffering, injury, or death resulting from an unanticipated outcome of medical care should be inadmissible as evidence of an admission of liability or as evidence of an admission against interest.

IV. Medical Error Reporting

Medical Error Reporting

- The AMA continually strives to advance efforts to improve patient safety through educational activities and all other available means to discover and promote "best practices" in the delivery of health care services. Toward this end, a health court system should encourage the reporting of medical errors.
- The reporting system should be non-punitive, and it should be confidential and not subject to discovery in legal proceedings.
- The medical error reporting system should collaborate with the Patient Safety Organization (PSO) (which will be established pursuant to the federal Patient Safety and Quality Improvement Act of 2005) in its state or region to encourage the efficient reporting and analysis of the data.

V. Experts

Court Appointed Medical Experts

- The health court task force should maintain a list of qualified medical experts from which a judge may select to help clarify or interpret medical testimony given in legal proceedings.
- A health court judge should use and rely on the testimony of a court appointed medical expert.
- A court appointed medical expert must, at a minimum, meet the same qualifications as the medical experts who testify on behalf of a party in the presiding lawsuit.

Party Expert Witnesses

- Health courts should only allow medical expert witnesses to testify if the expert witness is licensed as a doctor of medicine or osteopathy.
- An expert witness should be trained and experienced in the same field as the defendant or has specialty expertise in the disease process or procedure performed in the case.
- An expert witness should be certified by a board recognized by the American Board of Medical Specialties or the American Osteopathic Association, or by a board with equivalent standards.
- An expert witness should, within five years of the date of the alleged occurrence or omission giving rise to the claim, be in active medical practice in the same field as the defendant, or have devoted a substantial portion of his time teaching at an accredited medical school, or in university-based research in relation to the medical care and type of treatment at issue.
- A person who testifies as an expert witness in a health court should be deemed to have a temporary license to practice medicine in the state for the purpose of providing such testimony and should be subject to the jurisdiction of the state medical board.

VI. Review and Sunset

Review

- The health court task force should be charged with reviewing the health court program on an ongoing basis. They should issue quarterly reports, open to the public, on claims filed, decisions rendered, claims paid, and claims resulting in no payment.

Sunset

- The health court task force may recommend to the governor and the legislative leaders that the health court system should be sunset if it is not financially viable or does not result in a more balanced and fair process.
- Given that the costs are unknown and could potentially be charged to physicians, a health court system should include appropriate funding from government or foundation sources to protect participants from significant financial losses based on their participation under a health

court format rather than the traditional medical liability system.
Citation: (BOT Rep. 15, A-07)

Abuse of Medicine for Political Purposes H-65.993
The AMA opposes the use of the practice of medicine to suppress political dissent wherever it may occur.
Citation: (Res. 127, A-83; Reaffirmed: CLRPD Rep. 1, I-93; Reaffirmed: CEJA Rep. 2, A-05; Reaffirmed: CEJA Rep. 5, A-15)

Government Interference in Patient Counseling H-373.995
1. Our AMA vigorously and actively defends the physician-patient-family relationship and actively opposes state and/or federal efforts to interfere in the content of communication in clinical care delivery between clinicians and patients.
2. Our AMA strongly condemns any interference by government or other third parties that compromise a physician's ability to use his or her medical judgment as to the information or treatment that is in the best interest of their patients.
3. Our AMA supports litigation that may be necessary to block the implementation of newly enacted state and/or federal laws that restrict the privacy of physician-patient-family relationships and/or that violate the First Amendment rights of physicians in their practice of the art and science of medicine.
4. Our AMA opposes any government regulation or legislative action on the content of the individual clinical encounter between a patient and physician without a compelling and evidence-based benefit to the patient, a substantial public health justification, or both.
5. Our AMA will educate lawmakers and industry experts on the following principles endorsed by the American College of Physicians which should be considered when creating new health care policy that may impact the patient-physician relationship or what occurs during the patient-physician encounter:
A. Is the content and information or care consistent with the best available medical evidence on clinical effectiveness and appropriateness and professional standards of care?
B. Is the proposed law or regulation necessary to achieve public health objectives that directly affect the health of the individual patient, as well as population health, as supported by scientific evidence, and if so, are there no other reasonable ways to achieve the same objectives'
C. Could the presumed basis for a governmental role be better addressed through advisory clinical guidelines developed by professional societies'
D. Does the content and information or care allow for flexibility based on individual patient circumstances and on the most appropriate time, setting and means of delivering such information or care?
E. Is the proposed law or regulation required to achieve a public policy goal ? such as protecting public health or encouraging access to needed medical care ? without preventing physicians from addressing the healthcare needs of individual patients during specific clinical encounters based on the patient's own circumstances, and with minimal interference to patient-physician relationships'
F. Does the content and information to be provided facilitate shared decision-making between patients and their physicians, based on the best medical evidence, the physician's knowledge and clinical judgment, and patient values (beliefs and preferences), or would it undermine shared decision-making by specifying content that is forced upon patients and physicians without regard to the best medical evidence, the physician's clinical judgment and the patient's wishes'
G. Is there a process for appeal to accommodate individual patients' circumstances'
6. Our AMA strongly opposes any attempt by local, state, or federal government to interfere with a physician's right to free speech as a means to improve the health and wellness of patients across the United States.

Citation: (Res. 201, A-11; Reaffirmation: I-12; Appended: Res. 717, A-13; Reaffirmed in lieu of Res. 5, I-13; Appended: Res. 234, A-15)

Council on Scientific Affairs Conference: "Clinical Research: Assessing the Future in a Changing Environment" H-460.930
(1) Given the profound importance of clinical research as the transition between basic science discoveries and standard medical practice of the future, the AMA will a) be the principal advocate for clinical research; b) promote the importance of this science and of well-trained researchers to conduct it; and c) facilitate communication among different organizations and groups, including managed care organizations, that are essential for broad-based support of clinical research.
(2) Our AMA continues to advocate vigorously for a stable, continuing base of funding and support for all aspects of clinical research within the research programs of all relevant federal agencies, including the National Institutes of Health, the Agency for Health Care Policy and Research, the Centers for Medicare & Medicaid Services, the Department of Veterans Affairs and the Department of Defense.
(3) Traditional sources of financial support for clinical research and for academic health centers are diminishing significantly in the evolving health care environment of the 1990s. All endeavors that depend upon development of new knowledge and technologies for their continued success recognize the need to devote a proportion of revenue for research and development. The AMA believes it is an inherent obligation of capitation programs and managed care organizations to invest in broad-based clinical research (as well as in health care delivery and outcomes research) to assure continued transition of new developments from the research bench to medical practice. The AMA strongly encourages these groups to make significant financial contributions to support such research.
(4) Our AMA continues to encourage medical schools a) to support clinical research; b) to train and develop clinical researchers; c) to recognize the contribution of clinical researchers to academic medicine; d) to assure the highest quality of clinical research; and e) to explore innovative ways in which clinical researchers in academic health centers can actively involve practicing physicians in clinical research.
(5) Our AMA believes that one obligation of organized medicine and physicians is to support clinical research, as the basis of advances in medicine. To facilitate this, the AMA should explore ways physicians and physician organizations can encourage and assist in educating the public about the importance of clinical research such as through educational materials and programs for children and schools.
(6) Our AMA encourages and supports development of community and practice-based clinical research networks.
Citation: (CSA Rep. 2, I-96; Reaffirmed: CSA Rep. 13, I-99; Reaffirmation A-00; Reaffirmed: CME Rep. 4, I-08)

HIV/AIDS Research H-20.905
(1) Information on the HIV Epidemic
Our AMA:
a) Vigorously supports the need for adequate government funding for research, both basic and clinical, in relation to HIV/AIDS epidemic. Research on HIV should be prioritized, funded, and implemented in an expeditious manner consistent with appropriate scientific rigor, and the results of research should form the basis for future programs of prevention and treatment;
b) Requests the Secretary of the Department of Health and Human Services to make available information on HIV expenditures, services, programs, projects, and research of agencies under his/her jurisdiction and, to the extent possible, of all other federal agencies for purposes of study, analysis, and comment. The compilation should be sufficiently detailed that the nature of the expenditures can be readily determined;

c) Supports ongoing efforts of the Centers for Disease Control and Prevention to periodically monitor the incidence and prevalence of HIV infection in the U.S. population as a whole, as well as in groups of special interest such as adolescents and minorities;
d) Encourages federal and state agencies, in cooperation with medical societies and other interested organizations, to study and report means to increase access to quality care for women and children who are HIV-infected;
e) Encourages further research to assess the risk of HIV transmission in specific surgical techniques and how any such risk may be decreased;
f) Supports exploring ways to increase public awareness of the benefits of animal studies in HIV/AIDS research.
(2) Lookback Studies
Our AMA encourages the cooperation of the medical community and patients in scientifically sound look-back studies designed to further define the risk of HIV transmission from an infected physician to a patient and to determine if there is any scientific basis for the development of a list of exposure-prone procedures. A panel of experts should be assembled to translate available look-back information into a meaningful statement on the estimated true risk of transmission and the need, if any, for additional studies.
(3) Community Research Initiatives
Our AMA supports the objectives of community-based research to reduce HIV disease and encourages periodic review of progress toward these objectives.
Citation: (CSA Rep. 4, A-03; Reaffirmed: Res. 725, I-03; Reaffirmed: Res. 907, I-08)

HIV/AIDS Education and Training H-20.904
(1) Public Information and Awareness Campaigns
Our AMA:
a) Supports development and implementation of HIV/AIDS health education programs in the United States by encouraging federal and state governments through policy statements and recommendations to take a stronger leadership role in ensuring interagency cooperation, private sector involvement, and the dispensing of funds based on real and measurable needs. This includes development and implementation of language- and culture-specific education programs and materials to inform minorities of risk behaviors associated with HIV infection.
b) Our AMA urges the communications industry, government officials, and the health care communities together to design and direct efforts for more effective and better targeted public awareness and information programs about HIV disease prevention through various public media, especially for those persons at increased risk of HIV infection;
c) Encourages education of patients and the public about the limited risks of iatrogenic HIV transmission. Such education should include information about the route of transmission, the effectiveness of universal precautions, and the efforts of organized medicine to ensure that patient risk remains immeasurably small. This program should include public and health care worker education as appropriate and methods to manage patient concern about HIV transmission in medical settings. Statements on HIV disease, including efficacy of experimental therapies, should be based only on current scientific and medical studies;
d) Encourages and will assist physicians in providing accurate and current information on the prevention and treatment of HIV infection for their patients and communities;
e) Encourages religious organizations and social service organizations to implement HIV/AIDS education programs for those they serve.
(2) HIV/AIDS Education in Schools
Our AMA:
a) Endorses the education of elementary, secondary, and college students regarding basic knowledge of HIV infection, modes of transmission, and recommended risk reduction strategies;

b) Supports efforts to obtain adequate funding from local, state, and national sources for the development and implementation of HIV educational programs as part of comprehensive health education in the schools.
(3) Education and Training Initiatives for Practicing Physicians and Other Health Care Workers Our AMA supports continued efforts to work with other medical organizations, public health officials, universities, and others to foster the development and/or enhancement of programs to provide comprehensive information and training for primary care physicians, other front-line health workers (specifically including those in addiction treatment and community health centers and correctional facilities), and auxiliaries focusing on basic knowledge of HIV infection, modes of transmission, and recommended risk reduction strategies.
Citation: CSA Rep. 4, A-03; Appended: Res. 516, A-06; Modified: CSAPH 01, A-16

Proper FDA Authority to Regulate Tobacco H-495.978
Our AMA will continue to support federal legislation that would give the Food and Drug Administration strong regulatory authority over tobacco products.
Citation: (Res. 440, A-07; Reaffirmed: BOT Rep. 8, A-08; Reaffirmation A-15)

FDA Regulation of Tobacco Products H-495.988
1. Our AMA: (A) reaffirms its position that all tobacco products (including but not limited to, cigarettes, smokeless tobacco, chewing tobacco, and hookah/water pipe tobacco) are harmful to health, and that there is no such thing as a safe cigarette; (B) asserts that tobacco is a raw form of the drug nicotine and that tobacco products are delivery devices for an addictive substance; (C) reaffirms its position that the Food and Drug Administration (FDA) does have, and should continue to have, authority to regulate tobacco products, including their manufacture, sale, distribution, and marketing; (D) strongly supports the substance of the August 1996 FDA regulations intended to reduce use of tobacco by children and adolescents as sound public health policy and opposes any federal legislative proposal that would weaken the proposed FDA regulations; (E) urges Congress to pass legislation to phase in the production of less hazardous and less toxic tobacco, and to authorize the FDA have broad-based powers to regulate tobacco products; (F) encourages the FDA and other appropriate agencies to conduct or fund research on how tobacco products might be modified to facilitate cessation of use, including elimination of nicotine and elimination of additives (e.g., ammonia) that enhance addictiveness; and (G) strongly opposes legislation which would undermine the FDA's authority to regulate tobacco products and encourages state medical associations to contact their state delegations to oppose legislation which would undermine the FDA's authority to regulate tobacco products.
2. Our AMA: (A) supports the US Food and Drug Administration (FDA) as it takes an important first step in establishing basic regulations of all tobacco products; (B) strongly opposes any FDA rule that exempts any tobacco or nicotine-containing product, including all cigars, from FDA regulation; and (C) will join with physician and public health organizations in submitting comments on FDA proposed rule to regulate all tobacco products.
Citation: (CSA Rep. 3, A-04; Reaffirmed: BOT Rep. 8, A-08; Appended: Res. 234, A-12; Reaffirmation A-13; Modified: Res. 402, A-13; Modified: Speakers Rep., A-14; Appended: Res. 420, A-14; Reaffirmation A-15)

Use of Tobacco Industry-Sponsored Cessation and Prevention Materials D-490.977
Our AMA urges (1) that when physicians and health organizations provide information or materials on tobacco to patients and consumers, such information and materials should come from credible and trustworthy sources with expertise in tobacco control; and (2) physicians and health organizations to avoid providing to patients and consumers information or materials on tobacco that come from tobacco companies or other groups aligned with the tobacco industry.
Citation: (Res. 411, A-07)

Family Planning Clinic Funds H-75.992
Our AMA supports the concept of adequate funding for family planning programs.
Res. 102, A-90 Reaffirmed: Sunset Report, I-00 Reaffirmed: CSAPH Rep. 1, A-10 Reaffirmed: Res. 227, A-11

Media Advertising and Public Service Announcements Regarding Contraception and Safe Sexual Practices H-75.996
The AMA urges the print and broadcast media to permit advertising and public service announcements regarding contraception and safe sexual practices as a matter of public health awareness.
Citation: Res. 114, I-86; Reaffirmed: Sunset Report, I-96; Reaffirmed: CSAPH Rep. 3, A-06; Reaffirmed: CSAPH Rep. 01, A-16

Opposition to HHS Regulations on Contraceptive Services for Minors H-75.998
(1) Our AMA continues to oppose regulations that require parental notification when prescription contraceptives are provided to minors through federally funded programs, since they create a breach of confidentiality in the physician-patient relationship. (2) The Association encourages physicians to provide comparable services on a confidential basis where legally permissible.
Sub. Res. 65, I-82 Reaffirmed: CLRPD Rep. A, I-92 Reaffirmed: BOT Rep. 28, A-03 Reaffirmed: Res. 825, I-04 Reaffirmed: CMS Rep. 1, A-14

Injury Prevention H-10.982
Our AMA (1) supports the CDC's efforts to (a) conduct research, (b) develop a national program of surveillance and focused interventions to prevent injuries, and (c) evaluate the effectiveness of interventions, implementation strategies, and injury prevention programs; (2) supports a Public Health Service public information campaign to inform the public and its policymakers of the injury problem and the potential for effective intervention; (3) supports the development of a National Center for Injury Control at the CDC; and (4) encourages state and local medical societies to support, in conjunction with state and local health departments, efforts to make injury control a priority, and advise the leadership of the United States Congress of this unqualified support; and the AMA remains open to working with all interested parties in efforts to deal with and lessen the effects of violence in our society.
Citation: (Res. 410, A-92; Reaffirmed by BOT Rep. 19 - I-94; Reaffirmed by BOT Rep. 34, A-95; Modified and Reaffirmed by BOT Rep. 52, I-95; Reaffirmed: CSA Rep. 8, A-05; Reaffirmed: CSAPH Rep. 3, A-15)

Firearms as a Public Health Problem in the United States - Injuries and Death H-145.997
Our AMA recognizes that uncontrolled ownership and use of firearms, especially handguns, is a serious threat to the public's health inasmuch as the weapons are one of the main causes of intentional and unintentional injuries and deaths. Therefore, the AMA: (1) encourages and endorses the development and presentation of safety education programs that will engender more responsible use and storage of firearms;
(2) urges that government agencies, the CDC in particular, enlarge their efforts in the study of firearm-related injuries and in the development of ways and means of reducing such injuries and deaths;
(3) urges Congress to enact needed legislation to regulate more effectively the importation and interstate traffic of all handguns;
(4) urges the Congress to support recent legislative efforts to ban the manufacture and importation of nonmetallic, not readily detectable weapons, which also resemble toy guns; (5) encourages the improvement or modification of firearms so as to make them as safe as humanly possible;

