

## Surveys of substance use disorders education in US pharmacy programs

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### Abstract

**Introduction:** Substance use disorders (SUDs) are a significant US health problem affecting roughly 20 million Americans, but there continues to be limited access to SUD treatment and inadequate addiction medicine training. Therefore, it is important to understand how SUD education is being delivered to US health professionals, including pharmacists.

**Methods:** A recent survey of US pharmacy programs' neuropsychiatry curricula was evaluated to identify any progress made toward increasing SUD education since the last national survey in 2004 and determine any remaining gaps between what is currently being taught and American Association of Colleges of Pharmacy (AACP) curricular guidelines for SUD education updated in 2010. A survey of psychiatric pharmacists, regarding what they thought should be taught, was also evaluated and compared with the 2010 AACP curricular guidelines.

**Results:** Our survey of US pharmacy programs demonstrated that 94% of programs reported teaching SUD content in 2014-15, which has increased from 81% reported in a survey study from 2004. There was also an increase for average hours of SUD didactic instruction, which increased from 2.2 hours in 2004 to 2.7 hours in 2015. The majority of members (84%) recommended at least 2 hours of SUD instruction, and 27% recommended teaching  $\geq 4$  hours.

**Discussion:** There was an overall increase in SUD instruction, but the average hours taught still falls short of 2010 AACP curricular guideline recommendation suggesting  $\geq 4$  hours. Furthermore, a majority of the psychiatric pharmacists we surveyed did not agree with the AACP curricular guideline recommendation because only 27% of members recommended  $\geq 4$  hours of SUD instruction, and the average hours recommended was only 2.7 hours.

**Keywords:** substance use disorders, pharmacy education, survey, curriculum

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### Introduction

Substance use disorders (SUDs) are a significant US health problem affecting 20.5 million Americans (12 years of age

or older) during 2015.<sup>1</sup> According to the 2015 National Survey on Drug Use and Health, about 15 million adults had an alcohol use disorder, and based on data from 2006-10, an estimated 88 000 Americans die annually due to alcohol-related causes.<sup>2</sup> There are also approximately 2.5 million Americans suffering from a prescription opioid or heroin SUD, with roughly 30 000 opioid-related overdose deaths in 2015.<sup>1</sup> Despite America's clear substance use problem, there continues to be limited access to SUD treatment and inadequate addiction medicine training.<sup>3</sup> Therefore, it is important to understand what SUD education is being provided to health



professionals, including pharmacists, and how this compares to expert panel recommendations.

In a 2004 survey study, 81% of pharmacy programs provided SUD education in their clinical therapeutics courses with an average of 2.2 hours (SD = 2.2 hours) lecture-based instruction and 0.5 hours (SD = 1.4 hours) case-based instruction.<sup>4</sup> Only 2 of the 49 pharmacy schools surveyed required an advanced pharmacy practice experience (APPE) in psychiatry, the practice setting where SUDs are typically managed.<sup>4</sup> However, more than 90% of the schools offered a psychiatry elective rotation with a mean annual enrollment rate of 20.2% (SD = 19.5%).<sup>4</sup>

Practicing Florida pharmacists surveyed in 2005 also demonstrated limited education in SUDs because the majority (67.5%) of the 454 respondents recalled receiving 2 hours or less of addiction/substance abuse education in pharmacy school, and some even indicated no addiction education (29.2%).<sup>5</sup> Less than half (46.7%) of the respondents reported having “very much” or “much” knowledge about how to intervene or counsel patients regarding medications that were potentially addictive.<sup>5</sup> One limitation of this study was the potential for recall bias because most of these pharmacists completed their pharmacy education during previous decades. Indiana licensed pharmacists surveyed in 2009 had a strong interest in learning more about substance abuse, and 22.2% of the pharmacists sought additional independent addiction education.<sup>6</sup> They also reported spending a mean of 6.94% of their day with customers who have chemical dependency issues, which further highlighted the gap between the limited SUD education that pharmacists received and the amount of time they dedicated to chemically dependent patients in their daily practice.<sup>6</sup>

Recognizing the important role for pharmacists in providing care to patients with SUDs, the American Association of Colleges of Pharmacy (AACP) special committee on substance abuse and pharmacy education updated and revised the document “Curricular Guidelines for Pharmacy: Substance Abuse and Addictive Disease” in 2010 and “suggested that at least 4 hours be devoted to the identification, intervention, and treatment of addiction and related disorders,”<sup>7(p6)</sup> which “should prepare the student pharmacist to competently problem-solve issues concerning alcohol and other drug abuse and addictive diseases affecting patients, families, colleagues, themselves, and society.”<sup>7(p1)</sup> The AACP curricular guidelines also suggested that student or professional peer assistance programs should be introduced within the first month after new student orientation and that psychosocial aspects of substance use be covered within the first 3 semesters. As pharmacy programs consider increasing the emphasis on SUD education in their curricula, it is

important to evaluate and assess the progress made since the last national pharmacy curriculum survey was conducted in 2004 and compare to 2010 AACP curricular guidelines.<sup>4,7,8</sup>

## Methods

The survey data was derived from 2 surveys completed during 2015: 1 of US pharmacy programs and 1 of College of Psychiatric and Neurologic Pharmacists (CPNP) members with a teaching affiliation.<sup>9</sup> These 2 surveys attempted to capture a representative national sample of accredited pharmacy programs in the United States and teaching psychiatric pharmacists. The first survey asked curriculum representatives from pharmacy programs to answer questions about clinical therapeutics course topics taught during the 2014-15 academic year. The second survey asked CPNP members with an academic affiliation and a board certified psychiatric pharmacist credential to provide recommendations regarding what should be taught in neuropsychiatric curricula.

