Redefining Pain and Addiction: Creation of a Statewide Curriculum

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Abstract

Objectives: In response to a declared statewide public health emergency due to opioid-related overdose deaths, the Arizona Department of Health Services guided the creation of a modern, statewide, evidence-based curriculum on pain and addiction that would be relevant for all health care provider types.

Methods: The Arizona Department of Health Services convened and facilitated 4 meetings during 4 months with a workgroup comprising the deans and curriculum representatives of all 18 medical, osteopathic, physician assistant, nurse practitioner, dental, podiatry, and naturopathic programs in Arizona. During this collaborative and iterative process, the workgroup reviewed existing curricula, established a philosophical framework, and developed a flexible and practical structure for a curriculum that would suit the needs of all program types.

Results: The Arizona Pain and Addiction Curriculum was finalized in June 2018. The curriculum aims to redefine pain and addiction as multidimensional public health issues and is structured as 10 core components, each supported by a detailed set of evidence-based objectives. The curriculum includes a set of annual metrics to collect from both programs (focused on implementation progress and barriers) and learners (focused on knowledge, attitudes, and practice plans).

Conclusions: To our knowledge, this is the first example of a statewide collaboration among diverse health professional education programs to create a single, standard curriculum. This collaborative process and the nonproprietary Arizona Pain and Addiction Curriculum may serve as a useful template for other states to enhance pain and addiction education.

Keywords

addiction, adult learning, curriculum, pain management, public health, sociopsychobiological, stigma

The United States is currently experiencing dual public health crises of chronic pain¹ and opioid-related overdoses.² In 2017, more than 2 people per day in Arizona died from an opioid-related overdose,³ prompting the Arizona Department of Health Services (ADHS) to publish a report identifying several associated prescriber trends: overprescription of opioids, underuse of the Arizona Controlled Substances Prescription Monitoring Program, concurrent prescribing of benzodiazepines and opioids, and an insufficient clinical workforce to manage opioid use disorder.⁴ In response, the governor of Arizona declared a statewide public health emergency on June 5, 2017.⁵ Recognizing the importance of education for all health care provider types (hereinafter, providers) in reversing these trends, ADHS reviewed existing curricula throughout the United States, including innovative programs designed by Brown University⁶ and the states of Massachusetts⁷ and

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Pennsylvania.⁸ After determining that the existing curricula either had too narrow a focus (eg, on opioid use disorder but not chronic pain) or focused only on a single provider type (eg, medical schools), ADHS made a formal recommendation to develop a single, statewide, modern, evidence-based curriculum on pain and addiction for all provider types.

Methods

In November 2017, the director of ADHS invited the deans of all 18 medical, osteopathic, physician assistant, nurse practitioner, dental, podiatry, and naturopathic training programs in Arizona to participate in a voluntary workgroup to create a modern, statewide curriculum on pain and addiction.

In January 2018, ADHS facilitated a meeting with deans and curriculum representatives from the Arizona programs to strategize curriculum development. After reviewing a data-driven description of the opioid epidemic in Arizona, several programs shared their educational content and information on the amount of curricular time dedicated to pain and addiction.

The 2 cochairs of the workgroup (1 from ADHS [L.V.] and 1 from the Phoenix VA Health Care System [A.S.M.]) then led a discussion about the goals of a new statewide curriculum on pain and addiction. The workgroup determined that the tangible goals of reducing the number of opioid prescriptions and increasing the number of Drug Addiction Treatment Act–waivered providers⁹ would naturally follow the more complex intangible goals of reducing stigma, linking pain and addiction, demedicalizing chronic pain, and increasing interdisciplinary pain care. The workgroup thus decided to focus on achieving the intangible goals through cultural transformation, which would also yield longer-lasting changes for the tangible goals.

