

# Addiction Medicine, Substance Use, and Pain Management in Medical School Curricula

April 2025

## Medical Education Responds to the Opioid Epidemic

Drug overdoses are one of the leading causes of death in the United States. According to the Centers for Disease Control and Prevention, 107,941 drug overdose deaths occurred in 2022. While the total number of opioid prescriptions written in the U.S. decreased by 16% between 1999 and 2022, the COVID-19 pandemic led to changes in illicit opioid supply, increasing the availability and potency of synthetic opiates, such as fentanyl, as well as the incidence of co-drug involvement, resulting in a doubling of overdose-associated mortality and opioid-related deaths since 2015.<sup>1-5</sup> The economic impact of opioid use disorder and overdose exceeds \$1 trillion annually, with an estimated cost per case of over \$200,000.<sup>6-7</sup> The AAMC is actively responding to this crisis,<sup>7</sup> including engagement in the National Academy of Medicine's Action Collaborative on Combatting Substance Use and Opioid Crises, which developed a core competency framework for pain management and unhealthy substance use care (known as "the 3Cs Framework" for Pain and Unhealthy Substance Use).<sup>8</sup> To better understand the current state of undergraduate medical education curriculum in addiction medicine, pain management, opioids, and substance use, a survey was sent to MD- and DO-granting schools in the United States.

## About the Survey

The 2022-23 AAMC and AACOM Curriculum SCOPE Survey (SCOPE Survey),<sup>9</sup> sponsored by the AAMC and the American Association of Colleges of Osteopathic Medicine, included questions informed by the 3Cs Framework.<sup>8</sup> Medical school curriculum deans were asked to self-report whether a given competency area (e.g., recognizing and assessing pain) was addressed within the required curriculum or not. Curriculum

deans were also asked to provide their assessments of the degree to which education on addiction medicine, substance use disorders, opioids, and pain management was integrated within the curriculum (e.g., minimally integrated, fully integrated).



### The AAMC is leading academic medicine's response to the opioid epidemic

In 2017, the AAMC launched a national longitudinal strategic initiative, [Medical Education's Active Response to the Opioid Epidemic and Substance Use Disorder](#) which continues today, included a comprehensive needs assessment across the continuum of medical education, recognition of exemplary practices, creation of a [special collection](#) in the journal MedEdPORTAL, and a national grants program.

In 2018, the AAMC became a founding member of the [Action Collaborative on Combatting Substance Use and Opioid Crises](#), a group of over 80 organizations working to improve coordination and accelerate change regarding the devastating effects of addiction.

In 2022, the Collaborative published a competency framework, [The 3Cs Framework for Pain and Unhealthy Substance Use: Minimum Core Competencies for Interprofessional Education and Practice](#), that describes competencies expected of clinicians professions in their person-centered care for pain management and unhealthy substance use.

