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Responding to the Opioid Epidemic Across the Continuum of Medical Education: Results of a National Action Initiative

Association of
American Medical Colleges

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Acknowledgments
The authors wish to recognize and thank the Executive and Staff Planning Committees, the Centers for Disease Control and Prevention and the Samueli Foundation for their financial support and our many colleagues for their time and talents, notably Adrien Barrios, Virginia Bush, Ambriehl Higgins, Mallory Lee and Kamilah Weems. We are indebted to Sherese Johnson and Katy Carkuff for their help managing the CDC-WIP. We also thank the many educators who joined this collaborative effort. We appreciate all they continue to do to advance medical education as we combat opioid misuse, treat pain more effectively, and reduce stigma and other barriers to effective treatment of addiction.

Funding/Support
Funding provided by the Centers for Disease Control and Prevention and the Samueli Foundation

Conflict of Interest
The authors have no financial conflicts to disclose.

Ethical Approval
This project was not deemed research and therefore was considered exempt from IRB review.

Disclaimers
None

Previous Presentations
The evaluation data resulting from this action initiative has not been shared externally.

Abstract

The worsening opioid epidemic has called upon our nation's medical schools and teaching hospitals to improve how they teach and assess the treatment and management of pain and addiction. Beginning in 2017, the AAMC and several of its partners launched a national strategic initiative of educators across undergraduate, graduate and continuing medical education called *Medical Education's Active Response to the Opioid Epidemic.* This initiative included several efforts: an environmental scan to determine the needs across the educational continuum of academic medicine in combating the epidemic; curricular innovation awards; challenge grants; and a national action initiative to accelerate educational practices across medical schools and the continuum of education. The authors share details related to this unprecedented collaborative effort, including the workshop events, lessons shared, and the resulting actions taken by medical schools and teaching hospitals across the United States to better address the opioid epidemic, before and during the COVID-19 pandemic. Finally, several recommendations are made for our medical schools, academic health systems and national partners to continue their progress and collaborative efforts towards the mitigation of this urgent public health crisis.

Advancing Medical Education's Response to the Opioid Epidemic: Results of a National Action Initiative Across the Continuum

Over the past decade, deaths in the United States due to opioids have increased dramatically and in the year ending May 2021, overdose deaths reached the highest number ever recorded.[1] The coronavirus pandemic appears to be worsening the opioid epidemic with illicit fentanyl use being the primary opioid in these increases. While many Americans require access to such medications for clinical reasons, they are prescribed with caution because of opioids' addictive properties, potential for nonmedical use, and increased risk of eventual heroin use. According to the CDC, we are currently in the third wave of the opioid epidemic and the first wave was influenced by the increased prescribing of opioids in the 1990s. Throughout 2019, an average of 38 people died each day, or more than 14,000 in total, from overdoses involving prescription opioids.[2] Despite this alarming number, it does represent a 7% decrease in prescription opioid-involved death rates from 2018. Prior to the coronavirus pandemic and in addition to the devastating public health effects, the economic impact of prescription misuse alone was estimated to cost the U.S. $78.5 billion per year.[2]

Many sectors have been working to mitigate the opioid epidemic, including medical education which has a unique role to play in preparing physicians to prevent, assess and treat pain and substance use disorder (SUD). All physicians who treat pain and addiction, or the vast majority of the approximate one million professionally active physicians in the United States, have a responsibility to maintain their competence in caring for their patients with pain or SUD. Teaching and learning about the nature of pain, how to care for all patients while mitigating bias and stigma towards those with pain or SUD, how to prescribe and treat with medications as well as with alternative evidence-based methods are critical areas for health professions education, including undergraduate, graduate and continuing medical education.