(6) encourages nongovernmental organizations to develop and test new, less hazardous designs for firearms;
(7) urges that a significant portion of any funds recovered from firearms manufacturers and dealers through legal proceedings be used for gun safety education and gun-violence prevention; and
(8) strongly urges US legislators to fund further research into the epidemiology of risks related to gun violence on a national level.
Citation: (CSA Rep. A, I-87; Reaffirmed: BOT Rep. I-93-50; Appended: Res. 403, I-99; Reaffirmation A-07; Reaffirmation A-13; Appended: Res. 921, I-13)

Firearm Safety Counseling in Physician-Led Health Care Teams H-145.976
Our AMA: (1) will oppose any restrictions on physicians' and other members of the physician-led health care team's ability to inquire and talk about firearm safety issues and risks with their patients; (2) will oppose any law restricting physicians' and other members of the physician-led health care team's discussions with patients and their families about firearms as an intrusion into medical privacy; and (3) encourages dissemination of educational materials related to firearm safety to be used in undergraduate medical education.
Citation: (Res. 219, I-11; Reaffirmation A-13; Modified: Res. 903, I-13)

Data on Firearm Deaths and Injuries H-145.984
The AMA supports legislation or regulatory action that: (1) requires questions in the National Health Interview Survey about firearm related injury as was done prior to 1972; (2) mandates that the Centers for Disease Control and Prevention develop a national firearm fatality reporting system; and (3) expands activities to begin tracking by the National Electronic Injury Surveillance System.
Citation: (Res. 811, I-94; Reaffirmed: CSA Rep. 6, A-04; Reaffirmation A-13)

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 903
(I-16)

Introduced by: Medical Student Section

Subject: Prevention of Newborn Falls in Hospitals

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, The few published statistics of in-hospital fall rates suggest that 600 to 1,600 newborn falls occur annually;[1] and

Whereas, Newborn falls most commonly occur when a newborn falls out of the arms of a parent who fell asleep while holding him or her;[2] and

Whereas, Situations leading to newborn falls are preventable;[2] and

Whereas, Newborn falls are likely underreported due to parental guilt or fear and lack of no-blame culture, risk factor awareness amongst healthcare providers, parental education on seriousness of the condition, and risk management;[3] and

Whereas, Newborn injuries resulting from falls can range from no obvious injuries to skull fractures and severe head injuries;[3] and

Whereas, Fall prevention programs implemented across the U.S. have included increased monitoring of mothers and newborns, patient safety contracts, equipment safety protocols, post-fall procedures, and education of healthcare providers and parents;[4,5] therefore be it

RESOLVED, That our American Medical Association support implementation of newborn fall prevention plans and post-fall procedures through clinically proven, high-quality, and cost-effective approaches. (New HOD Policy)

Fiscal Note: Minimal - less than $1,000.

Received: 08/29/16

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[1] Mattleson, T, Henderson-Williams A, Nelson J. Preventing in-hospital newborn falls: a literature review. MCN Am J Matern Child Nurs 2013 Nov-Dec;38(6):359-66.
[2] Gaffey AD. Fall prevention in our healthiest patients: Assessing risk and preventing injury for moms and babies. J Healthc Risk Manag. 2015;34(3):37-40. doi: 10.1002/jhrm.21163 [doi].
[3] Teuten P, Bolger S, Paul SP. Need for improved recognition of in-hospital newborn falls. Aust Nurs Midwifery J. 2015;23(1):28-31.
[4] Helsley L, McDonald JV, Stewart VT. Addressing in-hospital "falls" of newborn infants. Jt Comm J Qual Patient Saf. 2010;36(7):327-333.
[5] Ainsworth RM, Maetzold L, Mog C, Summerlin-Long S. Protecting our littlest patients: A newborn falls prevention strategy. Journal of Obstetric, Gynecologic, & Neonatal Nursing. 2013;42:S76.

RELEVANT AMA POLICY

Treatment Decisions for Seriously Ill Newborns H-245.984
Physicians should play an active role in advocating for changes in the Child Abuse Prevention Act as well as state laws that require physicians to violate the ethical guidelines stated in E-2.215 (Treatment Decisions for Seriously Ill Newborns).
Citation: (CEJA Rep. I, A-92; Modified and Reaffirmed: CEJA Rep. 1, A-03; Reaffirmed: CEJA Rep. 4, A-13)

Physician-Hospital Relationships H-225.997
1. Physicians and hospital authorities have a mutual responsibility to cooperate and work together in effectively maintaining patient care.
2. Although final authority for granting, denial, termination, or limitation of hospital staff privileges is vested in the governing board of the hospital, it is expected that the judgment of the organized medical staff will be relied upon in the evaluation of the professional competence, education, experience, and qualifications of all physicians, including the hospital-associated medical specialists.
3. Physicians having contractual or financial arrangements with hospitals should be members of the organized medical staff and responsible to it. They should be subject to the bylaws of the medical staff and conduct their professional activities according to the standards, rules and regulations adopted by it.
4. Hospital-associated medical specialists, as well as all members of the medical staff, are expected to contribute a reasonable amount of their time, without compensation, to participation in hospital staff committee activities for the purpose of improving patient care; providing continuing education for the benefit of the medical staff; and assisting in the training of physicians and allied health personnel. Physicians who provide teaching or other services in excess of those ordinarily expected of members of the attending staff are entitled to reasonable compensation therefore.
5. Hospitals are entitled to recover their reimbursable expenses, determined in accordance with recognized standard hospital cost-accounting principles, from the operation of departments in which hospital-associated medical specialists perform personally or supervise or direct the services provided patients.
6. The form of the contractual or financial arrangement between hospitals and hospital-associated physicians depends upon the facts and practical considerations existing in each situation. No single form of contractual or financial arrangement can be feasible for all of the arrangements that may be entered into between hospitals and hospital-associated physicians. The essential consideration is that whatever the arrangement, it is fair to the parties, promotes the interests of patients and supports the provision of high quality care and services. Arrangements should be avoided that are unrelated to the professional services, or time expended or to the skill, education, and professional expertise of the physician, and that result in disproportionate earnings.
7. Hospital-associated medical specialists are entitled to charge (a) for the services they provide in accordance with the same standards of equity and fairness that apply to the charges of other physicians, and (b) for supervision of personnel under their direction.
8. There should be no duplication of charges to the patient where services are not actually provided by both the physician and the hospital. Each party should receive the compensation reasonably and equitably owing for services for which each is primarily responsible. Only one of the parties is entitled to the reasonable costs of assuring the accuracy and reliability of the procedures performed in such departments.
9. Both hospitals and hospital-associated medical specialists have an obligation to serve the needs of patients and the medical staff. The primary responsibility for determining the services needed adequately to care for the needs of individual patients should be that of the attending physician subject to review by his peers.
Citation: (BOT Rep. R, A-77; Reaffirmed: CLRPD Rep. C, A-89; Reaffirmed: Sunset Report, A-00; Reaffirmation A-05; Reaffirmed: CMS Rep. 1, A-15)

Standardization of Newborn Screening Programs H-245.973
Our AMA: (1) recognizes the need for uniform minimum newborn screening (NBS) recommendations; and (2) encourages continued research and discussions on the potential benefits and harms of NBS for certain diseases.
Citation: (CSAPH Rep. 9, A-06; Reaffirmed in lieu of Res. 502, A-09)

Standardization of Newborn Screening Programs D-245.996
Our AMA will monitor developments in the effort to implement a uniform minimum newborn screening panel, including status of the pending Health Resources and Services Administration report entitled *Newborn Screening: Toward a Uniform Screening Panel and System*, and the ongoing expansion of required tests by each state.
Citation: CSAPH Rep. 9, A-06; Rescinded: CSAPH Rep. 01, A-16

Medical Care for Indigent and Culturally Displaced Obstetrical Patients and Their Newborns H-420.995
Our AMA (1) reaffirms its long-standing position regarding the major importance of high-quality obstetrical and newborn care by qualified obstetricians, family physicians, and pediatricians and the need to make such care available to all women and newborns in the United States; (2) favors educating the public to the long-term benefit of antepartum care and hospital birth, as well as the hazards of inadequate care; and (3) favors continuing discussion of means for improving maternal and child health services for the medically indigent and the culturally displaced.
Citation: (CSA Rep. C, A-80; Reaffirmed: CLRPD Rep. B, I-90; Reaffirmed: Sunset Report, I-00; Reaffirmed: CSAPH Rep. 1, A-10)

Centralized Community and Regionalized Perinatal Intensive Care H-245.999
Our AMA (1) urges development on the local level of centralized community or regionalized newborn intensive care units; and (2) encourages (a) training programs necessary to staff regional facilities, (b) allocation of facilities and equipment within communities and development of guidelines, (c) continuing research into etiologic factors responsible for the high-risk infant, and (d) continuing evaluation.
Citation: (BOT Rep. J, A-71; Reaffirmed: CLRPD Rep. C, A-89; Reaffirmed: Sunset Report, A-00; Reaffirmed: CSAPH Rep. 1, A-10)

Sudden Infant Death Syndrome H-245.977
1. The AMA encourages the education of parents, physicians and all other health care professionals involved in newborn care regarding methods to eliminate known Sudden Infant Death Syndrome (SIDS) risk factors, such as prone sleeping, soft bedding and parental smoking.
2. Our AMA will advocate for the appropriate labeling of all infant sleep products, not in compliance with the Safe Infant Sleeping Environment Guidelines, as adopted by the AAP, to adequately warn consumers of the risks of product use and prevent sudden unexpected infant death.
3. Our AMA encourages consumers to avoid commercial devices marketed to reduce the risk of SIDS, including: wedges, positioners, special mattresses, and special sleep surfaces.
4. Our AMA encourages media and manufacturers to follow safe-sleep guidelines in their messaging and advertising.
Citation: Res. 414, A-95; Reaffirmed: CSA Rep. 8, A-05; Reaffirmed: CSAPH Rep. 1, A-15; Appended: Res. 429, A-16

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 904
(I-16)

Introduced by: Medical Student Section

Subject: Improving Mental Health at Colleges and Universities for Undergraduates

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, According to the Association for University and College Counseling Directors (2014), 94% of surveyed college counseling center directors said that the number of students with significant psychological problems is a growing concern;[1] and

Whereas, According to the National College Health Assessment II in 2013, one-third of 20.2 million college students had difficulty functioning due to depression, 50% or more struggled with anxiety, 20% had seriously considered suicide in their lifetime and 5.8% said they had attempted suicide;[2] and

Whereas, Barriers to seeking counseling include skepticism about the efficacy of counseling services, a lack of time for counseling services, lack of money for services and worry about others' perceptions of one's participation in therapy;[3] and

Whereas, Identifying and presenting the benefits of counseling services in improving mental health and social outcomes has been shown to be critical in culturing positive beliefs about the efficacy of mental health services;[4,5] and

Whereas, Early intervention programs in California public and community colleges increased the percentage of students receiving help by 10%;[6] and

Whereas, California and Virginia have introduced legislation to expand the scope of services to students by including local community health centers as resources for care and by increasing grant funds for mental health resources in public and community colleges in the state;[7,8] and

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[1] National Survey of College Counseling Centers. 2014. The International Association of Counseling Services, Inc.
[2] American College Health Association. 2013. American College Health Association-National College Health Assessment II: Reference Group Executive Summary Spring 2013. Hanover, MD: American College Health Association.
[3] Mowbray C. T., Mandiberg J. M., Stein C. H., Kopels S., Curlin C., Megivern D., Lett R. Campus mental health services: Recommendations for change. American Journal of Orthopsychiatry.2006;(2):226–237.
[4] Vidourek RA, King KA, Nabors LA, Merianos AL. Students' benefits and barriers to mental health help-seeking. Health Psychology and Behavioral Medicine. 2014;2(1):1009-1022. doi:10.1080/21642850.2014.963586.
[5] Hoge, C. W., Auchterlonie, J. L., & Milliken, C. S. (2006). Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan. JAMA, 295(9), 1023-1032.
[6] Gruttadaro D., and Crudo, D. College Students Speak: A Survey Report on Mental Health. 2012. National Alliance on Mental Health.
[7] AB-2017, as amended, McCarty (2016). College Mental Health Services Program. Available at: http://www.leginfo.ca.gov/pub/15-16/bill/asm/ab_2001-2050/ab_2017_cfa_20160620_134234_sen_comm.html
[8] HB-206 (2015). A bill to amend and reenact § 23-9.2:8 of the Code of Virginia and to amend the Code of Virginia by adding in Chapter 1 of Title 23 a section numbered 23-9.2:13, relating to four-year public institutions of higher education; mental health resources, online module, and online assessment. Available at: http://lis.virginia.gov/cgi-bin/legp604.exe?141+ful+HB206+pdf.

Whereas, Current AMA policy recognizes the importance of mental health to students in pre-K-12 (D-345.994), medical students (in an opt-out program), residents, and physicians (H-345.973), mentally-ill displaced persons (H-160.978), and diverse at-risk communities (H-345.974); therefore be it

RESOLVED, That our American Medical Association support accessibility and de-stigmatization as strategies in mental health measures implemented by colleges and universities, in order to improve the provision of care and increase its use by those in need (New HOD Policy); and be it further

RESOLVED, That our AMA support colleges and universities in publicizing the importance of mental health resources, with an emphasis on the availability and efficacy of such resources (New HOD Policy); and be it further

RESOLVED, That our AMA support collaborations of university mental health specialists and local health centers in order to provide a larger pool of resources, such that any student be able to access care in a timely and affordable manner. (New HOD Policy)

Fiscal Note: Minimal - less than $1,000.

Received: 08/29/16

RELEVANT AMA POLICY

Increasing Detection of Mental Illness and Encouraging Education D-345.994
1. Our AMA will work with: (A) mental health organizations, state, specialty, and local medical societies and public health groups to encourage patients to discuss mental health concerns with their physicians; and (B) the Department of Education and state education boards and encourage them to adopt basic mental health education designed specifically for preschool through high school students, as well as for their parents, caregivers and teachers.
2. Our AMA will encourage the National Institute of Mental Health and local health departments to examine national and regional variations in psychiatric illnesses among immigrant, minority, and refugee populations in order to increase access to care and appropriate treatment.
Citation: (Res. 412, A-06; Appended: Res. 907, I-12)

Mental Health Services for Medical Students and Resident and Fellow Physicians H-345.973
Our AMA promotes confidential, accessible, and affordable mental health services for medical students and resident and fellow physicians.
Citation: (Res. 915, I-15)

Expansion of Student Health Services H-295.872
1. It is AMA policy that medical students should have timely access to needed preventive and therapeutic medical and mental health services at sites in reasonable proximity to where their education is occurring.
2. Our AMA will encourage the Liaison Committee on Medical Education to develop an annotation to its standard on medical student access to preventive and therapeutic health services that includes a specification of the following:
a. Medical students should have timely access to needed preventive and therapeutic medical and mental health services at sites in reasonable proximity to where their education is occurring.
b. Medical students should have information about where and how to access health services at all locations where training occurs.
c. Medical schools should have policies that permit students to be excused from class or clinical activities to seek needed care.
Citation: (CME Rep. 10, A-07)

Statement of Principles on Mental Health H-345.999
(1) Tremendous strides have already been made in improving the care and treatment of the emotionally disturbed, but much remains to be done. The mental health field is vast and includes a network of factors involving the life of the individual, the community and the nation. Any program designed to combat mental illness and promote mental health must, by the nature of the problems to be solved, be both ambitious and comprehensive.
(2) The AMA recognizes the important stake every physician, regardless of type of practice, has in improving our mental health knowledge and resources. The physician participates in the mental health field on two levels, as an individual of science and as a citizen. The physician has much to gain from a knowledge of modern psychiatric principles and techniques, and much to contribute to the prevention, handling and management of emotional disturbances. Furthermore, as a natural community leader, the physician is in an excellent position to work for and guide effective mental health programs.
(3) The AMA will be more active in encouraging physicians to become leaders in community planning for mental health.
(4) The AMA has a deep interest in fostering a general attitude within the profession and among the lay public more conducive to solving the many problems existing in the mental health field.
Citation: (A-62; Reaffirmed: CLRPD Rep. C, A-88; Reaffirmed: Sunset Report, I-98; Reaffirmation A-99; Reaffirmed: CSAPH Rep. 1, A-09)

Maintaining Mental Health Services by States H-345.975
Our AMA:
1. supports maintaining essential mental health services at the state level, to include maintaining state inpatient and outpatient mental hospitals, community mental health centers, addiction treatment centers, and other state-supported psychiatric services;
2. supports state responsibility to develop programs that rapidly identify and refer individuals with significant mental illness for treatment, to avoid repeated psychiatric hospitalizations and repeated interactions with the law, primarily as a result of untreated mental conditions;
3. supports increased funding for state Mobile Crisis Teams to locate and treat homeless individuals with mental illness;
4. supports enforcement of the Mental Health Parity Act at the federal and state level; and
5. will take these resolves into consideration when developing policy on essential benefit services.
Citation: (Res. 116, A-12; Reaffirmation A-15)