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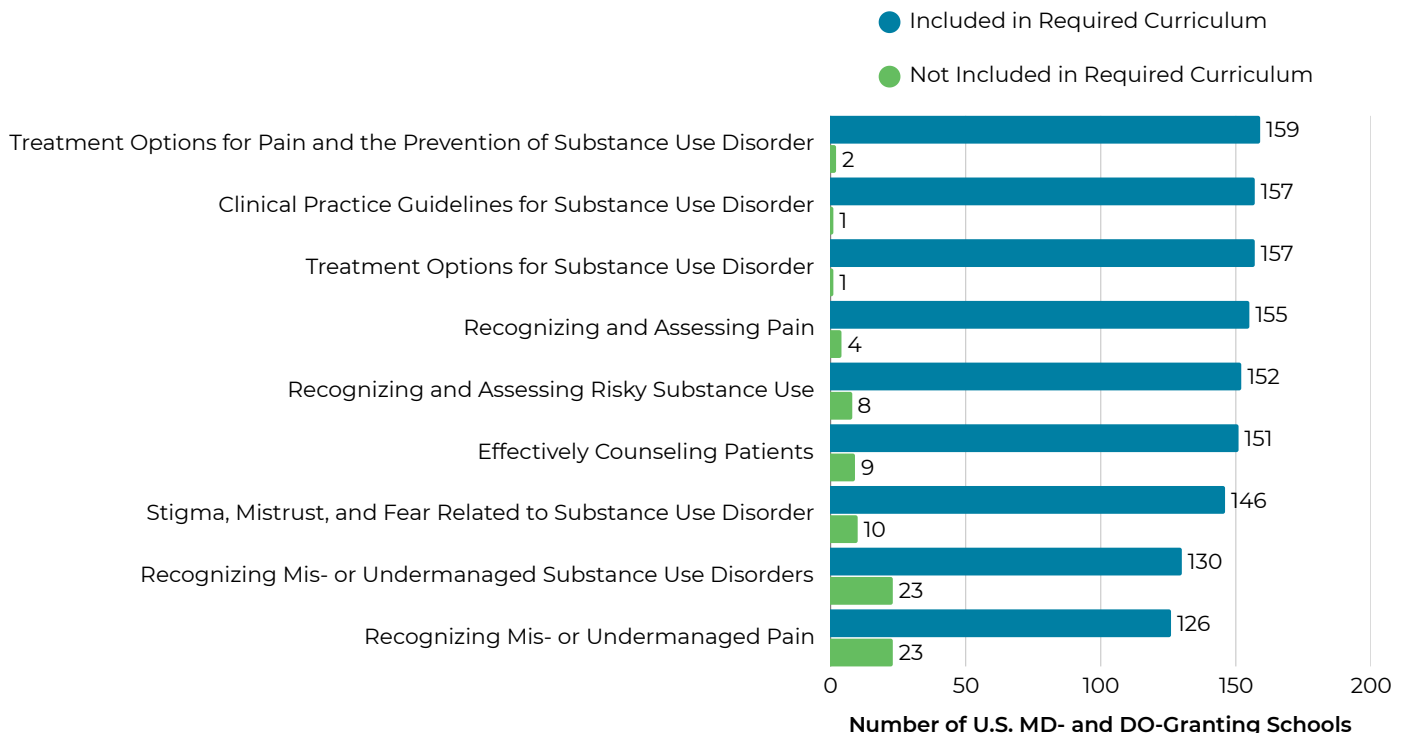
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## Key Findings

The survey, which was administered between November 2023 and February 2024 and focused on the previous (2022-23) academic year, had a response rate of 87% (n = 166/192 U.S. MD- and DO-granting schools). Among the select findings:

- 97% (n = 161) of respondents indicated addiction medicine and substance use disorders were covered in the curriculum. Among the 161 medical schools that reported covering these topics, 99% (n = 159) indicated the topics were addressed in the required curriculum, and 84% (n = 136) indicated the topics were addressed in the elective or optional curriculum. Notably, 83% (n = 134) of respondents indicated the topics were addressed in both required and elective curricula.
- 98% (n = 162) of respondents indicated pain management was covered in the curriculum. Of those, 100% (n = 162) indicated the topic was addressed in the required curriculum, and 85% (n = 138) indicated the topic was addressed in the elective or optional curriculum. Additionally, 85% (n = 138) of respondents indicated the topic was addressed in both required and elective curricula.
- The SCOPE Survey included a free-response opportunity to describe any expanding coverage of curriculum topics. Among the 103 respondents to this question, 11% (n = 11) of respondents indicated they were increasing the amount of curricular time associated with substance abuse and pain management.

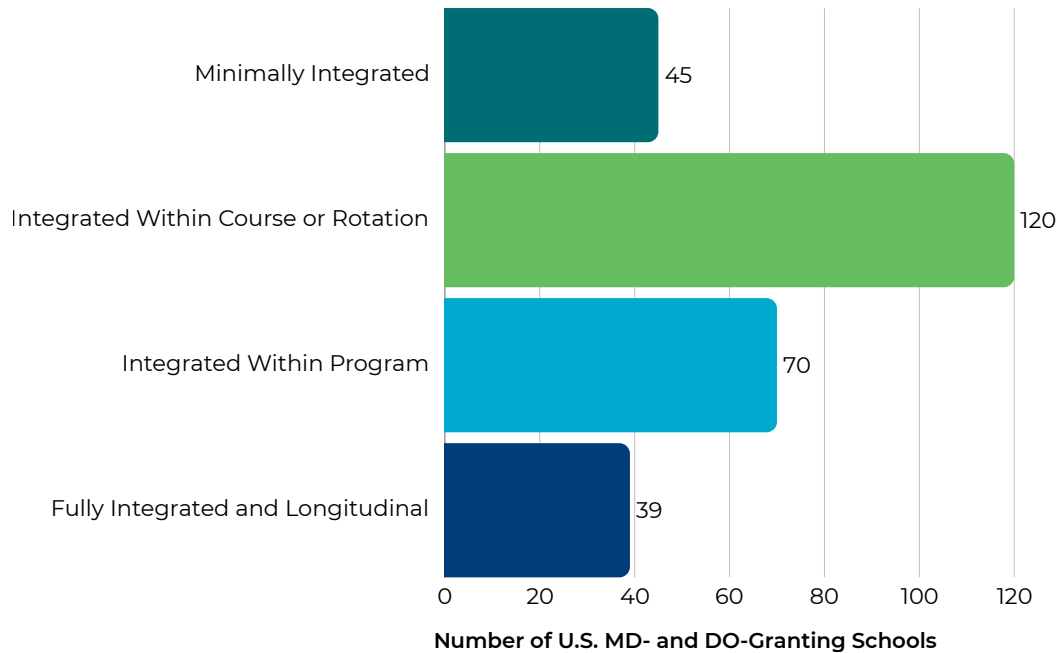
Most schools reported covering addiction medicine, substance use disorders, and pain management in their curricula. There were, however, differences in topical coverage when examining specific areas (Figure 1): While the topics of recognizing and assessing pain and clinical practice guidelines for substance use disorder were covered by the majority of schools' required curricula, the topics of recognizing mismanaged or undermanaged pain and use disorders were covered by relatively fewer schools' required curricula (Figure 2).