The Evolution of the Longitudinal Action Initiative

Beginning in 2017, the AAMC launched a national strategic initiative to combat the opioid epidemic called *Medical Education's Active Response to the Opioid Epidemic.* Early efforts included an environmental scan to determine the needs across the educational continuum of academic medicine in combating the epidemic. Specifically, we reviewed the relevant literature, national medical school data from the AAMC Curriculum Inventory (CI) and the Liaison Committee on Medical Education (LCME) Annual Medical School Questionnaire Part II, conducted five focus groups of medical educators across the U.S., hosted an interactive webinar series highlighting member exemplars in research, clinical delivery, and medical education, conducted and published findings from a national telephone survey of U.S. accredited medical school curricular deans regarding gaps and approaches to the opioid epidemic, held interactive sessions on the opioid epidemic and the role of the academic medical center at association meetings.[3] This environmental scan provided rich data to guide further actions by the AAMC.[4] We have learned through these efforts that educational leaders are actively working to improve teaching and learning practices to mitigate the opioid epidemic. They are partnering with communities, local and state governments, other professionals, and patients to improve their teaching and assessment

practices. We have also learned that many others are struggling to effect meaningful change in this area. They are seeking resources, exemplars, and expertise to support their intentions to change their educational practices.

With the support of the Samueli Foundation, the AAMC offered Curricular Innovation Awards (2018 and 2019) recognizing educational programs designed to combat the opioid epidemic. In 2019, the AAMC also awarded nine curricular challenge grants to schools and teaching hospitals to develop resources to increase faculty proficiency and the integration of pain and SUDs within curricula or to develop assessment tools or strategies.

The AAMC, with support from the Centers for Disease Control (CDC), in partnership with the American Association of Colleges of Osteopathic Medicine (AACOM), the Accreditation Council for Graduate Medical Education (ACGME), and the Accreditation Council for Continuing Medical Education (ACCME), began a longitudinal action initiative from 2019-2020. This manuscript includes details related to this unprecedented collaborative effort, including the workshop events, lessons shared, and the resulting actions taken by medical schools and teaching hospitals across the United States to better address the opioid epidemic, before and during the COVID-19 pandemic. Finally, we also make recommendations to continue and target efforts to improve education to mitigate the worsening addiction epidemic.

Prework: Local Assessment of Curricular Needs

Prior to the workshop, participants were invited to complete an inventory of gaps related to their local curricular activities as well as areas of exemplary practice. For the purpose of this project, curricular activities were defined broadly, from didactics to experiential learning and practice-based activities. In addition, the participants were asked to commit to filling one or more of their identified curricular or practice gaps over the course of 6 to 12 months. Teams from the same institution or system representing senior educators responsible for curricular development for undergraduate medical education (UME), residency or graduate medical education (GME), and continuing education (CME) were encouraged to work together to determine how they would commit to curricular change and share lessons or resources over the subsequent 6 to 12 months. A workbook was provided to help facilitate the commitment-to-change process, and it was explained that the AAMC would follow up with all participants periodically over the course of one year to determine progress, obstacles, and lessons learned.

Summary of Workshop Activities

Throughout the live workshop, held near Washington D.C. in May 2019, several activities took place that provided interactive opportunities to understand the current landscape and ideate future curricular initiatives in this important area. In addition to the target audience of educators who worked across the UME-GME-CME continuum, special guests were invited who represented diverse organizations (Table 1). The first few hours of the event were designed to share important information about and perspectives on the opioid epidemic, starting and ending with patients' lived experiences. An ACGME senior leader moderated a panel discussion highlighting the innovative ways in which institutions were working to

advance the education of students, residents, and practicing physicians about opioids, SUD, and pain management. Details of these curricular innovations are available on the AAMC website: (https://www.aamc.org/what-we-do/aamc-awards/curricular-innovation-awards).

The main focus of the event was participation in numerous concurrent breakout sessions or mini-workshops. Attendees could choose among eight options, described in Table 2, that were selected based on the need's assessment conducted over the 18 months prior to the event. These instructional sessions were facilitated by expert educators and designed to provide interactive opportunities to gain skills in designing and delivering effective education in diagnosing, treating and managing pain and addiction. Although not intended to train subject matter experts in these areas, the environmental scan conducted in advance demonstrated a need to educate the faculty across the continuum to support their continued efforts to mitigate the epidemic of addiction. Finally, a poster session and resource fair was held featuring educational resources (modules, guides, cases, etc.) available at no or low cost from noncommercial entities and posters representing exemplary curricula.