## Results

The response rate for the pharmacy program survey was 56% with 75/133 of program representatives submitting at least partial survey data.<sup>9</sup> Of the responding programs reporting therapeutics didactic course content, 94% reported teaching SUDs during the 2014-15 academic year curriculum with the majority (56%) delivering SUD content during year 3 of pharmacy school, 31% teaching in year 2, and only 3% reported teaching during year 1. The average time of instruction reported was 2.7 hours (SD = 1.5 hours) with 79% of programs reporting at least 2 hours and only 30% of the programs teaching  $\geq 4$  hours. The majority of instructors teaching SUDs in therapeutics didactic lectures were full time (81%) and had the board certified psychiatric pharmacist credential (51%). A few respondents also reported covering content in team-based learning, learning labs, and flipped classroom settings.

There were minimal APPE rotations available that were specifically focused on SUDs or addiction medicine because only 17 programs reported such a practice site. The number of rotation student placements available at these programs ranged from 1 to 18 students per year.

The response rate for the CPNP member survey was 65% (173/267).<sup>9</sup> The majority of members (84%) recommended at least 2 hours of SUD instruction, and 27% recommended teaching  $\geq 4$  hours. This put SUD in fourth place out of the 20 topics surveyed, with only epilepsy, schizophrenia, and pain syndromes having a greater percentage of members who recommended  $\geq 4$  hours. These members

surveyed recommended an average of 2.7 hours (SD = 1.3 hours) for SUD didactic instruction.

## Discussion

Substance use disorders are a significant US health problem, and there is a need to improve education for the public and health professionals, including pharmacy students. The survey data demonstrated that there may be a higher proportion of programs now teaching SUDs in therapeutics courses with 94% of programs in 2015 compared to 81% in a previous 2004 survey study.<sup>4</sup> The current survey also shows that 79% of programs are reporting at least 2 hours of SUD education during the 2014-15 academic year, which appears to have increased compared to a previous survey from 2005.<sup>5</sup> In this 2005 study, the majority (67.5%) of practicing Florida pharmacists reported  $\leq 2$  hours and roughly one third reported no education about addiction/substance abuse.<sup>5</sup>

The 2010 AACP curricular guidelines recommend that teaching psychosocial aspects of alcohol and other drug use should be “initiated within the first 3 semesters of the pharmacy curriculum within required courses.”<sup>7(p4)</sup> Our survey shows that only 34% of programs are potentially meeting this recommendation by offering SUD education in year 1 or 2 of pharmacy school.

The AACP also states, “it is suggested that at least four hours be devoted to the identification, intervention and treatment of addiction and related disorders, possibly during a pharmacotherapeutics course sequence.”<sup>7(p6)</sup> Based on our survey results, it appears that 70% of pharmacy programs are not currently meeting this recommendation and that the majority of CPNP members actually disagreed with this AACP recommendation because only 27% of respondents suggested that  $\geq 4$  hours of SUD should be taught. Epilepsy, schizophrenia, and pain syndromes were the only 3 topics that were recommended for more teaching hours ( $\geq 4$  hours) than SUD in the member survey. Pharmacy instructors may possibly consider  $\geq 4$  hours too long for most topics, and perhaps other researchers will consider evaluating educational outcomes in the future to determine the most appropriate number of hours for SUD education in pharmacotherapeutics courses.

The AACP curricular guidelines recommend that students should be provided with required and elective opportunities through a variety of teaching approaches, including lectures, reading assignments, group discussions, term papers, and recorded or printed media.<sup>7</sup> They further explain that “potential elective experiences could include visits to substance abuse resource centers, treatment agencies, and self-help groups (especially those based on

the 12 steps of Alcoholics Anonymous).”<sup>7(p4)</sup> Our survey results demonstrated that SUD APPE rotations were quite limited with only 23% of programs offering SUD-specific practice sites, which suggests many pharmacy programs may not be meeting the experiential component of this AACP recommendation. It is also important to consider that some elements of SUD education may be covered in other practice settings, such as alcohol withdrawal during an emergency or internal medicine rotation.

The consistency between what programs reported and what CPNP members thought should be taught (2.7 hours) may highlight a potential status quo bias, particularly if CPNP members completed both the individual member survey and the survey on behalf of the US pharmacy program. Other limitations to our survey data include using 1 hour as the unit of analysis for averages when respondents reported topic times in the 0.1 to 1 hour range. Our sample is also susceptible to recall bias and potential inaccuracy because it was possible that multiple program contacts filled out various portions of the program surveys, with some programs only partially completing questions and others not responding at all.

Although SUDs remain a significant US public health problem, and 2010 AACP curricular guidelines have suggested how to implement SUD education, it appears that most US pharmacy programs have not adopted these recommendations, and only about a quarter of CPNP members agreed that  $\geq 4$  hours of SUD education should be taught. Although the AACP provides some curricular guidance, there still remains an unmet need for pharmacy educators to identify the most salient SUD content for therapeutics courses, develop updated curricula, and evaluate educational outcomes to ensure that all student pharmacists are competent to manage patients with SUDs.

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