Published in final edited form as:

Curr Psychiatry Rep. 2008 October ; 10(5): 399–404.

Training Physicians to Treat Substance Use Disorders

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Abstract

The importance of training physicians to effectively assess and manage substance use disorders has become increasingly recognized. Studies highlighting the effort to enhance curricula are described and common practices identified. Preferable curricula incorporate interactive teaching methods along with experiential and didactic components. Addiction specialists serve an important role in training programs designed for medical students and residents (ie, role models) and practicing physicians (ie, clinical support). Further integration of online training into current programs may expand and enhance training opportunities.

Introduction

Over the past several decades, there has been an expanding awareness of the importance of substance abuse education for medical students, residents, and practicing physicians. The greater emphasis on substance abuse training corresponds with a wider perception of substance use disorders as chronic medical conditions that has led in part to the development of substance abuse fellowships [1]; a federally funded Career Teacher Program; and the creation of specialty organizations such as the American Academy of Addiction Psychiatry, the American Society of Addiction Medicine (ASAM, initially known as the American Medical Society on Alcoholism), and the Association for Medical Education and Research in Substance Abuse.

Possibly as a result, the quantity and quality of medical education on substance use disorders have improved [2]. Despite this improvement in addiction training, the overall emphasis among various levels of training remains disproportionately low compared with other chronic medical disorders [3-7].

To address this need, the following review provides an overview of the knowledge, attitudes, and skills that physicians in various stages in training should possess. We make specific recommendations regarding curricular content (Table 1) and review the literature assessing the impact of specific initiatives.

Knowledge, Attitude, and Clinical Practice

Deficits in knowledge and clinical skills among physicians-in-training and those in practice are compounded by negative attitudes toward substance abusers. Geller et al. [8] hypothesized that the lack of adequate curriculum, exposure to end-stage addiction, and lack of faculty expertise all may contribute to negative attitudes. Many studies have consistently demonstrated a need for improvement in resident practice habits, finding that residents often fail to appropriately screen for or diagnose alcohol and other substance use disorders in their clinic

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Disclosures

No potential conflicts of interest relevant to this article were reported.

and hospitalized patients [9-13]. Therefore, it is not surprising that practicing physicians also inadequately address substance use in their patients based on self-report [14-16], medical record charting [17,18], and patient report [19].

A national survey conducted by the National Center on Addiction and Substance Abuse at Columbia University [19] of 648 primary care physicians and of 510 adults receiving treatment for substance use in 10 treatment programs highlighted some troubling findings. More than 50% of patients reported that their primary care physician did not address their substance abuse. More than 40% of patients stated that their physician missed the diagnosis of a substance use disorder, and only 25% were involved in their decision to seek treatment. Less than 20% of primary care physicians considered themselves “very prepared to identify alcohol or drug dependence.” This contrasts with more than 80% feeling very comfortable diagnosing hypertension and diabetes.

Training Initiatives on Substance Use Disorders in Medical School

Many barriers impede implementation of a substance use curriculum into medical education [20]. These barriers include a lack of the following: 1) curricular time, 2) coordination of efforts among departments, 3) addiction treatment sites in which to provide relevant clinical experiences, and 4) interested or qualified faculty or faculty time to develop integrated curricula. Identifying physician role models is particularly important during clinical training of medical students [21]. In addition, support and leadership is needed from departmental and medical school administration, without which expansion or implementation of substance abuse curricula is less likely.

Throughout the 1980s, a series of papers described substance use training initiatives (usually < 15 hours total) that consisted of lectures alone [22] or a combination of didactic and experiential training, often within an ongoing clerkship [23-25]. Korcok [26] described a comprehensive training experience that consisted of a 4-week elective incorporating lectures, participation in group therapy, half-day visits to treatment programs such as halfway houses, attendance at an Alcoholics Anonymous (AA) meeting, and direct clinical experiences with patients and families. Exposure to recovering patients in substance abuse treatment settings is a striking departure from what medical students normally see in medical settings (ie, individuals with an extensive history of addictive disease who may not be interested in treatment or have frequently had unsuccessful treatment). Studies assessing the impact of medical student training programs on substance use have often focused on assessment of changes in student knowledge and attitudes [27]. For example, Chappel and Veach [28] found that incorporating a course on substance use in the curriculum of second-year medical students can lead to improved attitudes across several areas (eg, treatment optimism, nonmoralism). Their 28-hour course included lectures, small group discussions, clinical problems, and visits to treatment programs and AA meetings. Based on annual medical student surveys administered during the development of a substance use curriculum, participation in experiential training and electives throughout the clinical years of medical school seems to be particularly important for developing positive attitudes toward managing substance abuse [29].