Access to Mental Health Services H-345.981
Our AMA advocates the following steps to remove barriers that keep Americans from seeking and obtaining treatment for mental illness:
(1) reducing the stigma of mental illness by dispelling myths and providing accurate knowledge to ensure a more informed public;
(2) improving public awareness of effective treatment for mental illness;
(3) ensuring the supply of psychiatrists and other well trained mental health professionals, especially in rural areas and those serving children and adolescents;
(4) tailoring diagnosis and treatment of mental illness to age, gender, race, culture and other characteristics that shape a person's identity;
(5) facilitating entry into treatment by first-line contacts recognizing mental illness, and making proper referrals and/or to addressing problems effectively themselves; and
(6) reducing financial barriers to treatment.
Citation: (CMS Rep. 9, A-01; Reaffirmation A-11; Reaffirmed: CMS Rep. 7, A-11; Reaffirmed: BOT action in response to referred for decision Res. 403, A-12; Reaffirmed in lieu of Res. 804, I-13; Reaffirmed in lieu of Res. 808, I-14)

Awareness, Diagnosis and Treatment of Depression and other Mental Illnesses H-345.984
Awareness, Diagnosis and Treatment of Depression and Other Mental Illnesses: (1) Our AMA encourages: (a) medical schools, primary care residencies, and other training programs as appropriate to include the appropriate knowledge and skills to enable graduates to recognize, diagnose, and treat depression and other mental illnesses, either as the chief complaint or with another general medical condition; (b) all physicians providing clinical care to acquire the same knowledge and skills; and (c) additional research into the course and outcomes of patients with depression and other mental illnesses who are seen in general medical settings and into the development of clinical and systems approaches designed to improve patient outcomes. Furthermore, any approaches designed to manage care by reduction in the demand for services should be based on scientifically sound outcomes research findings. (2) Our AMA will work with the National Institute on Mental Health and appropriate medical specialty and mental health advocacy groups to increase public awareness about depression and other mental illnesses, to reduce the stigma associated with depression and other mental illnesses, and to increase patient access to quality care for depression and other mental illnesses.
Citation: (Res. 502, I-96; Reaffirm & Appended: CSA Rep. 7, I-97; Reaffirmation A-00; Modified: CSAPH Rep. 1, A-10; Modified: Res. 301, A-12)

Educating Physicians About Physician Health Programs D-405.990
1) Our AMA will work closely with the Federation of State Physician Health Programs (FSPHP) to educate our members as to the availability and services of state physician health programs to continue to create opportunities to help ensure physicians and medical students are fully knowledgeable about the purpose of physician health programs and the relationship that exists between the physician health program and the licensing authority in their state or territory; 2) Our AMA will continue to collaborate with relevant organizations on activities that address physician health and wellness; 3) Our AMA will, in conjunction with the FSPHP, develop state legislative guidelines addressing the design and implementation of physician health programs; and 4) Our AMA will work with FSPHP to develop messaging for all Federation members to consider regarding elimination of stigmatization of mental illness and illness in general in physicians and physicians in training.
Citation: (Res. 402, A-09; Modified: CSAPH Rep. 2, A-11; Reaffirmed in lieu of Res. 412, A-12; Appended: BOT action in response to referred for decision Res. 403, A-12)

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 905
(I-16)

Introduced by: Resident and Fellow Section

Subject: Chronic Traumatic Encephalopathy (CTE) Awareness

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, In 1928, a pathologist by the name of Harrison Stanford Martland first introduced the concept of chronic traumatic encephalopathy (CTE), as a collection of symptoms of tremors, slowed movements, and confusion typical of prize boxers who experienced repeated sublethal blows to the head;[1] and

Whereas, CTE was brought to national attention with the paper, "Chronic Traumatic Encephalopathy in a National Football League (NFL) Player"[2], detailing the potential long-term neurodegeneration in retired NFL players with a history of repetitive head trauma; and

Whereas, CTE is now being recognized as a distinct entity requiring dedicated centers for care, such as the Boston University CTE center, which uses the definition of a progressive degenerative disease of the brain found in athletes (and others) with a history of repetitive brain trauma, in those with both symptomatic concussions and those with asymptomatic sub-concussive hits to the head;[3] and

Whereas, There is a high burden of risk of CTE in the United States, with an estimated 1.6 to 3.8 million concussions occurring per year, especially in those who participate in high impact sports such as football, soccer and basketball;[4] with an estimated 250,000 children (<19 years) treated in U.S. emergency departments for sports and recreation-related injuries causing concussions;[5] and

Whereas, Since the Global War on Terrorism began, nearly 2 million American military service men and women have been deployed to war zones, with an estimated 5% to 35% having sustained a concussion during their deployment, most of which are secondary to blast exposures;[6] and

Whereas, The symptoms of CTE are insidious, occurring over 8-10 years of the inciting event or events. Initial symptoms are usually nonspecific and include worsening attention, concentration, and memory, but can progress to include poor judgment, dementia, and Parkinsonism;[7] and

Whereas, The most effective way to prevent CTE is to reduce the frequency and extent of concussions, or mild traumatic brain injuries, and to ensure there is timely recognition and ample time to rest and recover when concussions do occur; and

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[1] Harrison MS. Punch Drunk. JAMA. 1928;91(15):1103-1107. doi:10.1001/jama.1928.02700150029009.
[2] Omalu, BI, et al. Chronic Traumatic Encephalopathy in a National Football League Player. Neurosurgery. 2005 Jul;57(1):128-34; discussion 128-34.
[3] http://www.bu.edu/cte/about/what-is-cte/
[4] Yi, JY, et al. Chronic traumatic encephalopathy. Head, Neck and Spine. 2013; 12 (1). 28-32.
[5] Centers for Disease Control and Prevention. Nonfatal Traumatic Brain Injuries Related to Sports and Recreation Activities Among Persons Aged ≤19 Years — United States, 2001–2009. MMWR 2011; 60(39):1337–1342.
[6] Rigg JL, Mooney SR. Concussions and the military: issues specific to service members. PM R. 2011 Oct;3(10 Suppl 2):S380-6.
[7] Corsellis JA, Burton CJ, Freeman-Browne D. The aftermath of boxing. Psychol Med 1973;3:270-303.

Whereas, AMA policies H-470.954 and H-470.959 support efforts to prevent and treat concussions but do not currently contain language regarding physician or public education about detecting and treating CTE; and

Whereas, There is no legislation or regulation of the development of CTE in major sports leagues; therefore be it

RESOLVED, That our American Medical Association amend part one of Policy H-470.954 by addition and deletion to read as follows:

Reduction of Sports-Related Injury and Concussion
1. Our AMA will: (a) work with appropriate agencies and organizations to promote awareness of programs to reduce concussion and other sports-related injuries across the lifespan; ~~and~~ (b) promote awareness that even mild cases of traumatic brain injury may have serious and prolonged consequences~~.~~; and (c) promote education for physicians and the public on the detection, treatment and prognosis of chronic traumatic encephalopathy (CTE). (Modify Current HOD Policy); and be it further

RESOLVED, That our AMA work with interested agencies and organizations to advocate for further research into the causes of and treatments for chronic traumatic encephalopathy (CTE). (Directive to Take Action)

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

Received: 09/12/16

RELEVANT AMA POLICY

Reduction of Sports-Related Injury and Concussion H-470.954
1. Our AMA will: (a) work with appropriate agencies and organizations to promote awareness of programs to reduce concussion and other sports-related injuries across the lifespan; and (b) promote awareness that even mild cases of traumatic brain injury may have serious and prolonged consequences.
2. Our AMA supports the adoption of evidence-based, age-specific guidelines on the evaluation and management of concussion in all athletes for use by physicians, other health professionals, and athletic organizations.
3. Our AMA will work with appropriate state and specialty medical societies to enhance opportunities for continuing education regarding professional guidelines and other clinical resources to enhance the ability of physicians to prevent, diagnose, and manage concussions and other sports-related injuries.
4. Our AMA urges appropriate agencies and organizations to support research to: (a) assess the short- and long-term cognitive, emotional, behavioral, neurobiological, and neuropathological consequences of concussions and repetitive head impacts over the life span; (b) identify determinants of concussion and other sports-related injuries in pediatric and adult athletes, including how injury thresholds are modified by the number of and time interval between head impacts and concussions; (c) develop and evaluate effective risk reduction measures to prevent or reduce sports-related injuries and concussions and their sequelae across the lifespan; and (d) develop objective biomarkers to improve the identification, management, and prognosis of athletes suffering from concussion to reduce the dependence on self-reporting and inform evidence-based, age-specific guidelines for these patients. (CSAPH Rep. 3, A-15)

Reducing the Risk of Concussion and Other Injuries in Youth Sports H-470.959

1 . Our American Medical Association promotes the adoption of requirements that athletes participating in school or other organized youth sports and who are suspected by a coach, trainer, administrator, or other individual responsible for the health and well-being of athletes of having sustained a concussion be removed immediately from the activity in which they are engaged and not return to competitive play, practice, or other sports-related activity without the written approval of a physician (MD or DO) or a designated member of the physician-led care team who has been properly trained in the evaluation and management of concussion. When evaluating individuals for return-to-play, physicians (MD or DO) or the designated member of the physician-led care team should be mindful of the potential for other occult injuries.

2. Our AMA encourages physicians to: (a) assess the developmental readiness and medical suitability of children and adolescents to participate in organized sports and assist in matching a child's physical, social, and cognitive maturity with appropriate sports activities; (b) counsel young patients and their parents or caregivers about the risks and potential consequences of sports-related injuries, including concussion and recurrent concussions; (c) assist in state and local efforts to evaluate, implement, and promote measures to prevent or reduce the consequences of concussions, repetitive head impacts, and other injuries in youth sports; and (d) support preseason testing to collect baseline data for each individual.

3. Our AMA will work with interested agencies and organizations to: (a) identify harmful practices in the sports training of children and adolescents; (b) support the establishment of appropriate health standards for sports training of children and adolescents; and (c) promote educational efforts to improve knowledge and understanding of concussion and other sport injuries among youth athletes, their parents, coaches, sports officials, school personnel, health professionals, and athletic trainers. (Res. 910, I-10; Reaffirmed: BOT Rep. 9, A-14; Modified: CSAPH Rep. 3, A-15)

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 906
(I-16)

Introduced by: Resident and Fellow Section

Subject: Universal Color Scheme for Respiratory Inhalers

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, In the medical management of many respiratory conditions, such as asthma and chronic obstructive pulmonary disease, inhaled medications such as corticosteroids, beta-2 agonists, and anti-cholinergic agents are commonly administered through respiratory inhalers; and

Whereas, International practice codifies standard colors for classes of inhaled drugs, for example, in the United Kingdom blue is universally a “rescue” medication or beta-2 agonist and brown is universally a “prevention” medication; and

Whereas, Universal color schemes allow for easy medication reconciliation in emergency rooms, streamlined universal patient education, and appropriate medication use; and

Whereas, In the United States, the color of respiratory inhalers is chosen by the pharmaceutical company for brand recognition and marketing, including in the manufacture of generic drugs, without regard to class of drug; and

Whereas, Respiratory inhalers in the United States are usually prescribed based on in-network insurance formularies, regardless of patients’ recognition of brand names or marketing; and

Whereas, The interchangeability of colors for classes of drugs leads to several problems, including confusion for patients during self-management, increased risk of adverse events such as beta-2 agonist overdose or undertreating an asthma attack, inaccurate patient education, and incorrect medication reconciliation or prescribing by healthcare providers; and

Whereas, A universal color scheme for “rescue” inhalers would allow simplified patient education, synchronous dialogue between care provider and patient, reduced confusion, and improved compliance and safety; therefore be it

RESOLVED, That our American Medical Association work with leading respiratory inhaler manufacturing companies and health agencies such as the Federal Drug Administration and the American Pharmacists Association to develop consensus of a universal color scheme for short-acting beta-2 agonist respiratory inhalers that are used as “rescue inhalers” in the United States (Directive to Take Action); and be it further

RESOLVED, That our AMA work with leading respiratory inhaler manufacturing companies to ensure the universal color scheme for respiratory inhalers would allow for the least disruption possible to current inhaler colors, taking into account distribution of each brand and impact on current users if color were to change (Directive to Take Action); and be it further

RESOLVED, That our AMA work with leading respiratory inhaler manufacturing companies to ensure that universal color scheme for respiratory inhalers be designed for adherence and sustainability, including governance for future companies entering the respiratory inhaler market, and reserving colors for possible new drug classes in the future. (Directive to Take Action)

Fiscal Note: Estimate cost of $22,000 to implement resolution.

Received: 09/12/16

References:

"Types of Asthma Inhalers: Which asthma inhaler does what?." https://www.dred.com/uk/asthma-inhalers.html
"GlaxoSmithKline revises colour and labelling of Relvar Ellipta inhaler." *The Pharm J.*, 20/27 December 2014, Vol 293, No 7841/2, http://www.pharmaceutical-journal.com/news-and-analysis/news/glaxosmithkline-revises-colour-and-labelling-of-relvar-ellipta-inhaler/20067357.article.
Jayakrishnan, B ."Asthma inhalers and colour coding: universal dots." *Br J Gen Pract;* 2010; 60(578): 690–691. (1 September.) http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2930224/
Partridge M. "Minerva." BMJ 1992; 305: 890. (10 October.)
Horn CR, Cochrane GM. Colour Coding for Bronchodilator Inhalers." Lancet 1986; 1(8473): 165. (18 January.)

RELEVANT AMA POLICY

Over-the-Counter Inhalers in Asthma H-115.972
Our AMA: (1) supports strengthening the product labeling for over-the-counter (OTC) epinephrine inhalers to better educate users about patterns of inappropriate use; to include clear statements that the use of OTC inhalers can be dangerous; to urge users to seek medical care if symptoms do not improve or if they meet criteria for the presence of persistent disease; and to encourage explicit discussions with physicians about dosage when these products are used; (2) encourages the FDA to reexamine whether OTC epinephrine inhalers should be removed from the market; and (3) In the event that these products continue to be marketed OTC, further information should be obtained to determine whether OTC availability is a risk factor for asthma morbidity and mortality. (CSA Rep. 2, A-99; Reaffirmed: CSAPH Rep. 1, A-09)

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 907
(I-16)

Introduced by: Resident and Fellow Section

Subject: Clinical Implications and Policy Considerations of Cannabis Use

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Medicinal marijuana is currently legal in 23 states within the U.S. including Washington D.C. and recreational use has now been legalized in four states: Colorado, Washington, Oregon and Alaska;[1] and

Whereas, The "Adult Use of Marijuana Act" is a ballot referendum for November, 2016 calling for full decriminalization of the possession and sale of marijuana for individuals over the age of 21 in California;[2,3] and

Whereas, Without regulation, this growing, multi-billion dollar industry of "Big Marijuana" is on track to becoming a 2.0 version of the entity so many public health advocates have spent decades fighting: Big Tobacco; and

Whereas, AMA support for research and education of cannabis use is strong, the AMA overtly opposes legalization of marijuana and endorses warnings emphasizing its dangers for abuse and misuse (AMA Policies D-95.976 and H-95.995); and

Whereas, One of the more comprehensive analyses on marijuana legalization was completed by the AMA Council on Science and Public Health (CSAPH) in a 2013 report titled "A Contemporary View of National Drug Control Policy" which was adopted at the AMA House of Delegates 2013 Interim meeting; and

Whereas, The CSAPH took a strong stance opposing marijuana legalization until "the findings of comprehensive research into the potential effects, both positive and adverse, of relaxing existing drug prohibitions and controls can be adequately assessed" (H-95.954); and

Whereas, There are in excess of 60 pharmacologically active cannabinoids[4] and, although clinical responses to cannabinoids vary, potential positive outcomes include reduction in pain sensation, antispasticity, increased appetite, and antiemesis;[5] and

Whereas, The US Food and Drug Administration has approved dronabinol and nabilone for chemotherapeutic induced nausea and vomiting and cancer or HIV induced anorexia;[6,7] and

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[1] State Marijuana Laws Map.http://www.governing.com/gov-data/state-marijuana-laws-map-medical-recreational.html
[2] https://www.mpp.org/states/california/
[3] https://www.regulatecalifornia.com/about/
[4] Pertwee RG. Cannabinoid pharmacology: the first 66 years. Br J Pharmacol. 2006;147(suppl 1): S163-S171.
[5] Koppel BS, Brust JC, Fife T, et al. Systematic review: efficacy and safety of medical marijuana in selected neurologic disorders: report of the Guideline Development Subcommittee of the American Academy of Neurology. Neurology. 2014; 82(17):1556-1563.
[6] Marinol [product information]. Marietta, GA: Solvay Pharmaceuticals; 2008.
[7] Cesamet [product information]. Aliso Viejo, CA: Valeant Pharmaceuticals, 2008.