With this idea of cultural change, the workgroup determined that a public health approach to pain and addiction should guide the overall curriculum. Both the Institute of Medicine, which declared “pain is a public health problem,”¹ and the Surgeon General’s report, *Facing Addiction in America*,¹⁰ emphasized the importance of adopting a systems-level population health perspective for these problems. The workgroup also decided to adopt the sociopsychobiological theoretical model, as suggested by Carr and Bradshaw,¹¹ for pain and addiction, with a focus on person-centered outcomes and a macro-to-micro approach to education. A sociopsychobiological model proposes a macro-to-micro approach to health professional education, using a population-level perspective as the framework for social, psychological, and biological factors affecting pain and addiction with a focus on person-centered outcomes.

The cochairs then presented potential structures of a statewide curriculum to the workgroup. Options included a list of suggested topics (similar to the US Food and Drug Administration’s [FDA’s] Education Blueprint for Health Care Providers Involved

in the Management or Support of Patients With Pain),¹² a list of core competencies (similar to the Massachusetts Medical Education Core Competencies for the Prevention and Management of Prescription Drug Misuse),⁷ or a single module on opioid use disorder (similar to Brown University’s targeted curriculum).⁶

Given the variety of program types represented, workgroup participants decided that a set of core components could serve as the backbone of the curriculum, so it could be expanded or contracted in detail (“accordion-style”) depending on the relevance to the program type implementing it. The workgroup agreed that the components should be designed within the vision of a large-scale, public health approach and would adhere to the following forward-thinking themes:

- The link between pain and addiction
- The use of a macro-to-micro perspective to pain and addiction (the sociopsychobiological approach)
- The destigmatization of pain and addiction care
- The influence of the pharmaceutical industry on clinicians
- The focus on clinician and system introspection

In February 2018, the workgroup reconvened to refine the curricular components. The cochairs presented a draft set of core components for review and compared them with the national context as seen in reports by the National Institutes of Health (*National Pain Strategy*),¹³ the Institute of Medicine (*Relieving Pain in America*),¹ the Centers for Disease Control and Prevention (“Guideline for Prescribing Opioids for Chronic Pain”),¹⁴ and the Substance Abuse and Mental Health Services Administration (*Medications for Opioid Use Disorder*).¹⁵ The workgroup then reviewed a crossmatch of these draft core components with other state-level or national curricula on pain and addiction (eg, Brown University,⁶ Massachusetts state competencies,⁷ Pennsylvania state competencies,⁸ an interprofessional pain curriculum,¹⁶ the FDA blueprint curriculum,¹² and California Health Care Foundation content¹⁷ to ensure all principal teaching points had been included.

In March 2018, the group reassembled to fine-tune the objectives under each core component. To address a practical question raised by several training programs of the curriculum’s relevance to licensing examinations, ADHS opened by highlighting its correspondence with the certifying clinical boards, such as the United States Medical Licensing Examination, American Academy of Nurse Practitioners Certification Board, and the National Board Dental Examinations, which confirmed that licensing examinations would include additional questions on pain and addiction. The workgroup analyzed each core component and underlying objective for content, word choice, pertinence, and clarity.

The workgroup then discussed ideas for curriculum implementation. To balance consistency of message with flexibility in content delivery, the cochairs and the

VISION + CORE COMPONENTS	
CURRICULUM VISION To redefine pain and addiction as multidimensional, interrelated public health issues that require the transformation of care toward a whole-person interprofessional approach with a community and systems perspective.	
CORE COMPONENTS Upon graduation from a health professional education program in Arizona, a student should demonstrate the independent ability to:	
REDEFINE PAIN + ADDICTION	
1	Define pain and addiction as multidimensional, public health problems.
2	Describe the environmental, healthcare systems and care model factors that have shaped the current opioid epidemic and approach to pain care.
3	Describe the interrelated nature of pain and opioid use disorder, including their neurobiology and the need for coordinated management.
APPLY AN EVIDENCE-BASED, WHOLE-PERSON APPROACH TO PAIN + ADDICTION	
4	Use a socio-psycho-biological model to evaluate persons with pain and opioid use disorder.
5	Use a socio-psycho-biological model to develop a whole-person care plan and prevention strategies for persons with pain and/or opioid use disorder.
6	Reverse the unintended consequences created by the medicalization of chronic pain by empowering persons with self-management strategies, and include an awareness of chemical coping.
7	Use and model language that destigmatizes, reflects a whole-person perspective, builds a therapeutic alliance and promotes behavior change.
INTEGRATE CARE WITH A SYSTEMS PERSPECTIVE	
8	Employ an integrated, team-based approach to pain and/or addiction care.
9	Engage family and social support in the care of pain and/or addiction.
10	Critically evaluate systems and seek evidence-based solutions that deliver quality care and reduce industry influence in the treatment of pain and opioid use disorder.