Also in support of interactive teaching methods, a comprehensive review of tobacco intervention training in US medical schools found that enhanced instructional methods such as the use of standardized patients or role playing were more effective than traditional didactic approaches [5]. Such approaches can be integrated feasibly into existing medical school curricula. More recently, interactive, Web-based smoking cessation curricula have shown promise to expand training, particularly when time constraints and lack of access to materials and experienced faculty are barriers to integration [30]. Medical students from two schools

who participated in such Webbased training had improved knowledge and perceived skills on pretest and post-test surveys [30].

Training Initiatives on Substance Use Disorders in Residency

With the increased recognition that graduating residents should have certain core competencies in managing substance use disorders, guidelines have been developed to help guide training of psychiatric house staff and other physicians. These competencies provide a basic framework and may need to be modified based on the type of residency program. Beginning in 2001, general psychiatry residency programs were required to provide 1-month, full-time equivalent training to residents in addiction [31]. Even with most US child and adolescent psychiatry residency program directors reporting diverse substance abuse training experience for their house staff [32], psychiatric addiction training needs to improve, particularly regarding long-term management skills and treatment of patients with co-occurring substance use and psychiatric disorders [33•].

Most of the recent literature describing substance abuse training initiatives has provided an evaluation component to determine whether the training led to changes in knowledge or practices. Although innovative, comprehensive substance abuse training has been described for psychiatric residents [34], most research examining the impact of substance use education during residency has been conducted in primary care programs. Many curricula studied have focused on alcohol misuse and have attempted to improve screening and intervention skills, although some have also addressed knowledge and attitudes. In a study of primary care residents, attendings, and nurse practitioners, Ockene et al. [35] found that a 3-hour training program to teach a counseling intervention for high-risk and problem drinkers resulted in improved knowledge, attitudes, and skills as assessed by pretest and post-test survey and performance using simulated patients. The training program had small group and individual tutorial sessions using role play with simulated patients who provided feedback to the provider [35]. In recent studies of similarly brief curricula, internal medicine residents demonstrated improved knowledge, attitudes about AA [36], and perceived ability to manage substance use disorders [37].

Using simulated patients, Levin et al. [38] demonstrated an increase in medical and pediatric resident interviewing and intervention skills after participating in a 5-day experiential and didactic training program at Hazelden Residential Program of New York City. Due to residency time constraints, the Hazelden curriculum was later consolidated to 2 days and augmented by a half day of small group sessions, one of which was based on a National Institute on Alcohol Abuse and Alcoholism training manual [39]. Documented alcohol and illicit drug screening was found to have improved after training [39]. Another combined experiential and didactic training program conducted in four half-day sessions for family medicine residents also found improvement in self-reported knowledge and attitude [40]. However, the study lacked a statistical comparison and behavioral outcome.

Another effective approach to physician training is through the use of an Objective Structured Clinical Exam (OSCE) to teach addiction competencies. In a study of internal and family medicine residents, assessment and management skills regarding alcohol and illicit drug abuse were found to have significantly improved between the first and final OSCE sessions [41•]. Such approaches further demonstrate the utility of providing performance-based assessment and immediate feedback to trainees. Of note, performance was not associated with self-assessed interest or competence.