Whereas, Statistically significant evidence now exists supporting cannabis use in patients with neuropathic pain and chronic pain with additional data and professional opinion endorsing its use in multiple sclerosis associated spasticity;[8] and

Whereas, Medicinal marijuana has become a commonly prescribed medication in states where it is legal and cannabis represents an alternative to opioid therapies, which are plagued with addiction, overdoses and deaths; and

Whereas, There were 12.4 million arrests within the US in 2011 with 1.5 million related to drugs[9] and nearly 80% of these arrests associated with drug possession and approximately 50% connected to marijuana; and

Whereas, The economic burden of drug related issues within the prison system surmounted $80 billion in 2010 alone with an annual, anticipated cost of the "War on Drugs" totaling about $50 billion (CSAPH); and

Whereas, CSAPH Report 2-I-13 provides a detailed description of legalization vs decriminalization as follows:

> *Legalization is defined as "the complete removal of sanctions, making a certain behavior legal and applying no criminal or administrative penalties." Decriminalization means to "eliminate criminal penalties for or remove legal restrictions." To decriminalize does not mean that consequences are entirely lacking for a certain act or behavior.*; and

Whereas, Penalties in states that have decriminalized marijuana currently range from citations and fines to loss of driving privileges; and

Whereas, The majority of Americans are in favor of marijuana legalization, with some polls citing numbers as high as 50-60%;[10,11] and

Whereas, Medicinal marijuana has garnered support as high as 85+% while an even larger percentage oppose incarceration for marijuana possession;[12,13] therefore be it

RESOLVED, That our American Medical Association amend Policy H-95.998 by deletion to read as follows:

> H-95.998, AMA Policy Statement on Cannabis
> Our AMA believes that (1) cannabis is a dangerous drug and as such is a public health concern; (2) ~~sale of cannabis should not be legalized; (3)~~ public health based strategies, rather than incarceration, should be utilized in the handling of individuals possessing cannabis for personal use; and ~~(4)~~ (3) additional research should be encouraged. (Modify Current HOD Policy); and be it further

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[13] Quinnipiac University National Poll. December 5, 2012http://www.quinnipiac.edu/institutes-and-centers/polling-institute/national/release-detail?ReleaseID=1820.

RESOLVED, That our AMA amend Policy D-95.976 by deletion to read as follows:

D-95.976, Cannabis - Expanded AMA Advocacy
1. Our AMA will educate the media and legislators as to the health effects of cannabis use as elucidated in CSAPH Report 2, I-13, A Contemporary View of National Drug Control Policy, and CSAPH Report 3, I-09, Use of Cannabis for Medicinal Purposes, and as additional scientific evidence becomes available.
2. Our AMA urges legislatures to delay initiating full legalization of any cannabis product until further research is completed on the public health, medical, economic and social consequences of use of cannabis and, instead, support the expansion of such research.
3. Our AMA will also increase its efforts to educate the press, legislators and the public regarding its policy position that stresses a "public health", as contrasted with a "criminal," approach to cannabis.
4. Our AMA shall encourage model legislation that would require placing the following warning on all cannabis products not approved by the U.S. Food and Drug Administration: "Marijuana has a high potential for abuse. ~~It has no scientifically proven, currently accepted medical use for preventing or treating any disease process in the United States.~~" (Modify Current HOD Policy)

Fiscal Note: Minimal - less than $1,000.

Received: 09/12/16

RELEVANT AMA POLICY

Alcohol and Drug Abuse Education H-170.992
Our AMA: (1) supports continued encouragement for increased educational programs relating to use and abuse of alcohol, marijuana and controlled substances; (2) supports the implementation of alcohol and marijuana education in comprehensive health education curricula, kindergarten through grade twelve; and (3) encourages state medical societies to work with the appropriate agencies to develop a state-funded educational campaign to counteract pressures on young people to use alcohol. (Sub. Res. 63, I-80; Reaffirmed: CLRPD Rep. B, I-90; Reaffirmation and Reaffirmed: Sunset Report, I-00; Appended: Res. 415, I-01; Reaffirmed: CSAPH Rep. 1, A-11)

Cannabis Warnings for Pregnant and Breastfeeding Women H-95.936
Our AMA advocates for regulations requiring point-of-sale warnings and product labeling for cannabis and cannabis-based products regarding the potential dangers of use during pregnancy and breastfeeding wherever these products are sold or distributed. (Res. 922, I-15)

Immunity from Federal Prosecution for Physicians Recommending Cannabis H-95.938
Our American Medical Association supports legislation ensuring or providing immunity against federal prosecution for physicians who certify that a patient has an approved medical condition or recommend cannabis in accordance with their state's laws. (Res. 233, A-15)

AMA Policy Statement on Cannabis H-95.998
Our AMA believes that (1) cannabis is a dangerous drug and as such is a public health concern; (2) sale of cannabis should not be legalized; (3) public health based strategies, rather than incarceration, should be utilized in the handling of individuals possessing cannabis for personal use; and (4) additional research should be encouraged. (BOT Rep. K, I-69; Reaffirmed: CLRPD Rep. C, A-89; Reaffirmed: Sunset Report, A-00; Reaffirmed: CSAPH Rep. 1, A-10; Reaffirmed in lieu of Res. 202, I-12; Modified: CSAPH Rep. 2, I-13)

Cannabis - Expanded AMA Advocacy D-95.976
1. Our AMA will educate the media and legislators as to the health effects of cannabis use as elucidated in CSAPH Report 2, I-13, A Contemporary View of National Drug Control Policy, and CSAPH Report 3, I-09, Use of Cannabis for Medicinal Purposes, and as additional scientific evidence becomes available.

2. Our AMA urges legislatures to delay initiating full legalization of any cannabis product until further research is completed on the public health, medical, economic and social consequences of use of cannabis and, instead, support the expansion of such research.
3. Our AMA will also increase its efforts to educate the press, legislators and the public regarding its policy position that stresses a "public health", as contrasted with a "criminal," approach to cannabis.
4. Our AMA shall encourage model legislation that would require placing the following warning on all cannabis products not approved by the U.S. Food and Drug Administration: "Marijuana has a high potential for abuse. It has no scientifically proven, currently accepted medical use for preventing or treating any disease process in the United States." (Res. 213, I-14)

Cannabis for Medicinal Use H-95.952
(1) Our AMA calls for further adequate and well-controlled studies of marijuana and related cannabinoids in patients who have serious conditions for which preclinical, anecdotal, or controlled evidence suggests possible efficacy and the application of such results to the understanding and treatment of disease. (2) Our AMA urges that marijuana's status as a federal schedule I controlled substance be reviewed with the goal of facilitating the conduct of clinical research and development of cannabinoid-based medicines, and alternate delivery methods. This should not be viewed as an endorsement of state-based medical cannabis programs, the legalization of marijuana, or that scientific evidence on the therapeutic use of cannabis meets the current standards for a prescription drug product. (3) Our AMA urges the National Institutes of Health (NIH), the Drug Enforcement Administration (DEA), and the Food and Drug Administration (FDA) to develop a special schedule and implement administrative procedures to facilitate grant applications and the conduct of well-designed clinical research involving cannabis and its potential medical utility. This effort should include: a) disseminating specific information for researchers on the development of safeguards for cannabis clinical research protocols and the development of a model informed consent form for institutional review board evaluation; b) sufficient funding to support such clinical research and access for qualified investigators to adequate supplies of cannabis for clinical research purposes; c) confirming that cannabis of various and consistent strengths and/or placebo will be supplied by the National Institute on Drug Abuse to investigators registered with the DEA who are conducting bona fide clinical research studies that receive FDA approval, regardless of whether or not the NIH is the primary source of grant support. (4) Our AMA believes that effective patient care requires the free and unfettered exchange of information on treatment alternatives and that discussion of these alternatives between physicians and patients should not subject either party to criminal sanctions. (CSA Rep. 10, I-97; Modified: CSA Rep. 6, A-01; Modified: CSAPH Rep. 3, I-09; Modified in lieu of Res. 902, I-10; Reaffirmed in lieu of Res. 523, A-11; Reaffirmed in lieu of Res. 202, I-12; Reaffirmed: CSAPH Rep. 2, I-13)

Cannabis Use H-95.995
Our AMA (1) discourages cannabis use, especially by persons vulnerable to the drug's effects and in high-risk situations; (2) supports the determination of the consequences of long-term cannabis use through concentrated research, especially among youth and adolescents; and (3) supports the modification of state and federal laws to emphasize public health based strategies to address and reduce cannabis use. (CSA Rep. D, I-77; Reaffirmed: CLRPD Rep. C, A-89; Reaffirmed: Sunset Report, A-00; Reaffirmed: CSAPH Rep. 1, A-10; Modified: CSAPH Rep. 2, I-13)

Cannabis Intoxication as a Criminal Defense H-95.997
Our AMA believes a plea of cannabis intoxication not be a defense in any criminal proceedings. BOT Rep. J, A-72 Reaffirmed: CLRPD Rep. C, A-89 Reaffirmed: Sunset Report, A-00 Reaffirmed: CSAPH Rep. 1, A-10 Modified: CSAPH Rep. 2, I-13

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 908
(I-16)

Introduced by: International Medical Graduates Section

Subject: Faith and Mental Health

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Mental health is the foundation for thinking, resilience, self-esteem, well-being, relationships and contribution to society; and

Whereas, Mental illness is a health condition that causes changes in thinking, emotion and behavior; and

Whereas, Nearly one in 5 (20%) of U.S. adults have some form of mental illness in a given year; 1 in 24 (4.2%) has serious mental illness; one in 12 (8.3%) has a substance abuse disorder; and

Whereas, There is a mental health and substance abuse crisis in the United States, there are not enough psychiatrists or mental health providers or services; or there are individuals not seeking treatment; and

Whereas, For a large segment of our population, religion and spirituality often play a vital role in mental health treatment. Spiritual and religious leaders are at times the " first responders," when individuals and families face mental health and substance abuse problems; and

Whereas, Faith community leaders can help reduce the stigma associated with mental illness by educating their congregations and facilitate access to treatment; therefore be it

RESOLVED, That our American Medical Association advocate and support mental health and faith community partnerships that will provide a platform for faith leaders to get educated about psychiatric and substance abuse disorders and mental health providers understand the role of faith in recovery (Directive to Take Action); and be it further

RESOLVED, That our AMA study and support a partnership to foster respectful, collaborative relationships between psychiatrists, other mental health providers and the faith-based community to improve quality care for individuals and families with mental health and substance abuse problems. (Directive to Take Action)

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

Received: 09/20/16

References:

APA Releases New Resources on Mental Health for Faith Leaders, http://www.psychiatry.org/newsroom/news-releases/apa-releases-new-resources-on-mental-health-for-faith-leaders , June 30, 2015
Mental health; A Guide for Faith leaders psychiatry.org/faith
Samsha faith based and community initiative; www.Samsha.gov/faith.
National institute of mental health and substance abuse and Mental health service Administration.

RELEVANT AMA POLICY

Statement of Principles on Mental Health H-345.999
(1) Tremendous strides have already been made in improving the care and treatment of the emotionally disturbed, but much remains to be done. The mental health field is vast and includes a network of factors involving the life of the individual, the community and the nation. Any program designed to combat mental illness and promote mental health must, by the nature of the problems to be solved, be both ambitious and comprehensive.
(2) The AMA recognizes the important stake every physician, regardless of type of practice, has in improving our mental health knowledge and resources. The physician participates in the mental health field on two levels, as an individual of science and as a citizen. The physician has much to gain from a knowledge of modern psychiatric principles and techniques, and much to contribute to the prevention, handling and management of emotional disturbances. Furthermore, as a natural community leader, the physician is in an excellent position to work for and guide effective mental health programs.
(3) The AMA will be more active in encouraging physicians to become leaders in community planning for mental health.
(4) The AMA has a deep interest in fostering a general attitude within the profession and among the lay public more conducive to solving the many problems existing in the mental health field.
A-62 Reaffirmed: CLRPD Rep. C, A-88 Reaffirmed: Sunset Report, I-98 Reaffirmation A-99 Reaffirmed: CSAPH Rep. 1, A-09

Increasing Detection of Mental Illness and Encouraging Education D-345.994
1. Our AMA will work with: (A) mental health organizations, state, specialty, and local medical societies and public health groups to encourage patients to discuss mental health concerns with their physicians; and (B) the Department of Education and state education boards and encourage them to adopt basic mental health education designed specifically for preschool through high school students, as well as for their parents, caregivers and teachers.
2. Our AMA will encourage the National Institute of Mental Health and local health departments to examine national and regional variations in psychiatric illnesses among immigrant, minority, and refugee populations in order to increase access to care and appropriate treatment.
Res. 412, A-06 Appended: Res. 907, I-12

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 909
(I-16)

Introduced by:	American Congress of Obstetricians and Gynecologists
Subject:	Promoting Retrospective and Cohort Studies on Pregnant Women and Their Children
Referred to:	Reference Committee K (Paul A. Friedrichs, MD, Chair)

Whereas, Pregnant women and children are classified as vulnerable populations by Health and Human Services (HHS) 45 Code of Federal Regulations (CFR 46);[1,2] and

Whereas, Vulnerable populations as outlined in 45 Code of Federal Regulations (CFR) 46 are predominantly excluded from clinical trials;[1] and

Whereas, The majority of pregnant women are prescribed at least one medication during pregnancy;[3] and

Whereas, Medications affect pregnant women differently than men and even non-pregnant women;[4-6] and

Whereas, Medications taken by pregnant women can lead to adverse health outcomes in their children;[7-9] and

Whereas, Although existing AMA policy establishes the inclusion of pregnant women in future studies, it fails to underscore the importance of retrospective analysis of over-the-counter (OTC) medications that have long been assumed safe in pregnancy and would otherwise not warrant such future study; and

Whereas, Medication use during pregnancy can also lead to spontaneous abortion;[10-12] and

Whereas, Acetaminophen is a widely used OTC medication;[13] and

Whereas, Acetaminophen is recommended for use by pregnant women;[14] and

Whereas, A recent study showed that children born to women who took acetaminophen during pregnancy had as much as a 40% increased risk of developing “behavioral difficulties,” which include “hyperactivity” and “conduct problems;”[15] and

Whereas, The aforementioned study was quickly followed by further research illuminating other potential risks of maternal acetaminophen use;[16-18] and

Whereas, Another recent study concluded that women who took antidepressants during pregnancy were more likely to give birth to children with autism spectrum disorders (ASDs);[19] and

Whereas, Pregnant women were not included in the clinical trials for acetaminophen, antidepressants, or the majority of other commonly used medications;[20] and

Whereas, In 2010, the NIH Office of Research on Women's Health supported a workshop to address ethical, regulatory, and scientific issues raised by the enrollment of pregnant women in research studies and found that a "vulnerable population" has a compromised ability to protect its interests and provide informed consent;[21] and

Whereas, Pregnant women do not, as a group, meet the definition of a "vulnerable population" and have the same capacity for autonomous decision-making as their non-pregnant counterparts, including decisions regarding whether or not to participate in appropriate research studies; therefore be it

RESOLVED, That our American Medical Association recommend to the US Department of Health and Human Services that the Federal Policy for the Protection of Human Subjects, or "Common Rule", be updated to define pregnant women as "scientifically complex" rather than a "vulnerable population" for research purpose (Directive to Take Action); and be it further

RESOLVED, That our AMA urge the federal government to prioritize clinical research and generation and dissemination of data, emphasizing retrospective and cohort studies, on common medications' effects on underlying medical conditions across the entire continuum from pregnancy through lactation and development to better inform prescribing (New HOD Policy); and be it further

RESOLVED, That our AMA support federal legislation to 1) establish an interagency taskforce within the Department of Health and Human Services to improve federal interagency and key stakeholder communication, coordination and collaboration to advance research on medications in pregnancy and breastfeeding, and 2) to require the United States Food and Drug Administration to provide regular reports to Congress tracking the inclusion of pregnant and breastfeeding women in clinical trials. (New HOD Policy)

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[1] Blehar MC, Spong C, Grady C, Goldkind SF, Sahin L, Clayton JA. Enrolling pregnant women: issues in clinical research. Women's Health Issues. 2013 Feb 28;23(1):e39-45.
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Fiscal Note: Modest - between $1,000 - $5,000.

Received: 09/27/16

RELEVANT AMA POLICY

7.1.3 Study Design & Sampling

To be ethically justifiable, biomedical and health research that involves human subjects must uphold fundamental principles of respect for persons, beneficence, and justice. These principles apply not only to the conduct of research, but equally to the selection of research topics and study design.

Well-designed, ethically sound research aligns with the goals of medicine, addresses questions relevant to the population among whom the study will be carried out, balances the potential for benefit against the potential for harm, employs study designs that will yield scientifically valid and significant data, and generates useful knowledge. For example, research to develop biological or chemical weapons is antithetical to the goals of the medical profession, whereas research to develop defenses against such weapons can be ethically justifiable.

Physicians who engage in biomedical or health research with human participants thus have an ethical obligation to ensure that any study with which they are involved:

(a) Is consistent with the goals and fundamental values of the medical profession.

(b) Addresses research question(s) that will contribute meaningfully to medical knowledge and practice.