Figure 1. Vision and core components of the Arizona Pain and Addiction Curriculum, 2018.²⁰

workgroup created a toolbox for operationalization. The toolbox provides ideas for content delivery approaches consistent with adult learning theories, including maximizing interaction with learners and highlighting relevance by involving people in recovery in lectures or small groups.¹⁸ The workgroup decided the toolbox would be provided as an optional resource rather than a prescription for particular methods of implementation.

In April 2018, the workgroup reviewed the curriculum draft again in its entirety, finalized the curriculum vision, and refined the wording of the components and objectives. ADHS proposed an evaluation plan for the curriculum that would include a set of metrics to collect from both programs and learners in Arizona. The program metrics focused on the progress of implementation and difficulty of teaching each of the 10 core components, along with ascertaining best educational

OBJECTIVES	
4	Use a socio-psycho-biological model to evaluate persons with pain and/or opioid use disorder.
<p>RATIONALE</p> <p>This curriculum flips the traditional biopsychosocial model to instead focus on social, psychological, and physical functioning. This emphasis on the interpersonal and intersubjective domains of pain and opioid use disorder reflects the most recent basic science and clinical evidence that social, emotional, and cognitive aspects of pain are central to chronification and the associated dysfunction and disability – and not a secondary issue or a distraction. Rather than beginning with a reductionist approach that focuses on cellular and molecular mechanisms and then progresses to social and psychological phenomena as merely the result of the microscopic processes, a macroscopic, integrated, whole-person approach is what is recommended in this component.</p> <p>OBJECTIVES</p> <p>A. MESSAGE: Clinical understanding of pain and addiction encompasses social, psychological and biological dimensions.</p> <p>A1 Describe the socio-psycho-biological model of pain, and detail the components of each.</p> <p>A2 Describe the socio-psycho-biological model of opioid use disorder, and detail the components of each.</p> <p>B. MESSAGE: Evaluation of pain and opioid use disorder requires a whole-person approach.</p> <p>B1 Perform a whole-person assessment of a person with pain.</p> <p>B2 Describe patient-centered and clinician-centered parts of the pain interview.</p> <p>B3 Discuss red flags noted during a history and physical, and the associated work-up when present.</p> <p>B4 Describe yellow flags and their importance in acute and chronic pain conditions.</p> <p>B5 Discuss the indications for imaging for common pain complaints.</p> <p>B6 Demonstrate ability to screen individuals for opioid use disorder and diagnose them using <i>DSM-5</i> diagnostic criteria.</p> <p>B7 Demonstrate use of Screening, Brief Intervention, and Referral to Treatment (SBIRT) for persons with addiction.</p> <p>B8 Perform a whole-person assessment of a person with addiction.</p>	

Figure 2. Sample objectives, core component 4 from the Arizona Pain and Addiction Curriculum, 2018.²⁰ Abbreviation: *DSM-5, Diagnostic and Statistical Manual of Mental Disorders, 5th Edition*.

practices. The learner metrics asked students about their knowledge of pain and addiction medicine, their attitudes about managing patients with pain and addiction, and their plans for treating patients with pain and/or addiction after graduation. The cochairs had also mapped the core components to the Association of American Medical Colleges Core Entrustable Professional Activities.¹⁹ Several medical, osteopathic, and physician assistant program representatives stated that they use the Entrustable Professional Activities to guide their programs' current curricular structure and that such mapping would facilitate implementation.

From May to July 2018, the cochairs used electronic communication with the workgroup and selected deans in the workgroup through multiple iterations to resolve questions about wording, mapping, and implementation of the Entrustable Professional Activities.