Training Initiatives on Substance Use Disorders Post-Residency

Addiction psychiatry fellowships

Physicians who have completed a residency program in general psychiatry can pursue further training in addiction psychiatry through a 12- to 24-month fellowship program accredited by the Accreditation Council for Graduate Medical Education (ACGME). Detailed information on 39 addiction fellowships is available online from the Center for Medical Fellowships in Alcoholism and Drug Abuse (<http://www.med.nyu.edu/substanceabuse/assets/07FellowshipsWeb.pdf>). Some programs accept physicians who have completed residency training in other fields (eg, internal medicine, neurology); however, these fellows are not eligible for the addiction psychiatry boards. The addiction psychiatry boards are administered by the American Board of Psychiatry and Neurology (ABPN), which lists core competencies on its website (<http://www.abpn.com>). The first subspecialty certification examination (for what was then called Added Qualifications in Addiction Psychiatry) was given in 1993. As of December 2007, the ABPN reported that 1959 psychiatrists had been certified in addiction psychiatry (http://www.abpn.com/cert_statistics.htm). Today, psychiatrists who complete an ACGME-accredited fellowship and are certified in general psychiatry by the ABPN are eligible to sit for a subspecialty certification examination given once every 2 years. The subspecialty certification examination is currently structured as a 4-hour, 200-question, multiple-choice, computer examination that covers only addiction psychiatry topics (<http://www.abpn.com/ap.htm>).

The ABPN certification in the subspecialty of addiction psychiatry is valid for 10 years, beyond which a recertification examination is required. The American Board of Medical Specialties now mandates that medical specialties and subspecialties, including addiction psychiatry, adhere to the concept of *maintenance of certification*, which is broader than that of recertification. Maintenance of certification involves not only examinations but also documentation of commitment to lifelong learning and assessment of practice-based performance [42].

American Society of Addiction Medicine certification

ASAM offers a certification examination to physicians who have completed residency training in any medical specialty and have an additional year of clinical experience in treating substance use disorders. The ASAM examination, like the ABPN examination, is offered every 2 years, with recertification required every 10 years (http://www.asam.org/Certification_home.html). Both ASAM and ABPN certifications are widely recognized and accepted as evidence of expertise in substance abuse. For example, physicians who are certified by ASAM or ABPN are exempt from taking a special training course before being approved by the Drug Enforcement Administration to prescribe buprenorphine to their patients [43]. In addition to being eligible to sit for the ASAM certification examination by having 1 year of clinical experience, several formal fellowship programs in addiction medicine are now available across the United States (<http://www.asam.org/Fellowships.html>). Although addiction psychiatry is currently recognized as a subspecialty of the ABPN, addiction medicine is not recognized by the American Board of Medical Specialties. The American Osteopathic Association offers a Certification of Added Qualifications in Addiction Medicine. The certification examination is available to osteopathic physicians who are certified in anesthesiology, internal medicine, or psychiatry and neurology and who have completed 1 year of American Osteopathic Association training in addiction psychiatry or fulfilled extensive work and continuing medical education (CME) requirements in addiction psychiatry or addiction medicine [44].

Description and evaluation of programs that target physicians in practice

Apart from these postresidency initiatives to train specialists and teaching faculty, most practicing physicians who want to further their education and training in substance use disorders attend CME programs [45]. CME activities are a major means by which practicing physicians stay up to date with medical information so as to improve practices and optimize patient outcome [46]. In a review of 11 studies that assessed the outcome of CME programs devoted to teaching physicians about substance use disorders, most programs tended to use a combination of didactic and interactive interventions to enhance screening, early intervention, and referral [27]. Studies examining program effectiveness were often equivocal but in general suggested a need for reinforcement of training to improve CME impact [27]. These conclusions were supported by a meta-analysis of randomized, controlled trials of formal CME programs not specifically related to substance abuse (although one study assessed CME training on tobacco), which found that multiple, longitudinal CME interventions improved physician performance [46]. This study also concluded that interactive sessions (ie, role play or discussion groups), but not didactic sessions, can effect change in physician practices [46].

Substance use disorder CME training programs have become increasingly available online. The American Society of Addiction Medicine offers access to a variety of online CME courses (<http://www.asam.org>) on topics such as alcohol, tobacco, and opioid use disorders. In addition to CME programs, industry has sponsored a variety of online educational resources. One such resource (<http://www.painedu.org>) provides clinicians with information on pain management and makes available risk assessment tools for the development of substance use disorders in such patients. Online educational resources can play an important role in supplementing currently available in-person training.