(c) Is scientifically well designed to yield valid data to answer the research question(s), including using appropriate population and sampling controls, clear and appropriate inclusion/exclusion criteria, a statistically sound plan for data collection and analysis, appropriate controls, and when applicable, criteria for discontinuing the study (stopping rules).

(d) Minimizes risks to participants, including risks associated with recruitment and data collection activities, without compromising scientific integrity.

(e) Provides mechanisms to safeguard confidentiality.

(f) Does not disproportionately recruit participants from historically disadvantaged populations or populations whose ability to provide fully voluntary consent is compromised. Participants who otherwise meet inclusion/exclusion criteria should be recruited without regard to race, ethnicity, gender, or economic status.

(g) Recruits participants who lack the capacity to give informed consent only when the study stands to benefit that class of participants and participants with capacity would not yield valid results. In this event, assent should be sought from the participant and consent should be obtained from the prospective participant’s legally authorized representative, in keeping with ethical guidelines.

(h) Has been reviewed and approved by appropriate oversight bodies.

AMA Principles of Medical Ethics: I,II,III,V,VII

Inclusion of Women in Clinical Trials H-525.991

Our AMA: (1) encourages the inclusion of women, including pregnant women when appropriate, in all research on human subjects, except in those cases for which it would be scientifically irrational, in numbers sufficient to ensure that results of such research will benefit both men and women alike; (2) supports the National Institutes of Health policy requiring investigators to account for the possible role of sex as a biological variable in vertebrate animal and human studies; and (3) encourages translation of important research results into practice.

Res 183, I-90; Reaffirmed: Sunset Report, I-00; Reaffirmed: CSAPH Rep. 1, A-10; Modified: CSAPH Rep. 05, A-16

Use of Serotonin Reuptake Inhibitors in Pregnancy D-420.995
1. Our AMA encourages further research into the treatment of depression during pregnancy, including the effects of antidepressant drugs, as well as strategies designed to best protect the health and welfare of both the mother and the child.
2. Our AMA Council on Science and Public Health will monitor the activities of relevant medical specialty societies on this issue, including development of practice guidelines or policy statements, and assist as needed in educating the physician community.
CSAPH Rep. 13, A-07

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 910
(I-16)

Introduced by:	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Subject:	Disparities in Public Education as a Crisis in Public Health and Civil Rights
Referred to:	Reference Committee K (Paul A. Friedrichs, MD, Chair)

Whereas, Conditions in the places where people live, learn, work, and play affect a wide range of health risks and outcomes. These conditions are known as social determinants of health (SDOH) http://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health; and

Whereas, Some have asserted that the triple aim of better health, improved health care delivery, and reduced cost can be achieved by attending to the social and environmental factors which contribute approximately half of the factors that may affect health (McGinnis JM, Williams-Russo P, Knickman JR. The case for more active policy attention to health promotion. *Health Aff* (Millwood). 2002;21(2):78-93); and

Whereas, There are persistent racial and ethnic disparities in educational attainment: a representative example being reading proficiency at 4th grade level (2013 Data, National Assessment of Educational Progress (NAEP), ED/NCES); and

Whereas, The equal protection clause of the 14th Amendment requires that when a state establishes a public school system, no child living in that state may be denied equal access to schooling (US Supreme Court ruling in *Plyer v Doe*); and

Whereas, Many of social determinants of health, including education, nutrition, housing and neighborhood safety, may fall outside the expertise of the house of medicine, and would be difficult for the AMA to study in a depth that would be adequate to the task, this should not preclude the AMA from taking a thoughtful public policy position that may be used in subsequent advocacy where the opportunity presents itself; therefore be it

RESOLVED That our American Medical Association consider continued educational disparities based on ethnicity, race and economic status a detriment to the health of the nation (New HOD Policy); and be it further

RESOLVED That our AMA issue a call to action to all educational private and public stakeholders to come together to organize and examine, and using any and all available scientific evidence, to propose strategies, regulation and/or legislation to further the access of all children to a quality public education as one of the great unmet health and civil rights challenges of the 21st century. (Directive to Take Action)

Fiscal Note: Minimal - less than $1,000.
Received: 09/27/16

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 911
(I-16)

Introduced by: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

Subject: Importance of Oral Health in Medical Practice

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Good oral health is a crucial part of good health, yet millions of Americans lack access to basic oral health care largely due to its high cost and poor coverage;[1,2,3,5] and

Whereas, Healthy People 2020 made oral health one of its top nine health indicators, yet only 41.8% of people age two years and older had a dental visit during the past 12 months, and half of the U.S. seniors perceive their dental health as poor or very poor;[8] and

Whereas, Poor oral hygiene resulting in periodontal and gum disease is strongly associated with multiple medical issues, including heart disease, stroke, diabetes, respiratory disease, and oropharyngeal cancers;[4,5,10] and

Whereas, According to the 2011 Institute of Medicine report "Advancing Oral Health in America", if low-income patients are not accessing dental care, visits with their primary care physicians may represent an opportunity to evaluate their oral health,[4] but such physicians currently rarely have adequate training to recognize oral health problems; and

Whereas, In 2014, the American Academy of Family Physicians and joint partners including the American Academy of Pediatrics, released a report entitled "Interprofessional Study of Oral Health in Primary Care," that sought to identify elements that lead to successful promotion of oral health services in primary care offices;[6] and

Whereas, With proper training, non-dental healthcare professionals, such as physicians, nurses, pharmacists, and physician assistants, can screen for oral diseases and deliver preventive care services;[5,9] therefore be it

RESOLVED, That our American Medical Association recognize the importance of managing oral health as a part of overall patient care (New HOD Policy); and be it further

RESOLVED, That our AMA support efforts to educate physicians on oral condition screening and management, as well as the consequences of poor oral hygiene on mental and physical health (New HOD Policy); and be it further

RESOLVED, That our AMA encourage closer collaboration of physicians with dental providers to provide comprehensive medical care (New HOD Policy); and be it further

RESOLVED, That the AMA support efforts to increase access to oral health services. (New HOD Policy)

References:

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Fiscal Note: Minimal - less than $1,000.

Received: 09/27/16

RELEVANT AMA POLICY

Coverage of Children's Deformities, Disfigurement and Congenital Defects H-185.967
1. The AMA declares: (a) that treatment of a minor child's congenital or developmental deformity or disorder due to trauma or malignant disease should be covered by all insurers; (b) that such coverage shall include treatment which, in the opinion of the treating physician, is medically necessary to return the patient to a more normal appearance (even if the procedure does not materially affect the function of the body part being treated); and (c) that such insurability should be portable, i.e., not denied as a pre-existing condition if the patient's insurance coverage changes before treatment has been either initiated or completed.
2. Our AMA will advocate for appropriate funding for comprehensive dental coverage (including dental implants) for children with orofacial clefting.
(Sub. Res. 119, I-97; Reaffirmed, A-03; Reaffirmation A-05; Reaffirmation A-08; Appended: Res. 109, A-13)

Non Physicians' Expanded Scope of Practice (Laboratory Testing and Test Interpretation) D-35.999
Our AMA, through appropriate legislative and regulatory efforts, seeks to: (1) ensure that diagnostic laboratory testing should only be performed by those individuals who possess appropriate clinical education and training, under the supervision of licensed physicians (MD/DO); and (2) limit laboratory test ordering and interpretation of test results solely to licensed physicians (MD/DO) and licensed dentists (DDS/DMD).
(Sub. Res. 307, A-00; Reaffirmed: CME Rep. 2, A-10)

Funding for Teaching Health Center Graduate Medical Education Program D-305.955
Our American Medical Association will encourage Congress to reauthorize the Teaching Health Center Graduate Medical Educational Program to its full and ongoing funding needs to continue the training of primary providers in community based health centers in underserved areas to assure a continuing supply of primary providers and dentists for the underserved populations.
(Res. 214, A-15)

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 912
(I-16)

Introduced by: American Academy of Pain Medicine

Subject: Neuropathic Pain Recognized as a Disease

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Neuropathic pain is characterized by neuroplastic changes that cause sensitization of the nervous system. Those changes result in anatomical and physiological changes that affect neurological function, result in long-term potentiation and gene expression changes that then allow the pain to continue with or without any further peripheral input, lower pain threshold, and this dysfunction then also accounts for the epiphenomena associated with the disease, including cognitive, emotional, memory, and motor changes, which then becomes the illness of chronic pain; and

Whereas, The Institute of Medicine Report "Relieving Pain in America, A Blueprint for Transforming Prevention, Care, Education, and Research," released June 29, 2011, and the National Pain Strategy, released on March 19, 2016, have suggested chronic (neuropathic) pain as a disease; and

Whereas, All types of chronic pain has neuropathic pain as part of the illness and our AMA CSAPH has tacitly referred to chronic neuropathic pain as a disease; and

Whereas, The designation of neuropathic pain as a disease will have significant benefits for research, funding, education, and applications to improve clinical practice, such as reducing the opioid crisis we currently face; and

Whereas, Our AMA has declared alcoholism, addiction, and obesity as diseases, using similar criteria; therefore be it

RESOLVED, That our American Medical Association recognize neuropathic pain as a disease state with multiple pathophysiological aspects requiring a range of interventions to advance neuropathic pain treatment and prevention. (New HOD Policy)

References:
1. Institute of Medicine Report Relieving Pain in America, A Blueprint for Transforming Prevention, Care, Education, and Research, released June 29, 2011.
2. iprcc.nih.gov/National_Pain_Strategy/NPS_Main.htm; March 2016.
3. CSAPH Report: Neuropathic Pain (A-06).
4. CSAPH Report: Maldynia: Pathophysiology and Nonpharmacologic Treatment (A-10).

Fiscal Note: Minimal - less than $1,000.

Received: 09/27/16

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 913
(I-16)

Introduced by: Medical Student Section

Subject: Improving Genetic Testing and Counseling Services in Hospitals and Healthcare Systems

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Advances in genetic sequencing and testing technology have made genetic tests increasingly available to physicians and the public and expanded the amount of genetic data available to both patients and providers;[1] and

Whereas, The applications of genetic testing across medicine are expanding, including into such areas as whole-genome sequencing, carrier testing, prenatal testing, preimplantation testing, newborn screening, and predictive testing;[2,3] and

Whereas, Genetic specialists, such as board-certified genetic counselors and board-certified medical geneticists are trained to assess and counsel patients on the physical, mental, social, and emotional impacts of genetic conditions;[4,5] and

Whereas, Some physicians feel insufficiently prepared to counsel patients on genetic testing results due to a lack of knowledge and skills; perceived ethical, legal, and social implications; lack of access to genetics services such as consults; and difficulty in understanding the clinical impact of genetic tests;[4,6,7] and

Whereas, Seventy-five percent of hospital-based primary care physicians in the US in a national survey stated that they have no access to genetics expertise if needed;[5] and

Whereas, Pursuant to existing AMA Policy H-460.908, the AMA will continue to represent physicians' voices and interests in national policy discussions of issues pertaining to the clinical implementation of genomic-based personalized medicine; therefore be it

RESOLVED, That our American Medical Association support efforts to assess the usage of genetic testing and need for counseling services, physician preparedness in counseling patients or referring them to board-certified genetics specialists (New HOD Policy); and be it further

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[1] Department of Health and Human Services Secretary's Advisory Committee on Genetics, Health, and Society. (2008) "U.S. System of Oversight of Genetic Testing: A Response to the Charge of the Secretary of Health and Human Services." 1(192). Available at http://osp.od.nih.gov/sites/default/files/SACGHS_oversight_report.pdf

[2] UnitedHealth Group. (2012) "Personalized Medicine: Trends and Prospects for the New Science of Genetic Testing and Molecular Diagnostics." Available at http://www.unitedhealthgroup.com/~/media/uhg/pdf/2012/unh-working-paper-7.ashx

[3] National Library of Medicine. (2016) "What Are the Types of Genetic Tests?." Genetics Home Reference. Available at https://ghr.nlm.nih.gov/primer/testing/uses

[4] Shelton CA and Whitcomb DC. (2015) Evolving Roles for Physicians and Genetic Counselors in Managing Complex Genetic Disorders. Clin Trans Gastroenterol, 6, e124. doi:10.1038/ctg.2015.46

[5] Haga SB, Burke W, and Agans R. (2013) Primary-care physicians' access to genetic specialists: an impediment to the routine use of genomic medicine?. Genetics in Medicine, 15: 513–514. doi:10.1038/gim.2012.168.

[6] Burke W and Korngiebel DM. (2015) Closing the Gap between Knowledge and Clinical Application: Challenges for Genomic Translation. PLoS Genetics, 11(2), e1004978. http://doi.org/10.1371/journal.pgen.1004978

[7] Mikat-Stevens NA, Larson IA, and Tarini BA. (2015) Primary-care providers' perceived barriers to integration of genetics services: A systematic review of the literature. Genetics in Medicine, 17(3): 169-176

RESOLVED, That our AMA encourage efforts to create and disseminate guidelines for best practice standards concerning counseling for genetic test results (New HOD Policy); and be it further

RESOLVED, That our AMA support further research into and open discourse concerning issues in medical genetics, including the genetic specialist workforce shortage, physician preparedness in the provision of genetic testing and counseling services, and impact of genetic test results and counseling on patient satisfaction. (New HOD Policy)

Fiscal Note: Minimal - less than $1,000.

Received: 09/29/16

RELEVANT AMA POLICY

Genomic-Based Personalized Medicine H-460.908 - Our AMA: (1) acknowledges the increasingly important role of genomic-based personalized medicine applications in the delivery of care, and will continue to assist in informing physicians about relevant personalized medicine issues; (2) will continue to develop educational resources and point-of-care tools to assist in the clinical implementation of genomic-based personalized medicine applications, and will continue to explore external collaborations and additional funding sources for such projects; and (3) will continue to represent physicians' voices and interests in national policy discussions of issues pertaining to the clinical implementation of genomic-based personalized medicine, such as genetic test regulation, clinical validity and utility evidence development, insurance coverage of genetic services, direct-to-consumer genetic testing, and privacy of genetic information.
CSAPH Rep. 4, A-10

Genomic and Molecular-based Personalized Health Care D-460.976 - Our AMA will: (1) continue to recognize the need for possible adaptation of the US health care system to prospectively prevent the development of disease by ethically using genomics, proteomics, metabolomics, imaging and other advanced diagnostics, along with standardized informatics tools to develop individual risk assessments and personal health plans; (2) support studies aimed at determining the viability of prospective care models and measures that will assist in creating a stronger focus on prospective care in the US health care system; (3) support research and discussion regarding the multidimensional ethical issues related to prospective care models, such as genetic testing; (4) maintain a visible presence in genetics and molecular medicine, including web-based resources and the development of educational materials, to assist in educating physicians about relevant clinical practice issues related to genomics as they develop; and (5) promote the appropriate use of pharmacogenomics in drug development and clinical trials.
CSAPH Rep. 4, A-06 Reaffirmed: CSAPH Rep. 4, A-10

Medical Genetics D-460.996 - Our AMA will join with the American College of Medical Genetics and other professional and lay organizations to: (1) Publicize the resources and services offered by medical genetics professionals to other medical specialties; and (2) advocate for federal funding specifically targeted to the development and stable support of a clinical genetics infrastructure commensurate with the application of new genetic knowledge to the prevention and treatment of human disease.
Res. 527, A-99 Modified and Reaffirmed: CSAPH Rep. 1, A-09

Genetics Testing Legislation H-460.931 - The AMA opposes legislative initiatives on genetic testing that would unduly restrict the ability to use stored tissue for medical research; and will

continue to support existing federal and private accreditation and quality assurance programs designed to ensure the accuracy and reliability of tests, but oppose legislation that could establish redundant or duplicative federal programs of quality assurance in genetic testing.
Sub. Res. 219, I-96 Reaffirmed: CSAPH Rep. 3, A-06 Reaffirmed: CEJA Rep. 6, A-11

Multiplex DNA Testing for Genetic Conditions H-480.966 - Policy of the AMA is that: (1) tests for more than one genetic condition should be ordered only when clinically relevant and after the patient or parent/guardian has had full counseling and has given informed consent; (2) efforts should be made to educate clinicians and society about genetic testing; and (3) before genetic testing, patients should be counseled on the familial implications of genetic test results, including the importance of sharing results in instances where there is a high likelihood that a relative is at risk of serious harm, and where the relative could benefit from early monitoring or from treatment.
CEJA Rep. 1, I-96 Appended: BOT Rep. 16, I-99 Modified: CSA Rep. 3, A-03 Modified: CSAPH Rep. 1, A-13

Genetic Susceptibility Testing for Hereditary Cancers H-55.979 - (1) That physicians who feel unprepared to provide comprehensive genetic test counseling should refer candidates for genetic susceptibility testing to specialized care centers with experience and expertise in hereditary cancers or to investigators for relevant research, where family history can be confirmed and they can be tested if they so choose. (2) That genetic susceptibility testing, including that marketed directly to consumers, should be provided only in the context of fully informed consent and comprehensive pre- and post-test counseling by a qualified health care professional.
CSA Rep. 7, I-96 Reaffirmed: CSAPH Rep. 3, A-06 Modified: BOT Rep. 7, A-08