Immediate Evaluation Findings

Of the 274 attendees who received the evaluation via email immediately following the live event, 141 provided feedback (51% response rate). Multiple reminders were sent to the attendees to complete the evaluations. Nearly half of these respondents (49%) focused on UME, 21% on GME, and 17% on CME. Eighty-one percent indicated that they were completely satisfied with the workshop (Likert-type 5-point rating). Participants reported that the skills and knowledge they gained during the workshop were valuable (88%) and that they planned to apply what they learned in developing curricula that address acute and chronic pain management and SUDs (93%). Ninety percent of participants completed all or some of the assigned prework. When ratings were compared against prework completion, those who had completed the prework, either in full or in part, were more positive about gaining valuable knowledge and skills at the workshop ($p < .05$).

A key goal of the program was to foster an inclusive and mutually supportive network of educators across the traditionally siloed continuum of UME, GME, and CME. Following the workshop, 92% agreed that it successfully fostered an inclusive and mutually supportive network of educators across the continuum. Further, 98% of participants looked forward to continued collaborations with their colleagues. Those who had worked in medical education for 0-9 years and 10-19 years were more positive about developing networks across the continuum than those with over 30 years of experience ($p < .05$).

Participants were asked to describe one or more actions that they, or their team, planned to commit to over the upcoming 12 months. One hundred thirteen actions were provided. Common themes included:

- Developing or updating curricula (specifically incorporating education on use of medications for treating SUD and naloxone training);
- Reviewing or mapping existing curricula and conducting needs assessments;

- Integrating education across the medical education continuum—plans included standardizing pain management, adding experiential learning, better integrating pain management and addiction themes, and considering stigma and bias in training and language;
- Collaborating through the formation of opioid task forces and leadership engagement efforts; and
- Applying for grants and funding to support their educational efforts.

Longitudinal Evaluation Findings: Commitments and Actions Taken 2019-2020

The commitments to act fell within multiple categories and varied by participant depending on the nature of their local needs and resources. We surveyed the participants immediately following the National Workshop, and again at 3, 6 and 15 months. Due to the COVID-19 pandemic, we chose to delay our final survey by three months. This section describes the final follow-up survey, which was emailed to 272 participants, 87 of whom responded in part or in full resulting in a 32% response rate. All participants were asked what had been accomplished over these fifteen months and how the pandemic had impacted their actions. Most participant's commitments aligned with two areas (more than one area could be chosen): 1) safe and effective treatment of opioid use disorder including medications (78%); and 2) evidence-based prescribing of non-opioids and opioids (78%). There was an increase in commitments that aligned with the area, recognizing and reducing bias and stigma in the context or pain and addiction (61% at 3-months compared to 75% at 15-months). In the same period, commitments related to the theme, safe and effective treatment of pain and opioid use disorder with non-pharmacological methods increased from 47% to 60%. Ninety-three percent of participants reported having engaged with local colleagues or fellow attendees regarding current gaps in the opioid/addiction treatment curriculum.

This section provides details on two questions asked of all participants: 1) What have you accomplished over these fifteen months; 2) Has the pandemic impacted your actions? If yes, please explain. A total of 78 participants (90%) provided narrative comments to the first question about actions taken and a total of 38 participants (44%) responded to the second question about the impact of the COVID-19 pandemic. The categories below reflect the open-ended responses to these questions at the final check-in, including the percentage of comments reflected in each category and many participants' actions fell within multiple categories.

Action Category 1: Developed a new course, curriculum or curricular resource (74, 95%).

- "Added opioid education to all the sub-internships so all students will be required to have opioid education in order to graduate."
- "We have incorporated curricula into medical student training in our department regarding evidence-based prescribing and reducing bias in the management approach to patients with pain and addiction disorders…"
- "GME-MAT waiver trainings offered for all incoming FM residents (required)..."
- "CPD/CME – Planning Grand rounds series in SUD/Pain/Pain Management"

Action Category 2: Sought and obtained funding, conducted research or presented scholarship (15, 20%).

- "We applied for and received a grant to implement an enhanced curriculum with regards to substance use disorder, opioid use disorder and pain management across all four years of the medical student experience."
- "We also did a variety of research projects (surveys) looking at knowledge and attitudes around opioids and opioids use disorders to help inform our efforts."

Action Category 3: Conducted needs assessment or gap analysis (7, 09%).