Physician training on the use of buprenorphine for treatment of opioid dependence

Whereas most substance abuse educational interventions and research have focused on tobacco and alcohol, less emphasis has been placed on training physicians in managing opioid abuse. With passage of the Drug Addiction Treatment Act in 2000 (DATA 2000) and subsequent US Food and Drug Administration approval of buprenorphine for treating opioid dependence in 2002, it became possible for physicians to provide office-based buprenorphine treatment [47]. Under DATA 2000, physicians without specialty substance abuse certification can apply to the Substance Abuse and Mental Health Services Administration (SAMHSA) for a waiver to prescribe buprenorphine by adhering to the following requirements: 1) participating in 8 hours of CME training sponsored by designated medical societies such as the American Academy of Addiction Psychiatry, American Psychiatric Association, and ASAM; 2) the capacity to refer patients for counseling and other nonpharmacologic treatment; and 3) no more than 30 patients on buprenorphine at any given time during the first year of submitting the waiver notification [43]. The patient limit can be increased to 100 patients if the physician submits a second notification to SAMHSA 12 months after the initial waiver request [43]. Since 2002, more than 12,000 physicians have received a waiver, and more than half are not addiction specialists [48].

Buprenorphine training provides an opportunity for those physicians who were not already addiction specialists to expand their medical care practices and include buprenorphine treatment for opioid dependence. Buprenorphine training programs are available in person, online, and on CD-ROM and include materials and content outlined in national practice guidelines from the Center for Substance Abuse Treatment [49]. Online and in-person DATA-qualifying buprenorphine training programs can be accessed at <http://buprenorphine.samhsa.gov/pls/bwns/training>.

Despite the DATA Waiver Program and the availability of training programs, studies of the early adoption of buprenorphine treatment identified several barriers. Physicians in various specialties reported a lack of experience, induction difficulty, low reimbursement, potential Drug Enforcement Administration involvement, and limited patient compliance [50•,51-53]. These obstacles are significant considering one report noted that more than 40% of physicians with DATA waivers had not treated any patients with buprenorphine [52]. Of those physicians who had prescribed buprenorphine, 25% reported that the challenges they face caused them to reduce the number of patients they treat or to discontinue providing buprenorphine treatment [52].

A benefit from additional support after participation in buprenorphine training has been suggested from post-training respondents reporting hesitation to begin prescribing [50•]. Possibly in recognition of such a need, nationally available clinical resources have become available. The SAMHSA Buprenorphine Clinical Discussion WebBoard (<http://bup-webboard.samhsa.gov>) provides an opportunity for waived physicians to ask and answer clinical questions regarding the use of buprenorphine. In addition, the SAMHSA Physician Clinical Support System (<http://www.pcssmentor.org>) is a national network of trained physician mentors in buprenorphine treatment who are available to provide clinical support to psychiatrists, primary care physicians, and other medical practitioners.

Conclusions

The education of physicians on substance use disorders has gained increased attention. Although training guidelines have been developed and progress has been made to improve medical school, residency, and postresidency substance abuse education, these directives have not been uniformly applied. The literature repeatedly stresses the importance of developing physician role models who have expertise in substance abuse. These individuals can help to implement curricula change and provide supervised experiences to medical students and residents. In addition, the increasing role of online medical education programs offers the opportunity to expand training even further. Providing physicians with interactive and clinically relevant training experiences, exposure to patients who have benefited from treatment, adequate reimbursement for time spent assessing patients for substance use disorders, and a supportive administrative environment almost certainly will lead to substantial improvement in the treatment of patients with substance use disorders.

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Table 1
Summary findings of substance abuse training programs for physicians

Brief, skills-based curricula can improve physician knowledge, attitudes, and practices

Combined interactive, experiential, and didactic curricula are preferable to didactics alone

Expert faculty in addiction are needed to serve as role models and provide support

Feedback to trainees should be integrated into training programs

Reinforcement of training improves outcomes