Results

The Arizona Pain and Addiction Curriculum was finalized in June 2018 (www.azhealth.gov/curriculum).²⁰ The curriculum vision is to “redefine pain and addiction as multidimensional public health issues—requiring a transformation of care toward a whole-person approach with a community and systems perspective.”

The 10 core components are organized into 3 areas: redefine pain and addiction; apply an evidence-based, whole-person approach to pain and addiction; and integrate care with a systems perspective (Figure 1). The curriculum is intended to be used as the entire set of core components, rather than choosing individual components and excluding others. The 10 core components could then be implemented as in-depth (multiple lectures) or as brief (1 slide) as needed and as is relevant for each discipline.

We wrote detailed objectives for each core component (Figure 2). The goal of developing the toolbox for operationalization was to create an evolving list that would be updated as programs find best practices for teaching the material (Figure 3). Elements included exploring didactic dissonance (the process of marshaling the hidden curriculum as a force for deeper learning by priming the learner to identify and reflect on observed clinical practices that diverge from the curriculum content) and encouraging training programs to share and adopt best educational practices.

To support faculty development, a 150-page *Arizona Pain and Addiction Curriculum Faculty Guide*²¹ details the evidence, reasoning, and supporting content behind each objective. Teaching faculty from all 18 training programs were invited to attend a curriculum summit in November 2018 to explore the new curriculum and teaching implementation strategies.

Figure 3. Toolbox for operationalization from the Arizona Pain and Addiction Curriculum, 2018.²⁰

All 18 training programs participated in the creation and editing of the curriculum, and a representative from each of 15 training programs attended the curriculum summit. By July 2019, 14 training programs had completed and returned a survey requesting program metrics, and 10 schools reported incorporating all 10 components into their programs’ curriculum, with few challenges. Nine training programs completed surveys on learner knowledge, attitudes, and plan metrics. These metrics will be collected on an annual basis.

Lessons Learned

To our knowledge, this is the first time that a statewide collaboration among medical, osteopathic, physician assistant, nurse practitioner, dental, podiatry, and naturopathic training

programs has been organized to create a single, standard curriculum. This curriculum is modern and evidence-based, strongly supports a public health approach to pain and addiction, and is relevant to the entire spectrum of providers who prescribe opioids.

The voluntary participation of all 18 training programs was notable, given that there was no mandate, political pressure, or offered incentive to participate. The positive response was likely the result of attention given to the opioid epidemic after the declared public health emergency and the spirit of collaboration demonstrated by all programs. Workgroup participants mentioned the benefits of cross-program collaboration multiple times.

By evaluating the curriculum annually, cross-program collaboration continues. The program metrics allow the

curriculum workgroup to adjust the components and toolbox strategies for implementation based on barriers and opportunities reported by the programs. Findings from the learner metrics allow teaching faculty to adapt their focus according to learner progress. Over time, the annual surveys may also provide insight into how effective the Arizona Pain and Addiction Curriculum is in achieving the intended cultural transformation as manifested by shifts in learner knowledge, attitudes, and practice plans.

ADHS played a large role in facilitating the curriculum creation, from organizing meetings, to working with local pain and addiction experts, to creating drafts for the group, to hosting the curriculum summit. As with most public health educational endeavors, this curriculum is purposely free and nonproprietary; it can be accessed, used, and adapted by anyone inside or outside Arizona.

ADHS has also led the creation of graduate medical education and continuing health education editions of the Arizona Pain and Addiction Curriculum, which were in the final stage of development at the time of writing. By vertically integrating the curriculum across all levels of health professional education, clinicians in Arizona will be equipped to provide a consistent public health approach to these interrelated crises.

Conclusions

This novel example of a statewide collaboration that led to the creation of a curriculum across diverse program types may serve as a template for other states. The integrated public health approach to both pain and addiction included in this curriculum matches these interrelated public health crises in a way that we have not seen previously reported. Findings from the initial and ongoing program and learner metrics will be published as they become available. Other states may benefit from using a similar collaborative process or the Arizona Pain and Addiction Curriculum to enhance pain and addiction education.

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