**Figure 1.** Topics related to addiction medicine, pain management, unhealthy substance use, and substance use disorders that are included in the required curriculum and aligned with the National Academy of Medicine's 3Cs Framework.

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**Figure 2.** The levels to which the topics of addiction medicine, substance use disorders, pain management, and opioids were integrated within the responding schools' existing curricula. Given the multiple topics reported (e.g., pain management, opioids), a single respondent may be represented in more than one category of integration level.

## Implications for the Future

Data from the 2022-23 SCOPE Survey provide evidence that U.S. MD- and DO-granting schools have made considerable efforts to incorporate content that will better prepare the next generation of physicians to help prevent addiction and substance use disorders and treat these patients with more effective pain management. The data also reveal education gaps, especially regarding stigma and bias toward those suffering from pain or unhealthy substance use. In addition, while the recognition of undermanaged and mismanaged pain and substance use disorders were covered in the curriculum, these topics were covered by fewer medical schools. Studies have shown that stigma among health professionals remains a common barrier to people seeking care, and educational interventions have been shown to reduce this barrier.<sup>10,11</sup>

Many schools reported that this critical content existed within a clinical rotation or course. Given the severity of the opioid epidemic, MD and DO educators should be provided opportunities to more fully incorporate content across the curriculum. Efforts beyond the academic medicine community may facilitate further integration; for example, the American Heart Association integrates within its basic life support training course guidance on using naloxone,<sup>12</sup> and in 2023 the Drug Enforcement Administration began requiring training for all practitioners who treat patients with opioid or other substance use disorders.<sup>13</sup> As this data supports, this training requirement is being met by the vast majority of MD and DO students.

### Key Takeaways

More than 97% of schools covered the topics of addiction medicine, substance use disorders, pain management, and opioids in their curricula.

Future curriculum development in addiction medicine, substance use disorders, pain management, and opioids for MD- and DO-granting schools can focus on:

- Stigma and bias.
- Integration across the curriculum.
- Pain mismanagement and undermanagement.
- Substance use disorder mismanagement and undermanagement.

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## Implications for the Future

Despite many MD- and DO-granting schools requiring curricular content in addiction medicine, substance use disorders, pain management, and opioids, this crisis continues to evolve. Further effective integration of this content may address topics within the 3Cs Framework for Pain and Unhealthy Substance Use, namely a stronger emphasis on recognizing and mitigating professional bias and stigma toward people with pain and unhealthy substance use, and recognizing and addressing pain mismanagement and undermanagement. To that end, leveraging and building upon published curricula is beneficial to the MD and DO education fields. For example, *MedEdPORTAL* features open-source, published curricula across the learning continuum related to addiction medicine, substance use disorders, pain management, and opioids for physicians-in-training at different stages; examples include interactive online and in-person training using standardized patients,<sup>14,15</sup> objective structured clinical examinations focusing on bias, and interprofessional case-based learning.<sup>16,17</sup>

## Limitations

Participation in the SCOPE Survey was voluntary, and all questions and topics (except contact information) were optional. The AAMC does not solicit information about why respondents do not respond to a given question or topic. It cannot be inferred that respondents did not respond to a given item did not cover a given topic or offer a given service in their curricula.

## Acknowledgements

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