Direct-to-Consumer Marketing and Availability of Genetic Testing D-480.987 - Our AMA: (1) recommends that genetic testing be carried out under the personal supervision of a qualified health care professional; (2) encourages individuals interested in obtaining genetic testing to contact a qualified healthcare professional for further information; (3) will work with relevant organizations to develop criteria on what constitutes an acceptable advertisement for a direct-to-consumer genetic test; (4) encourages the U.S. Federal Trade Commission, with input from the U.S. Food and Drug Administration and the Centers for Medicare and Medicaid Services, to require that direct-to-consumer advertisements for genetic testing are truthful and not misleading; such advertisements should include all relevant information regarding capabilities and limitations of the tests, and contain a statement referring patients to physicians to obtain further information; (5) will work to educate and inform physicians regarding the types of genetic tests that are available directly to consumers, including information about the lack of scientific validity associated with some direct-to-consumer genetic tests, so that patients can be appropriately counseled on the potential harms.
Res. 502, A-04 Modified: BOT Rep. 7, A-08 Reaffirmed: CSAPH Rep. 4, A-10

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 914
(I-16)

Introduced by: Indiana

Subject: Needle / Syringe Disposal

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, The abuse of oral opioids has been decreasing because of tighter controls on prescriptions; and

Whereas, Due to restrictions on oral medications, some drug addicts are switching to intravenous opioids in the form of heroin, fentanyl, etc.; and

Whereas, These intravenous drug abusers often have difficulty obtaining new needles/syringes, so they resort to reusing needles/syringes; and

Whereas, These intravenous drug abusers have been known to collect used needles/syringes from sharps containers in hospitals, clinics, medical offices, etc.; IV drug abusers are present in these facilities as patients and visitors, but sometimes enter as unwelcome individuals on the prowl for needles/syringes; and

Whereas, Reuse of needles/syringes is associated with an increased incidence of HIV, hepatitis C, endocarditis, septic thrombophlebitis, cellulitis, soft tissue abscess, vascular injury, soft tissue injury, etc.; and

Whereas, Diabetics and IV drug abusers sometimes will dispose of used needles/syringes in public restrooms; therefore be it

RESOLVED, That our American Medical Association support the requirement that medical facility needle/syringe disposal devices be as theft-proof and tamper-proof as possible; this requirement could be established by rule or by statute (New HOD Policy); and be it further

RESOLVED, That our AMA support the requirement that stored used needles/syringes be properly secured so as to discourage theft (New HOD Policy); and be it further

RESOLVED, That our AMA support the requirement that theft and tamper-proof containers be placed in public restrooms for the purpose of needle/syringe disposal; an ideal device would crush the syringe as part of the disposal process; (New HOD Policy) and be it further

RESOLVED, That our AMA encourage those communities with a significant IV drug abuse population to establish a needle exchange program, since this helps eliminate the demand for used needles/syringes. (New HOD Policy)

Fiscal Note: Minimal - less than $1,000.

Received: 09/29/16

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 915
(I-16)

Introduced by: Women Physicians Section

Subject: Women and Alzheimer's Disease

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Women make up two-thirds of the more than 5 million individuals in this country currently suffering from and dying with Alzheimer's disease and related dementias; and

Whereas, Recent data suggest that women with early memory problems worsen significantly faster than men at the same stage of dementia; and

Whereas, An understanding of these sex and gender differences may lead to new diagnostic procedures and experimental treatment targets; and

Whereas, Sex [and gender] differences in the vulnerability to Alzheimer’s could have implications on the design of clinical trials of potential treatments; therefore be it

RESOLVED, That our American Medical Association participate in efforts to raise awareness of the noted sex and gender differences in incidence and etiology of Alzheimer’s disease and related dementias (Directive to Take Action); and be it further

RESOLVED, That our AMA make readily available to physicians the relevant guidelines for clinical decision making in the diagnosis and treatment of Alzheimer's disease and other dementias (Directive to Take Action); and be it further

RESOLVED, That our AMA encourage physicians to consider performing regular cognitive testing as a part of wellness visit protocols for older adults, especially patients with increased risk of developing Alzheimer's disease and other forms of dementia, including, but not limited to, female sex, genetics, and cardiovascular co-morbidities (New HOD Policy); and be it further

RESOLVED, That our AMA encourage increased enrollment in clinical trials with all appropriate patients with Alzheimer’s and related dementias, and their families, to better identify sex-differences in incidence and progression and to advance a treatment and cure of Alzheimer's and related dementia. (New HOD Policy)

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

Received: 09/30/16

References:
1. Women and Alzheimer’s Disease. http://www.alz.org/documents_custom/2014_facts_figures_fact_sheet_women.pdf.
2. Rocca WA, Mielke MM, Vemuri P, and Miller VM. Maturitas. 2014 Oct; 79(2):196-201. Sex and gender differences in the causes of dementia: a narrative review.
Women with Memory Impairment Deteriorate Faster than Men, Alzheimer’s Study Shows. http://www.wsj.com/articles/women-with-memory-impairment-deteriorate-faster-than-men-according-to-alzheimers-study-1437480061.

RELEVANT AMA POLICY

Alzheimer's Disease H-25.991
The AMA:
(1) encourages physicians to make appropriate use of guidelines for clinical decision making in the diagnosis and treatment of Alzheimer's disease and other dementias;
(2) encourages physicians to make available information about community resources to facilitate appropriate and timely referral to supportive caregiver services;
(3) encourages studies to determine the comparative cost-effectiveness/cost-benefit of assisted in-home care versus nursing home care for patients with Alzheimer's disease and related disorders;
(4) encourages studies to determine how best to provide stable funding for the long-term care of patients with Alzheimer's disease and other dementing disorders; and
(5) supports the use of evidence-based cost-effective technologies with prior consent of patients or designated healthcare power of attorney, as a solution to prevent, identify, and rescue missing patients with Alzheimer's disease and other related dementias with the help of appropriate allied specialty organizations.
CSA Rep. 6, I-97 Reaffirmed: CSAPH Rep. 3, A-07 Appended: Res. 503, A-16

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 916
(I-16)

Introduced by: Women Physicians Section

Subject: Women and Pre-Exposure Prophylaxis (PrEP)

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, According to the Centers for Disease Control and Prevention (CDC), women accounted for 19% of new HIV infections in the U.S. in 2014[1]; and

Whereas, African American women are disproportionately affected, as they comprise 13% of the U.S. female population, but account for 64% of women living with HIV and 62% of new HIV cases among women[1]; and

Whereas, Pre-exposure prophylaxis (PrEP) holds significant promise for women, as it does not require a partner's cooperation and instead enables greater control of one's sexual health and reproductive desires; and

Whereas, The CDC estimates that of the one million people in the U.S. who are eligible for PrEP, approximately 468,000 are cisgender (a person whose gender identity corresponds with the sex the person had or was identified as having at birth) women[2]; and

Whereas, The Office of Population Affairs updated its recommendations to explicitly state that prevention of sexually transmitted infection, including HIV prevention, is a core family planning service[3]; and

Whereas, Sixty percent of women access primary care through family planning providers[9]; and

Whereas, While a recent survey of family planning providers found that 75% of respondents believed HIV prevention education to be an essential part of family planning visits, 64-75% of these providers also reported great discomfort with educating their patients about PrEP, and even more were uncomfortable prescribing it[10]; and

Whereas, Of 340 family planning providers who took the survey, only 4% reported ever prescribing PrEP;[10] therefore, be it

RESOLVED, Our American Medical Association partner with the appropriate organizations to increase community awareness about Pre-exposure prophylaxis (PrEP) by developing a women-focused PrEP education and social marketing campaign aimed at reaching PrEP eligible women in the U.S., particularly women of color (Directive to Take Action); and be it further

RESOLVED, Our AMA make readily available the current guidelines on Pre-exposure prophylaxis (PrEP) to increase knowledge and skills among family planning and other sexual and reproductive health care providers, particularly in areas with high HIV incidence (Directive to Take Action); and be it further

RESOLVED, That our AMA encourage residency programs (e.g., Obstetrics and Gynecology, Family Medicine) to train future physicians to offer and administer HIV prevention services, including Pre-exposure prophylaxis (PrEP), and improve providers' ability to respond holistically to women living with and vulnerable to HIV (New HOD Policy); and be it further

RESOLVED, That our AMA encourage relevant organizations to develop training for physicians on HIV prevention services, including Pre-exposure prophylaxis (PrEP) (New HOD Policy); and be it further

RESOLVED, That our AMA encourage family planning, sexual health, and primary care providers to facilitate the integration of Pre-exposure prophylaxis (PrEP) services within clinics that serve HIV-vulnerable women and communities highly impacted by HIV. (Reaffirm HOD Policy)

References:
1. Centers for Disease Control and Prevention (2016). HIV among women factsheet. Retrieved from www.cdc.gov/hiv/group/gender/women/.
2. Smith D.K., Van Handel M., Wolitski R.J. (2015). Vital signs: Estimated percentages and numbers of adults with indications for preexposure prophylaxis to prevent HIV acquisition - United States, 2015. Morbidity and Mortality Weekly Report, 64(46),1291-1295. DOI: 10.15585/mmwr.mm6446a4.
3. Centers for Disease Control and Prevention (2014). Providing Quality Family Planning Services: Recommendations of CDC and the U.S. Office of Population Affairs. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6304a1.htm?s_cid=rr6304a1_w.
4. Baeten J.M., Donnell D., Mugo N.R. (2014). Single-agent tenofovir versus combination emtricitabine plus tenofovir for pre-exposure prophylaxis for HIV-1 acquisition: an update of data from a randomised, double-blind, phase 3 trial. Lancet Infect Diseases,14(11),1055-64. DOI:10.1016/S1473- 3099(14)70937-5.
5. Mugo N.R., Hong T., Celum C., et al. (2014). Pregnancy incidence and outcomes among women receiving preexposure prophylaxis for HIV prevention a randomized clinical trial. Journal of the American Medical Association, 312(4), 362-371. DOI:10.1001/jama.2014.8735.
6. Foster C., Lyall H., Olmscheid B., et al. (2009). Tenofovir disoproxil fumarate in pregnancy and prevention of mother-to-child transmission of HIV-1: Is it time to move on from zidovudine? HIV Medicine, 10(7), 397-406.
7. Gibb D.M., Kizito H., Russell E.C., et al. (2012). Pregnancy and infant outcomes among HIV-infected women taking long-term ART with and without tenofovir in the DART trial. Plos Med, 9(5),e1001217.
8. Bush S., Magnuson D., Rawlings K.M., et al. (2016). Racial characteristics of FTC/TDF for pre-exposure Prophylaxis (PrEP) users in the US. Abstract 2651. Presented at American Society for Microbiology/ICAAC 2016, 16-20.
9. Kaiser Family Foundation. Women and HIV/AIDS in the United States factsheet, 2014. Retrieved from http://kff.org/hivaids/fact-sheet/women-and-hivaids-in-the-united-states/.
10. Seidman D., Carlson K., Weber S., Witt J., Kelly P.J. (2016). United States family planning providers' knowledge of and attitudes towards pre-exposure prophylaxis for HIV prevention: A national survey. Contraception, 93(5), 463-469. DOI: 10.1016/j.contraception.2015.12.018.
11. Smith D.K., Mendoza M.C.B., Stryker J.E., Rose C.E. PrEP awareness and attitudes in a national survey of primary care clinicians in the United States, 2009–2015. PLoS ONE, 11(6), e0156592. DOI:10.1371/journal.pone.0156592.

Fiscal Note: Estimated cost of $40,000 for social media campaign for PrEP Awareness.

Received: 09/30/16

RELEVANT AMA POLICY

Pre-Exposure Prophylaxis for HIV H-20.895
1. Our AMA will educate physicians and the public about the effective use of pre-exposure prophylaxis for HIV and the US PrEP Clinical Practice Guidelines.
2. Our AMA supports the coverage of PrEP in all clinically appropriate circumstances.

Maternal HIV Screening and Treatment to Reduce the Risk of Perinatal HIV Transmission H-20.918
In view of the significance of the finding that treatment of HIV-infected pregnant women with appropriate antiretroviral therapy can reduce the risk of transmission of HIV to their infants, our AMA recommends the following statements:
(1) Given the prevalence and distribution of HIV infection among women in the United States, the potential for effective early treatment of HIV infection in both women and their infants, and the significant reduction in perinatal HIV transmission with treatment of pregnant women with appropriate antiretroviral

therapy, routine education about HIV infection and testing should be part of a comprehensive health care program for all women. The ideal would be for all women to know their HIV status before considering pregnancy.
(2) Universal HIV testing of all pregnant women, with patient notification of the right of refusal, should be a routine component of perinatal care. Basic counseling on HIV prevention and treatment should also be provided to the patient, consistent with the principles of informed consent.
(3) The final decision about accepting HIV testing is the responsibility of the woman. The decision to consent to or refuse an HIV test should be voluntary. When the choice is to reject testing, the patient's refusal should be recorded. Test results should be confidential within the limits of existing law and the need to provide appropriate medical care for the woman and her infant.
(4) To assure that the intended results are being achieved, the proportion of pregnant women who have accepted or rejected HIV testing and follow-up care should be monitored and reviewed periodically at the appropriate practice, program or institutional level. Programs in which the proportion of women accepting HIV testing is low should evaluate their methods to determine how they can achieve greater success.
(5) Women who are not seen by a health care professional for prenatal care until late in pregnancy or after the onset of labor should be offered HIV testing at the earliest practical time, but not later than during the immediate postpartum period.
(6) When HIV infection is documented in a pregnant woman, proper post-test counseling should be provided. The patient should be given an appropriate medical evaluation of the stage of infection and full information about the recommended management plan for her own health. Information should be provided about the potential for reducing the risk of perinatal transmission of HIV infection to her infant through the use of antiretroviral therapy, and about the potential but unknown long-term risks to herself and her infant from the treatment course. The final decision to accept or reject antiretroviral treatment recommended for herself and her infant is the right and responsibility of the woman. When the woman's serostatus is either unknown or known to be positive, appropriate counseling should also be given regarding the risks associated with breast-feeding for both her own disease progression and disease transmission to the infant.
(7) Appropriate medical treatment for HIV-infected pregnant women should be determined on an individual basis using the latest published Centers for Disease Control and Prevention recommendations. The most appropriate care should be available regardless of the stage of HIV infection or the time during gestation at which the woman presents for prenatal or intrapartum care.
(8) To facilitate optimal medical care for women and their infants, HIV test results (both positive and negative) and associated management information should be available to the physicians taking care of both mother and infant. Ideally, this information will be included in the confidential medical records. Physicians providing care for a woman or her infant should obtain the appropriate consent and should notify the other involved physicians of the HIV status of and management information about the mother and infant, consistent with applicable state law.
(9) Continued research into new interventions is essential to further reduce the perinatal transmission of HIV, particularly the use of rapid HIV testing for women presenting in labor and for women presenting in the prenatal setting who may not return for test results. The long-term effects of antiretroviral therapy during pregnancy and the intrapartum period for both women and their infants also must be evaluated. For both infected and uninfected infants exposed to perinatal antiretroviral treatment, long-term follow-up studies are needed to assess potential complications such as organ system toxicity, neurodevelopmental problems, pubertal development problems, reproductive capacity, and development of neoplasms.
(10) Health care professionals should be educated about the benefits of universal HIV testing, with patient notification of the right of refusal, as a routine component of prenatal care, and barriers that may prevent implementation of universal HIV testing as a routine component of prenatal care should be addressed and removed. Federal funding for efforts to prevent perinatal HIV transmission, including both prenatal testing and appropriate care of HIV-infected women, should be maintained.
CSA Rep. 4, A-03 Reaffirmed: CEJA Rep. 3, A-10

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 917
(I-16)

Introduced by: Women Physicians Section

Subject: Youth Incarceration in Adult Prisons

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Statistics reveal that thousands of children (some as young as 10 years old) in the U.S. have been prosecuted as adults and sent to adult prisons; and

Whereas, According to the Prison Project, more than 34,000 youth and children ages 12-17 were incarcerated or housed in adult State or Federal prisons in 2016; and

Whereas, The Human Rights Watch and the American Civil Liberties Union have estimated that the U.S. sends an extraordinary number of children to adult jails and prisons—totaling more than 95,000 in 2011; and

Whereas, The Federal Bureau of Investigation defines violent crimes as those involving force or threat of force, including murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault; and

Whereas, More than 90% of youth incarceration is for non-violent crimes; and

Whereas, Some children are sentenced to life without parole or a sentence of capital punishment; and

Whereas, The majority of the 50 states have laws that allow children to be sentenced and sent to adult prisons; and

Whereas, Children placed in adult prisons, have almost no opportunity for meaningful rehabilitation; and

Whereas, Due to the level of the emotional and physical development of children, juveniles are vulnerable and ill-prepared to overcome the predatory behaviors prevalent in adult prisons; and

Whereas, Adult incarceration of children, including life sentencing in this manner does not consider the socioeconomic plight and life journey of the child; and

Whereas, Children incarcerated in adult prisons are 7.7 times more likely to commit suicide, while children placed in Juvenile Detention Facilities are less likely to commit suicide than their corresponding age in the general population; and

Whereas, These children are also five times more likely to be sexually assaulted, and in one survey as many as 50% have admitted to physical assault by inmates and guards; and

Whereas, California Senate Bill 260 gives juveniles once sentenced to adult prison, a chance to demonstrate remorse and rehabilitation once incarcerated, and establishes a parole process with different criteria; and

Whereas, The criminalization of children creates a permanent path which subtracts from the individual child and destroys their lives and our society as a whole; therefore be it

RESOLVED, That our American Medical Association oppose incarceration of children (individuals less than 18 years of age) in adult prisons for non-violent crimes (New HOD Policy); and be it further

RESOLVED, That our AMA work with appropriate organizations to address age cutoffs for children (individuals less than 18 years of age) in adult prisons (Directive to Take Action); and be it further

RESOLVED, That our AMA advocate for elimination of the incarceration of children (individuals less than 18 years of age) in adult prisons for non-violent crimes (Directive to Take Action); and be it further

RESOLVED, That our AMA advocate for the passage of legislation that addresses reform for children (individuals less than 18 years of age) in adult prisons with respect to developing appropriate guidelines for parole, expungement and sealing of records, and solitary confinement (Directive to Take Action); and be it further

RESOLVED, That our AMA support early intervention and rehabilitation for children (individuals 18 years of age or younger) that have been incarcerated in adult prisons. (New HOD Policy)

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

Received: 09/30/16

References:
1. Equal Justice Initiative, Cruel and Unusual: Sentencing 13- and 14-Year-Old Children to Die in Prison, available at http://eji.org/sites/default/files/discussion-guide-cruel-and-unusual.pdf.
2. U.S. Department of Justice Office of Justice Programs Bureau of Justice Statistics 2011.
3. Puzzanchera, C. (2009). Juvenile arrests 2008. Juvenile Justice Bulletin, (Aug. 30, 2010). Retrieved from www.ojp.usdoj.gov.
4. Schiraldi, Vincent and Jason Zeidenberg. (1997) The Risks Juveniles Face When They Are Incarcerated With Adults.
5. Struckman-Johnson, Cindy and David Struckman Johnson. "Sexual Coercion Reported by Men and Women." The Journal of Sex Research, Vol. 33, No. 1, 1996.
6. Justice Policy Institute, http://www.justicepolicy.org/images/upload/97-02_rep_riskjuvenilesface_jj.pdf.