- "We have reviewed our curricular offerings across the 4-year curricular continuum to ensure that we are meeting our objectives. While we are generally meeting our goals, we recognize that there are some areas that we need to strengthen especially in terms of more experiential learning and assessment."
- "We are now mapping our sessions to our overall objectives to see where we have deficits and to finetune the session objectives of our current offerings…"

Impact of COVID Pandemic on Relevant Educational Efforts. We sought to understand how the COVID-19 pandemic impacted the actions of the participants in the National Initiative. A total of 38 (44%) individuals responded affirmatively: "Has the pandemic impacted your actions? If yes, please explain." The prominent themes drawn from the narrative comments included: *delays in timing/efforts put on hold* (55%); and *shifts to virtual education* (24%). A small number of explanations (8%) included the creation of a new course due to an increased need to design more flexible and readily available educational experiences.

Additional Findings. According to the separate AAMC Curriculum Inventory (CI) and LCME Annual Medical School Questionnaire Part II data, the number of educational activities related to opioids and addiction medicine had increased 199% between the 2014 to 2019 academic years with the largest increase reported at the end of the 2019 academic year (reported between August 1 and September 30, 2019 after the national action workshop).[4]

Recommendations for Continued Efforts to Advance Teaching and Learning in Pain and Addiction

Although progress has been made to enhance education in pain and addiction, much work remains. The current pandemic and the worsening overdose epidemic require that medical educators continue to focus their efforts to better prepare future and current physicians and work collaboratively to increase equitable access for evidence-based treatments for pain and addiction. The following recommendations are intended to do just that.

1. *Support broad team-based and patient-centric education for providing evidence-based treatments of pain and addiction.* Effective health care requires high functioning collaborative care by an interprofessional team. Although we have strong evidence that collaborative care is effective for treating both chronic pain and addiction, we continue to train predominately in isolation.

Educators across health professions should expand beyond their discipline to train and learn together.

2. *Establish new collaborations locally, regionally and nationally to share resources, design and deliver developmentally appropriate curricula.* There are many advantages to collaborative design, yet far too often educators fail to work outside their siloes of specialty, continuum of learning, and their academic institution. Educators within and across health professions should work collaboratively towards their common goal of improving education to combat the addiction epidemic.
3. *Continue to work collaboratively with local, state, and federal partners to improve support for educational initiatives, increase access, and ultimately enhance care for those with chronic pain and addiction.* Funding to develop, implement, and evaluate evidence-based educational materials is not readily or reliably available, and participants described the value that such resources offer in advancing local efforts. Even with such support, however, there are limitations on the extent to which even the most successful educational interventions can overcome the pervasive and systemic barriers that patients with pain or addiction disorders face in accessing high quality care and the barriers that clinicians face in delivering such care. As advocates for their patients, clinicians and educators can offer their invaluable expertise to inform decision-making at the local, state, and federal level to promote seamless, well-coordinated, and high value care.
4. *Expand curricular collaborations to include patients with lived experiences and community partners to support access to effective care.* Lived-experience activities, including patients as mentors, have an important role to play in educating future and current physicians how to more effectively humanize their interactions with patients who suffer from chronic pain and addiction. These approaches not only can demonstrate the complexities of chronic pain and the disease of addiction, but they can reinforce humanism, provide examples of patients in recovery, and highlight systemic barriers to effective treatment.
5. *Further develop curricular innovations across the continuum, but especially in faculty development as it relates to reducing bias and stigma towards patients with SUD.* The role of bias and stigma was an important thread woven throughout the initiative. As the opioid epidemic has at times been described as predominantly impacting white rural communities, it is important that we emphasize the breadth of the impact on marginalized racial and ethnic communities and the relationship between racism and bias towards populations with addiction. This is another area for further development of curricular resources and faculty development.

Conclusion

This collaborative longitudinal initiative provided an opportunity for our nation's medical educators to effectively respond to a public health emergency. The initial lessons learned during this process elevated a model for how to collectively develop, share, and integrate topics of national importance in an evidence-based and interprofessional fashion. This national model serves as an example of how medical education can be nimble and innovative in developing timely and patient-centered educational approaches to new and ongoing public health crises.