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 918
(I-16)

Introduced by: American Society of Clinical Oncology

Subject: Ensuring Cancer Patient Access to Pain Medication

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, An alarming number of people are dying from opioid overdoses or suffering misuse and abuse disorders; and

Whereas, The escalation of abuse, addiction, and diversion of opioids has led to an “opioid epidemic”; and

Whereas, Congress, the Administration, multiple federal agencies, and state legislatures are involved in efforts aimed at preventing and responding to opioid misuse and abuse; and

Whereas, Among cancer patients and cancer treatment survivors, it is widely acknowledged that too much pain goes untreated and that opioids remain an essential part of many cancer and cancer treatment associated pain treatment plans; and

Whereas, Barriers currently exist for cancer patients and survivors to access necessary pain medications; and

Whereas, Cancer patients represent a special population given the nature of the disease, its treatment, and potential life-long sequelae, and should be largely exempt from laws and regulations that restrict access or limit doses; and

Whereas, In the care of patients with cancer, it is primarily one practice team, and in most cases, one physician, who is longitudinally responsible for their care and prescribing; and

Whereas, There is broad agreement that opioid therapy is generally the first-line approach for moderate to severe chronic pain associated with cancer and anti-cancer therapy; and

Whereas, Some elements of both state and federal tightening of controls could introduce further barriers to appropriate treatment of pain related to cancer and its treatment, unintentionally harming a vulnerable population; therefore be it

RESOLVED, That our American Medical Association Policy D-120.947, A More Uniform Approach to Assessing and Treating Patients with Controlled Substances for Pain Relief, be amended by addition as follows:

3. Our AMA will work diligently with the Centers for Disease Control and Prevention and other regulatory agencies to provide increased leeway in the interpretation of the new guidelines for appropriate prescription of opioid medications in long-term care facilities and in the care of patients with cancer and cancer survivors, in much the same way as is being done for hospice and palliative care. (Modify Current HOD Policy)

RESOLVED, That our AMA advocate and support advocacy at the state and federal levels against arbitrary prescription limits that restrict access to medically necessary treatment by limiting the dose, amount or days of the first or subsequent prescription for patients with pain related to a cancer or terminal diagnosis. (New HOD Policy)

Fiscal Note: Minimal - less than $1,000.

Received: 09/30/16

RELEVANT AMA POLICY

A More Uniform Approach to Assessing and Treating Patients for Controlled Substances for Pain Relief D-120.947

1. Our AMA will consult with relevant Federation partners and consider developing by consensus a set of best practices to help inform the appropriate clinical use of opioid analgesics, including risk assessment and monitoring for substance use disorders, in the management of persistent pain.
2. Our AMA will urge the Centers for Disease Control and Prevention to take the lead in promoting a standard approach to documenting and assessing unintentional poisonings and deaths involving prescription opioids, including obtaining more complete information on other contributing factors in such individuals, in order to develop the most appropriate solutions to prevent these incidents.
3. Our AMA will work diligently with the Centers for Disease Control and Prevention and other regulatory agencies to provide increased leeway in the interpretation of the new guidelines for appropriate prescription of opioid medications in long-term care facilities, in much the same way as is being done for hospice and palliative care.

BOT Rep. 3, I-13 Appended: Res. 522, A-16

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 919
(I-16)

Introduced by: Michigan

Subject: Coal-Tar-Based Sealcoat Threat to Human Health and the Environment

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Coal-tar-based sealcoats, containing a high concentration of polycyclic aromatic hydrocarbons (PAH), are commonly used and applied widely on various forms of pavement and playgrounds as a form of maintenance; and

Whereas, Application of products containing high PAH concentration comes with adverse health and environmental consequences; and

Whereas, PAH compounds have been proven to be carcinogenic, mutagenic, and teratogenic to humans according to the International Agency for Research on Cancer; and

Whereas, Application of these sealcoats to pavements and playgrounds erodes and evaporates over time causing chemicals, and specifically PAH, to leach into the water, soil, and air; and

Whereas, Alternatives including asphalt, acrylic, or latex sealcoats with low or no PAH exist at a similar cost; some even argue that sealing is not necessary, as it is more cost effective to repave occasionally rather than to sealcoat regularly; and

Whereas, Individuals with lifelong exposure to coal-tar sealcoat treated pavements and playgrounds have a 38-fold higher risk of cancer; and

Whereas, Studies show 50-75 percent of PAH found in the Great Lakes sediment originates from coal tar sealcoats, which eventually ends up in the aquatic wildlife including those species consumed by people; and

Whereas, Washington, DC, Minnesota, Washington, and counties, townships, and municipalities in many other states including Michigan have banned the use of coal-tar sealcoats; therefore be it

RESOLVED, That our American Medical Association advocate for national legislation to ban the use of pavement sealcoats that contain polycyclic aromatic hydrocarbons (PAH); or at least, use sealcoat products that contain low or no PAH, specifically products where the concentration of PAH is less than 1/1000th the concentration in coal-tar sealcoats. (Directive to Take Action)

References:

1. International Agency for Research on Cancer, 1987. Coal-tar Pitches.
2. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Supplement 7, pp 174-175.
3. Van Metre, Peter C., and Barbara J. Mahler. "Contribution of PAHs from coal–tar pavement sealcoat and other sources to 40 US lakes." Science of the Total Environment 409.2 (2010): 334-344.
4. Mahler, Barbara J., et al. "Acute toxicity of runoff from seal coated pavement to Ceriodaphnia dubia and Pimephales promelas." Environmental Science & Technology 49.8 (2015): 5060-5069.
5. Mahler, Barbara J., et al. "Coal-tar-based pavement sealcoat and PAHs: implications for the environment, human health, and stormwater management." Environmental Science & Technology 46.6 (2012): 3039-3045.
6. D.C. Code § 8-153.01
7. Washington, Chapter 70.295 RCW Minnesota, 116.202 (2015)
8. Action to Restrict or Discontinue the Use of Coal Tar-Based Sealants in the United States, Minnesota Pollution Control Agency (2014) pca.state.mn.us

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

Received: 09/30/16

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 920
(I-16)

Introduced by: Michigan

Subject: Haptenation and Hypersensitivity Disorders Communication

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Chemical and/or metal sensitization (e.g., due to cosmetics, medications, and fumes) is poorly understood and grossly under-recognized by physicians; and

Whereas, Haptenation is a known and well documented physiologic process occurring in humans, creating symptoms and disease; therefore be it

RESOLVED, That our American Medical Association re-engage its communication efforts to make physicians aware of the process of haptenation and sensitization and their multiple ramifications, as well as to help physicians teach patients methods to avoid exposure to haptens, and to help physicians include chemical sensitivity in the differential diagnosis, take a history focused on exposures to toxins and symptoms related to known toxins and testing. (Directive to Take Action)

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

Received: 09/30/16

RELEVANT AMA POLICY

Modern Chemicals Policies D-135.987
Our AMA: (1) will call upon the United States government to implement a national modern, comprehensive chemicals policy that is in line with current scientific knowledge on human and environmental health, and that requires a full evaluation of the health impacts of both newly developed and industrial chemicals now in use; and (2) encourages the training of medical students, physicians, and other health professionals about the human health effects of toxic chemical exposures.
Citation: (Sub. Res. 404, A-08; Reaffirmation A-10)

Modern Chemicals Policies H-135.942
Our AMA supports: (1) the restructuring of the Toxic Substances Control Act to serve as a vehicle to help federal and state agencies to assess efficiently the human and environmental health hazards of industrial chemicals and reduce the use of those of greatest concern; and (2) the Strategic Approach to International Chemicals (SAICM) process leading to the sound management of chemicals throughout their life-cycle so that, by 2020, chemicals are used and produced in ways that minimize adverse effects on human health and the environment.
Citation: (Sub. Res. 404, A-08; Reaffirmation A-10; Reaffirmed: CSAPH Rep. 5, A-11)

Modernization of the Federal Toxic Substances Control Act (TSCA) of 1976 D-135.976
Our AMA will: (1) collaborate with relevant stakeholders to advocate for modernizing the Toxic Substances Control Act (TSCA) to require chemical manufacturers to provide adequate safety information on all chemicals and give federal regulatory agencies reasonable authority to regulate hazardous chemicals in order to protect the health of all individuals, especially vulnerable populations; (2) support the public disclosure of chemical use, exposure and hazard data in forms that are appropriate for use by medical practitioners, workers, and the public; and (3) work with members of the Federation to promote a reformed TSCA that is consistent with goals of Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH).
Citation: (Res. 515, A-12; Modified: Res. 907, I-13; Reaffirmation I-13)

Human and Environmental Health Impacts of Chlorinated Chemicals H-135.956
The AMA: (1) encourages the Environmental Protection Agency to base its evaluations of the potential public health and environmental risks posed by exposure to an individual chlorinated organic compound, other industrial compound, or manufacturing process on reliable data specific to that compound or process; (2) encourages the chemical industry to increase knowledge of the environmental behavior, bioaccumulation potential, and toxicology of their products and by-products; and (3) supports the implementation of risk reduction practices by the chemical and manufacturing industries.
Citation: (Sub. Res. 503, A-94; Reaffirmation I-98; Reaffirmed: CSAPH Rep. 2, A-08)

Green Initiatives and the Health Care Community H-135.939
Our AMA supports: (1) responsible waste management policies, including the promotion of appropriate recycling and waste reduction; (2) the use of ecologically sustainable products, foods, and materials when possible; (3) the development of products that are non-toxic, sustainable, and ecologically sound; (4) building practices that help reduce resource utilization and contribute to a healthy environment; and (5) community-wide adoption of 'green' initiatives and activities by organizations, businesses, homes, schools, and government and health care entities.
Citation: CSAPH Rep. 1, I-08; Reaffirmation A-09; Reaffirmed in lieu of Res. 402, A-10; Reaffirmed in lieu of: Res. 504, A-16

Education and Prevention Programs Regarding Air Pollution Impact on Body Organs and Systems H-135.954
The AMA will provide leadership and participate in a major air pollution education and prevention program carried out by the health care community, in cooperation with environmental organizations and business, to inform patients and the public of the negative health effects of indoor and outdoor air pollution on the organs and systems of the body.
Citation: Res. 404, I-95; Reaffirmed: CSA Rep. 8, A-05; Reaffirmation I-06; Rescinded: CSAPH Rep. 01, A-16;

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 921
(I-16)

Introduced by: Michigan

Subject: Raise the Minimum Age of Legal Access to Tobacco to 21 Years

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Over the past 50 years, tobacco control in the United States has led to an estimated eight million fewer premature deaths, and

Whereas, Tobacco use continues to significantly affect public health, and more than 40 million Americans still smoke, and

Whereas, A recent Institute of Medicine report projected a 12 percent decrease in smoking prevalence if the minimum age of legal access to tobacco products was raised to 21 years; therefore be it

RESOLVED: That our American Medical Association reaffirm its support for raising the minimum age of legal access to tobacco products to 21 years. (Reaffirm HOD Policy)

Fiscal Note: Minimal - less than $1,000.

Received: 09/30/16

RELEVANT AMA POLICY

Sales and Distribution of Tobacco Products and Electronic Nicotine Delivery Systems (ENDS) and E-cigarettes H-495.986
H-495.986 Tobacco Product Sales and Distribution
Our AMA: (1) encourages the passage of laws, ordinances and regulations that would set the minimum age for purchasing tobacco products, including electronic nicotine delivery systems (ENDS) and e-cigarettes, at 21 years, and urges strict enforcement of laws prohibiting the sale of tobacco products to minors; (2) supports the development of model legislation regarding enforcement of laws restricting children's access to tobacco, including but not limited to attention to the following issues: (a) provision for licensure to sell tobacco and for the revocation thereof; (b) appropriate civil or criminal penalties (e.g., fines, prison terms, license revocation) to deter violation of laws restricting children's access to and possession of tobacco; (c) requirements for merchants to post notices warning minors against attempting to purchase tobacco and to obtain proof of age for would-be purchasers; (d) measures to facilitate enforcement; (e) banning out-of-package cigarette sales ("loosies"); and (f) requiring tobacco purchasers and vendors to be of legal smoking age; (3) requests that states adequately fund the enforcement of the laws related to tobacco sales to minors; (4) opposes the use of vending machines to distribute tobacco products and supports ordinances and legislation to ban the use of vending machines for distribution of tobacco products; (5) seeks a ban on the production, distribution, and sale of candy products that depict or resemble tobacco products; (6) opposes the distribution of free tobacco products by any means and supports the enactment of legislation

prohibiting the disbursement of samples of tobacco and tobacco products by mail; (7) (a) publicly commends (and so urges local medical societies) pharmacies and pharmacy owners who have chosen not to sell tobacco products, and asks its members to encourage patients to seek out and patronize pharmacies that do not sell tobacco products; (b) encourages other pharmacists and pharmacy owners individually and through their professional associations to remove such products from their stores; (c) urges the American Pharmacists Association, the National Association of Retail Druggists, and other pharmaceutical associations to adopt a position calling for their members to remove tobacco products from their stores; and (d) encourages state medical associations to develop lists of pharmacies that have voluntarily banned the sale of tobacco for distribution to their members; (8) opposes the sale of tobacco at any facility where health services are provided; and (9) supports that the sale of tobacco products be restricted to tobacco specialty stores.

CSA Rep. 3, A-04 Appended: Res. 413, A-04 Reaffirmation A-07 Amended: Res. 817, I-07 Reaffirmation A-08 Reaffirmation I-08 Reaffirmation A-09 Reaffirmation I-13 Reaffirmation A-14 Reaffirmation I-14 Reaffirmation A-15 Modified in lieu of Res. 421, A-15 Modified in lieu of Res. 424, A-15

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 922
(I-16)

Introduced by: Michigan

Subject: Responsible Parenting and Access to Family Planning

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Nearly 50 percent of the pregnancies in the United States of America are unplanned; and

Whereas, Michigan's recent information shows that only 33 percent of reproductive age women with a chronic deteriorating medical condition receive prescribed contraception in spite of their increased risk for obstetrical adverse outcomes; and

Whereas, A significant number of those pregnancies impact the birth outcome and the short and long term health of the newborn and frequently increase the maternal risk for significant morbidity or even mortality; and

Whereas, Family planning services and methods should be considered an essential health care service no different than any other form of health care; and

Whereas, These services must not depend on the woman's ability to pay and must be included within any health care coverage that facilitates the woman's access to obtain it; therefore be it

RESOLVED, That our American Medical Association reaffirm its commitment to work with all of the national medical societies and other interested organizations involved in women's health care to ensure the education of women on the proper use of Food and Drug Administration-approved methods of family planning and assure that reproductive counseling is accessible and appropriately funded. (Reaffirm HOD Policy)

Reference(s):
1. Receipt of prescription contraception by commercially insured women with chronic medical conditions. DeNoble AE, Hall KS, Xu, X, Zochowski MK, Piehl K, Dalton VK. Obstet Gynecol 2014. 123(6) 1213-20
2. Health insurance coverage and prescription contraceptive use among young women at risk for unintended pregnancy. Nearns J. Contraception, 2009. 79 (2) 105-10
3. American College of Obstetricians & Gynecologists, Improve access to contraception. December 22, 2014
4. Return on investment A fuller assessment od the benefits and cost savings of the US publicly funded family planning program. Frost JJ, Sonfield A, Zolna MR, Finer LB. Milbank Q. 2014. 92 (4) 696-749

Fiscal Note: Minimal - less than $1,000.