Continued national efforts to combat the opioid epidemic and enhance health professions education in addiction and pain management are ongoing. In particular, the National Academy of Medicine's Action Collaborative on Countering the U.S. Opioid Epidemic includes activities that are consonant with the findings and implications of this publication. Specifically, the Education and Training Workgroup of the Action Collaborative has recently conducted a literature review of published studies to elucidate priority professional practice gaps related to pain management and substance use disorder and a study of the environment of cross-continuum educational requirements from accrediting, certifying, and licensing entities. A white paper summarizing these findings and key priorities to advance the quality of care to meet these challenges is expected in 2021.

It is critical that these national efforts continue, and diverse sectors work together, to increase educational and systems-based approaches to high quality health care. Education is one tool, among many, for combatting this epidemic and our health professions programs, academic health systems and their national partners should continue the progress towards effectively integrating this education across the continuum to address this urgent public health issue.

Table 1. Organizations and Federal Agencies Represented

Accreditation Council for Continuing Medical Education (ACCME)
Accreditation Council for Graduate Medical Education (ACGME)
Agency for Healthcare Research and Quality
American Academy of Family Physicians
American Academy of Pediatrics
American Association of Colleges of Nursing
American Association of Colleges of Osteopathic Medicine (AACOM)
American College of Emergency Physicians
American Society of Addiction Medicine
Association of American Medical Colleges
Centers for Disease Control and Prevention (CDC)
Council of Medical Specialty Societies
Food and Drug Administration (FDA)
National Center for Complementary and Integrative Health, National Institutes of Health
National Endowment for the Arts
National Institute on Drug Abuse
National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health
National Institute of Neurological Disorders and Stroke, National Institutes of Health
Office of the Assistant Secretary for Health, U.S. Department of Health and Human Services
Pew Charitable Trusts
Samueli Foundation
Substance Abuse and Mental Health Services Administration (SAMHSA)
Veterans Affairs Office of Academic Affiliations
White House Office of National Drug Control Policy

Table 2. Mini-Workshop Descriptions

Mini-Workshop 1: Models for Curricular Design & Integration	Addressed issues surrounding best practices for competency-based curricular design, how to optimize the clinical learning environment to reach and assess best skills, and how they might integrate and/or address existing curricula, programs, and clinical learning environments.
Mini-Workshop 2: Effective Educational Partnerships	Designed to help attendees recognize how educators can collaborate with partners across the professions and within local communities to optimize their curricula. The session also provided examples of strong partnerships across government, as well as private, and public sectors, and how the historical context of the opioid crisis influences stigma and bias in marginalized racial and ethnic communities. The session identified interprofessional activities that could be used for prevention, community education, interventions, research, and treatment.
Mini-Workshop 3: Teaching Models for Reducing Bias and Stigma in the Context of Pain and SUD	Addressed the role of stigma in caring for patients with chronic pain and addiction and how to intervene with education to reduce bias and stigma as well as to help debunk the myths that addiction is a moral failing or socioeconomic crisis.
Mini-Workshop 4: Teaching Models for Prevention of SUDs: Assessments & Measurements of Pain, SBIRT	Addressed how to use an evidence-informed approach to the assessment of pain and risk for substance use disorders (SUDs) in acute and primary care settings.
Mini-Workshop 5: Teaching Models for Safe Prescribing	Addressed effective methods for teaching new prescribers and retooling the skills of experienced prescribers, what current initiatives are taking place, personal challenges experienced, and ways to develop new frameworks for teaching at their respective institutions.
Mini-Workshop 6: Teaching Models for Effective Treatment of SUD	Addressed current models for teaching about safe and effective use of medications for treating opioid dependence, as well as how one might educate patients and engage them in shared decision-making regarding ongoing illicit use of opioids, such as heroin, fentanyl, etc.
Mini-Workshop 7: Teaching Models for Non-Pharma Treatment of Pain	Reviewed current models for teaching safe and effective uses of nonpharmacological approaches to

	treat pain and the state of evidence regarding the effectiveness of nonpharmacologic options for pain care.
Mini-Workshop 8: Teaching Models for Patient-Physician Communication of Opioids	Focused on preparing faculty to teach residents and other learners to communicate effectively when patients request opioids for chronic pain and review the current best practices in patient-physician communication about opioids.

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