Received: 09/30/16

RELEVANT AMA POLICY

Reducing Unintended Pregnancy H-75.987
Our AMA: (1) urges health care professionals to provide care for women of reproductive age, to assist them in planning for pregnancy and support age-appropriate education in esteem building, decision-making and family life in an effort to introduce the concept of planning for childbearing in the educational process; (2) supports reducing unintended pregnancies as a national goal; and (3) supports the training of all primary care physicians and relevant allied health professionals in the area of preconception counseling, including the recognition of long-acting reversible contraceptives as efficacious and economical forms of contraception.
Res. 512, A-97 Reaffirmed: CSAPH Rep. 3, A-07 Reaffirmation A-15 Appended: Res. 502, A-15

Extension of Medicaid Coverage for Family Planning Services H-75.988
The AMA supports legislation that will allow states to extend Medicaid coverage for contraceptive education and services for at least two years postpartum for all eligible women.
Sub. Res. 201, I-93 Reaffirmed: BOT Rep. 28, A-03 Modified: CMS Rep. 4, A-13

Family Planning Clinic Funds H-75.992
Our AMA supports the concept of adequate funding for family planning programs.
Res. 102, A-90 Reaffirmed: Sunset Report, I-00 Reaffirmed: CSAPH Rep. 1, A-10 Reaffirmed: Res. 227, A-11

Support for Access to Preventive and Reproductive Health Services H-425.969
Our AMA supports access to preventive and reproductive health services for all patients and opposes legislative and regulatory actions that utilize federal or state health care funding mechanisms to deny established and accepted medical care to any segment of the population.
Sub. Res. 224, I-15

Preconception Care H-425.976
1. Our AMA supports the 10 recommendations developed by the Centers for Disease Control and Prevention for improving preconception health care that state:
(1) Individual responsibility across the lifespan--each woman, man, and couple should be encouraged to have a reproductive life plan;
(2) Consumer awareness--increase public awareness of the importance of preconception health behaviors and preconception care services by using information and tools appropriate across various ages; literacy, including health literacy; and cultural/linguistic contexts;
(3) Preventive visits--as a part of primary care visits, provide risk assessment and educational and health promotion counseling to all women of childbearing age to reduce reproductive risks and improve pregnancy outcomes;
(4) Interventions for identified risks--increase the proportion of women who receive interventions as follow-up to preconception risk screening, focusing on high priority interventions (i.e., those with evidence of effectiveness and greatest potential impact);
(5) Inter-conception care--use the inter-conception period to provide additional intensive interventions to women who have had a previous pregnancy that ended in an adverse outcome (i.e., infant death, fetal loss, birth defects, low birth weight, or preterm birth);
(6) Pre-pregnancy checkup--offer, as a component of maternity care, one pre-pregnancy visit for couples and persons planning pregnancy;
(7) Health insurance coverage for women with low incomes--increase public and private health insurance coverage for women with low incomes to improve access to preventive women's health and pre-conception and inter-conception care;
(8) Public health programs and strategies--integrate components of pre-conception health into existing local public health and related programs, including emphasis on inter-conception interventions for women with previous adverse outcomes;
(9) Research--increase the evidence base and promote the use of the evidence to improve preconception health; and
(10) Monitoring improvements--maximize public health surveillance and related research mechanisms to monitor preconception health.
2. Our AMA supports the education of physicians and the public about the importance of preconception care as a vital component of a woman's reproductive health.
Res. 414, A-06 Reaffirmation I-07

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 923
(I-16)

Introduced by: Michigan

Subject: Reverse Onus in the Manufacture and Use of Chemicals

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Michigan and the Great Lakes region continue to suffer significant chemical contamination as a result of past manufacturing practices and inadequate business and governmental stewardship; and

Whereas, This historic contamination, particularly by bio-accumulative, persistent chemicals continues to affect the environment and human health; and

Whereas, Some chemical contaminants, including pesticides and herbicides in the Great Lakes ecosystem have been associated with developmental delays and neurological impairments in children and other human health effects; and

Whereas, There is continuing concern about the potential environmental and human health impacts of chemicals still in common use; and

Whereas, Exposure of the environment and human health to chemicals that are later found to have significant health impacts can result in irreversible health problems in those exposed, as well as significant costs to industry and government for clean-up; and

Whereas, The state of Michigan has a responsibility to exercise leadership in protection of the Great Lakes ecosystem by virtue of its geographic position at the heart of the Great Lakes basin and the linkage between the health of the lakes and the health of Michigan; therefore be it

RESOLVED, That our American Medical Association reaffirm its commitment to encourage the Environmental Protection Agency to do the following:

- Adopt and advocate policies that prevent avoidable harm to the environment and human health by placing the burden of proof, where there is scientific evidence of harm, for the safety of chemicals on those manufacturing, handling, importing, or proposing to introduce into commerce such chemicals prior to their use;
- Adopt and advocate policies based on the precautionary principle where there is scientific evidence of harm, which holds that when an activity raises threats of harm to human health or the environment, precautionary measures should be taken;
- Ensure the burden of proof should be on the user or producer of a hazardous chemical or product to convince government authorities that the product does not deserve to be restricted and that it is the least damaging alternative available; and,
- Adopt policies discouraging use of substances that are persistent and liable to bio-accumulate and advocate adoption of federal laws and policies that ban the use of such substances. (Reaffirm HOD Policy)

Fiscal Note: Minimal - less than $1,000.

Received: 09/30/16

RELEVANT AMA POLICY

Modern Chemicals Policies D-135.987
Our AMA: (1) will call upon the United States government to implement a national modern, comprehensive chemicals policy that is in line with current scientific knowledge on human and environmental health, and that requires a full evaluation of the health impacts of both newly developed and industrial chemicals now in use; and (2) encourages the training of medical students, physicians, and other health professionals about the human health effects of toxic chemical exposures.
Citation: (Sub. Res. 404, A-08; Reaffirmation A-10)

Modern Chemicals Policies H-135.942
Our AMA supports: (1) the restructuring of the Toxic Substances Control Act to serve as a vehicle to help federal and state agencies to assess efficiently the human and environmental health hazards of industrial chemicals and reduce the use of those of greatest concern; and (2) the Strategic Approach to International Chemicals (SAICM) process leading to the sound management of chemicals throughout their life-cycle so that, by 2020, chemicals are used and produced in ways that minimize adverse effects on human health and the environment.
Citation: (Sub. Res. 404, A-08; Reaffirmation A-10; Reaffirmed: CSAPH Rep. 5, A-11)

Modernization of the Federal Toxic Substances Control Act (TSCA) of 1976 D-135.976
Our AMA will: (1) collaborate with relevant stakeholders to advocate for modernizing the Toxic Substances Control Act (TSCA) to require chemical manufacturers to provide adequate safety information on all chemicals and give federal regulatory agencies reasonable authority to regulate hazardous chemicals in order to protect the health of all individuals, especially vulnerable populations; (2) support the public disclosure of chemical use, exposure and hazard data in forms that are appropriate for use by medical practitioners, workers, and the public; and (3) work with members of the Federation to promote a reformed TSCA that is consistent with goals of Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH).
Citation: (Res. 515, A-12; Modified: Res. 907, I-13; Reaffirmation I-13)

Human and Environmental Health Impacts of Chlorinated Chemicals H-135.956
The AMA: (1) encourages the Environmental Protection Agency to base its evaluations of the potential public health and environmental risks posed by exposure to an individual chlorinated organic compound, other industrial compound, or manufacturing process on reliable data specific to that compound or process; (2) encourages the chemical industry to increase knowledge of the environmental behavior, bioaccumulation potential, and toxicology of their products and by-products; and (3) supports the implementation of risk reduction practices by the chemical and manufacturing industries.
Citation: (Sub. Res. 503, A-94; Reaffirmation I-98; Reaffirmed: CSAPH Rep. 2, A-08)

EPA and Green House Gas Regulation H-135.934
Our AMA supports the Environmental Protection Agency's authority to promulgate rules to regulate and control greenhouse gas emissions in the United States.
Citation: (Res. 925, I-10; Reaffirmed in lieu of Res. 526, A-12; Reaffirmed: Res. 421, A-14)

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 924
(I-16)

Introduced by: American Association of Public Health Physicians

Subject: AMA Advocacy for Environmental Sustainability and Climate

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, AMA policy recognizes "the potential adverse public health effects of global climate change" (AMA Policy H-135.938); and

Whereas, Adopting environmental sustainability and other measures to halt global climate change often saves money for physicians[1] and hospitals[2]; and

Whereas, AMA policies favor environmental education and stewardship (H-135.973, H-135.969, H-135.939) and the need for improved energy efficiency in our offices and medical centers (D-155.999), and other aspects of environmental sustainability but our AMA offers no programs to help physicians to implement these policies; and

Whereas, Our AMA does not have a policy that the AMA itself, representing America's doctors, will be an advocate for environmental sustainability and efforts to halt global climate change; and

Whereas, Our AMA has in the past taken advocacy positions on subjects which have broad potential impacts on human health, such as nuclear weapons testing, vaccinations, tobacco use, and chemical warfare; and

Whereas, Our AMA includes 40 topics as part of its advocacy mission[3], yet environmental sustainability is not among them, despite the potential benefits to physician practices and the health risks posed by climate change; and

Whereas, A few state or specialty medical societies offer environmental sustainability programs to their members, which could be offered by the AMA at little cost; therefore be it

RESOLVED, That our American Medical Association develop a strategy to advocate for governments and other organizations to promote environmental sustainability and other efforts to halt global climate change (Directive to Take Action); and be it further

RESOLVED, That our AMA incorporate principles of environmental sustainability within its institutional mission and business operations (Directive to Take Action); and be it further

RESOLVED, That our AMA offer programs to physicians to assist them to adopt environmental sustainability in their practices and to help physicians to share these concepts with their patients and with their communities. (Directive to Take Action)

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[1] "Florida Medical" 2007, pp 41-45
[2] Sustainable Healthcare (Wiley-Blackwell, 2013) p16
[3] http://www.ama-assn.org/ama/pub/advocacy/topics.page

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

Received: 09/30/16

RELEVANT AMA POLICIES

Global Climate Change and Human Health H-135.938
Our AMA:
1. Supports the findings of the Intergovernmental Panel on Climate Change's fourth assessment report and concurs with the scientific consensus that the Earth is undergoing adverse global climate change and that anthropogenic contributions are significant. These climate changes will create conditions that affect public health, with disproportionate impacts on vulnerable populations, including children, the elderly, and the poor.
2. Supports educating the medical community on the potential adverse public health effects of global climate change and incorporating the health implications of climate change into the spectrum of medical education, including topics such as population displacement, heat waves and drought, flooding, infectious and vector-borne diseases, and potable water supplies.
3. (a) Recognizes the importance of physician involvement in policymaking at the state, national, and global level and supports efforts to search for novel, comprehensive, and economically sensitive approaches to mitigating climate change to protect the health of the public; and (b) recognizes that whatever the etiology of global climate change, policymakers should work to reduce human contributions to such changes.
4. Encourages physicians to assist in educating patients and the public on environmentally sustainable practices, and to serve as role models for promoting environmental sustainability.
5. Encourages physicians to work with local and state health departments to strengthen the public health infrastructure to ensure that the global health effects of climate change can be anticipated and responded to more efficiently, and that the AMA's Center for Public Health Preparedness and Disaster Response assist in this effort.
6. Supports epidemiological, translational, clinical and basic science research necessary for evidence-based global climate change policy decisions related to health care and treatment.
CSAPH Rep. 3, I-08 Reaffirmation A-14

Stewardship of the Environment H-135.973
The AMA: (1) encourages physicians to be spokespersons for environmental stewardship, including the discussion of these issues when appropriate with patients;
(2) encourages the medical community to cooperate in reducing or recycling waste;
(3) encourages physicians and the rest of the medical community to dispose of its medical waste in a safe and properly prescribed manner;
(4) supports enhancing the role of physicians and other scientists in environmental education;
(5) endorses legislation such as the National Environmental Education Act to increase public understanding of environmental degradation and its prevention;
(6) encourages research efforts at ascertaining the physiological and psychological effects of abrupt as well as chronic environmental changes;
(7) encourages international exchange of information relating to environmental degradation and the adverse human health effects resulting from environmental degradation;
(8) encourages and helps support physicians who participate actively in international planning and development conventions associated with improving the environment;
(9) encourages educational programs for worldwide family planning and control of population growth;
(10) encourages research and development programs for safer, more effective, and less expensive means of preventing unwanted pregnancy;
(11) encourages programs to prevent or reduce the human and environmental health impact

from global climate change and environmental degradation.
(12) encourages economic development programs for all nations that will be sustainable and yet nondestructive to the environment;
(13) encourages physicians and environmental scientists in the United States to continue to incorporate concerns for human health into current environmental research and public policy initiatives;
(14) encourages physician educators in medical schools, residency programs, and continuing medical education sessions to devote more attention to environmental health issues;
(15) will strengthen its liaison with appropriate environmental health agencies, including the National Institute of Environmental Health Sciences (NIEHS);
(16) encourages expanded funding for environmental research by the federal government; and
(17) encourages family planning through national and international support.
CSA Rep. G, I-89 Amended: CLRPD Rep. D, I-92 Amended: CSA Rep. 8, A-03 Reaffirmed in lieu of Res. 417, A-04 Reaffirmed in lieu of Res. 402, A-10

Environmental Health Programs H-135.969
Our AMA (1) urges the physicians of the United States to respond to the challenge for a clean environment individually and through professional groups by becoming the spokespersons for environmental stewardship; and (2) encourages state and county medical societies to establish active environmental health committees.
Res. 124, A-90 Reaffirmed: Sunset Report, I-00 Reaffirmed: CSAPH Rep. 1, A-10

Green Initiatives and the Health Care Community H-135.939
Our AMA supports: (1) responsible waste management policies, including the promotion of appropriate recycling and waste reduction; (2) the use of ecologically sustainable products, foods, and materials when possible; (3) the development of products that are non-toxic, sustainable, and ecologically sound; (4) building practices that help reduce resource utilization and contribute to a healthy environment; and (5) community-wide adoption of 'green' initiatives and activities by organizations, businesses, homes, schools, and government and health care entities.
CSAPH Rep. 1, I-08 Reaffirmation A-09 Reaffirmed in lieu of Res. 402, A-10 Reaffirmed in lieu of: Res. 504, A-16

Energy Efficiency and Medical Practice D-155.999
Our AMA will urge its individual members and organizational affiliates to participate in energy efficiency activities in all medical facilities including hospitals, clinics, offices and research facilities.
Res. 413, I-98 Reaffirmed: CLRPD Rep. 1, A-08

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution: 925
(I-16)

Introduced by: American College of Cardiology
Heart Rhythm Society
American Society of Echocardiography

Subject: Graphic Warning Label on all Cigarette Packages

Referred to: Reference Committee K
(Paul A. Friedrichs, MD, Chair)

Whereas, Diseases directly caused by cigarette tobacco smoking continue to be common, resulting in death and disability of many Americans; and

Whereas, Positive advertising of cigarettes is known to promote smoking and is prohibited; and

Whereas, Negative advertising in the form of graphic warnings on cigarette packages is an effective smoking deterrent; and

Whereas, The public health of the United States would be improved if smoking rates were further reduced; and

Whereas, The Family Smoking Prevention and Control Act of 2009 required the Secretary of Health and Human Services to issue regulations requiring color graphic depictions of the negative health consequences of smoking to appear on all cigarette packages; and

Whereas, In 2011 the Food and Drug Administration finalized regulations establishing requirements for graphic warning labels, but tobacco companies successfully challenged the constitutionality of the requirements in federal appeals court; and

Whereas, The Department of Justice chose not to request Supreme Court review of the appeals court decision and FDA has failed to issue revised regulations; therefore be it

RESOLVED, That our American Medical Association evaluate all opportunities for effective advocacy by organized medicine to require graphic warning labels depicting the dangers of smoking on all cigarette packages (Directive to Take Action); and be it further

RESOLVED, That our AMA endorse efforts of the Campaign for Tobacco Free Kids and the Food and Drug Administration to require tobacco companies to include graphic warning labels depicting the dangers of smoking on all cigarette packages. (Directive to Take Action)

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

Received: 10/12/16