

REPORT 11 OF THE COUNCIL ON MEDICAL EDUCATION (A-07)

The Status of Education in Substance Use Disorders in America's Medical Schools and Residency Programs
Reference Committee C

EXECUTIVE SUMMARY

Substance use disorders constitute a major public health problem in the United States. In 2005, an estimated 22.2 million Americans, or 9.1% of the population aged 12 years or older, were classified with substance dependence or abuse. The morbidity, mortality, and economic costs, including use of health care services, associated with these disorders, as well as their social consequences, constitute a substantial burden to both those affected and to society. Our evolving understanding of the neurobiological underpinnings of addiction compels us to regard substance use disorders as chronic medical illnesses. Although there is growing evidence that these disorders and their consequences are amenable to treatment, as well as being potentially preventable, it is noteworthy that in 2005 there were 20.9 million Americans, or 8.6% of the population aged 12 years or older, who needed treatment for an illicit drug or alcohol use problem but failed to receive treatment. Physicians are well placed to address this unmet need and to care for patients with these disorders - it is estimated that up to 20% of visits to primary care physicians are associated with substance use disorders, and both primary care and specialist physicians frequently see patients with these disorders.

In 2005-2006, all but one medical school reported that they included the topic of substance abuse in required courses in their curricula. In addition, the number of curricular hours devoted to this topic increased from 3.5 curricular hours in 1986-1987 to 7.2 in 1991-1992 and, to 14.6 hours in 2005-2006. Approximately 90% of graduating medical students consistently reported in 2004, 2005, and 2006 that they believed that the time devoted to their instruction in drug and alcohol abuse was appropriate. In individual studies of medical students, however, they report declining satisfaction in working with patients with substance use disorders during their clinical years in medical school. In addition, medical student attitudes toward patients with these disorders deteriorate during their clinical years and on into residency training.

The findings for inclusion of substance use disorders in graduate medical education are mixed. Nationally, in 1997, 56% of residency programs in seven specialties reported that they had a required curriculum in substance use disorders: 55% in emergency medicine, 75% in family medicine, 51% in internal medicine, 40% in obstetrics-gynecology, 32% in pediatrics, 95% in psychiatry, and 41% in osteopathic medicine. The median numbers of required hours, however, ranged from a high of 12 hours in family medicine to a low of 3 hours in pediatrics and obstetrics-gynecology. In general, barriers are reported to be lack of time, faculty expertise, institutional support, and training sites. Both faculty and resident physicians report that they are less satisfied in caring for patients with substance problems. Studies consistently report a deterioration in attitudes toward treating patients with substance use disorders from the third year of medical school through the fourth year of residency training.

Two observations, however, offer hope for a different future. First, use of an Objective Structured Clinical Examination (OSCE) that included standardized patients with substance use disorders raised internal medicine residents' awareness of their unpreparedness, and led to their requests for additional training. Second, Seale et al, developed and implemented an innovative approach to increasing inclusion of alcohol screening and intervention in family medicine residency clinics. Simultaneous system-based interventions and clinician training of the harms of drinking alcohol were implemented leading to significant increases in the numbers of patients assessed. The integration of alcohol screening in ambulatory processes of care is consistent with recommendations in the 2006 Institute of Medicine report - Improving the Quality of Health Care for Mental and Substance-Use Conditions.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION

CME Report 11-A-07

Subject: The Status of Education in Substance Use Disorders in America's Medical Schools and Residency Programs

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Referred to: Reference Committee C
(Edward C. Tanner, MD, Chair)

1 INTRODUCTION

2
3 The American Society of Addiction Medicine introduced Resolution 314 during the AMA Annual
4 Meeting in June 2006. This resolution, as amended and adopted, called for "...our AMA Council
5 on Medical Education to produce a report on the status of education in substance use and addiction
6 in America's medical schools and residency programs.

7
8 Substance use disorders constitute a major public health problem in the United States. In 2005, an
9 estimated 22.2 million Americans, or 9.1% of the population aged 12 years or older, were classified
10 with substance dependence, or abuse.² In addition, 6.4 million, or 2.4 % of the population over 12
11 years of age reported using prescription-type psychotherapeutic drugs for non-medical purposes in
12 the past month - 4.7 million used pain relievers, 1.8 million tranquilizers, 1.1 million stimulants,
13 and 272,000 used sedatives.² Further adding to this burden, individuals with substance use
14 disorders also frequently suffer from associated and significant complications and co-morbid
15 conditions also requiring recognition and treatment.³

16
17 The morbidity, mortality, and economic costs, including use of health care services, associated with
18 these disorders, as well as their social consequences, constitute a substantial burden to both those
19 affected and to society. With regard to mortality, in 2000, 435,000, or 18.1% of all deaths in the
20 United States, were associated with tobacco use, 85,000 or 3.5% of all deaths were associated with
21 alcohol consumption; and 17,000 or 0.7% of all deaths were associated with illicit drug use.⁴
22 Furthermore, the economic costs associated with substance use disorders in a 1992 study were
23 estimated to be \$245.7 billion.⁵ In a more recent 1998 study, costs associated with supporting
24 treatment and prevention for substance use disorders, treating their medical consequences, and
25 associated lost productivity were estimated to be \$7.5 billion, \$18.9 billion, and \$134.2 billion
26 respectively.⁶

27
28 Our evolving understanding of the neurobiological underpinnings of addiction⁷⁻⁹ compels us to
29 regard substance use disorders as chronic medical illnesses.^{10,11} Although there is growing evidence
30 that substance use disorders and their consequences are amenable to treatment as well as being
31 potentially preventable, it is noteworthy that in 2005 there were 20.9 million Americans, or 8.6% of
32 the population aged 12 years or older who needed treatment for an illicit drug or alcohol use
33 problem but failed to receive treatment.² Physicians are well placed to address this unmet need and
34 to care for patients with substance use disorders - it is estimated that up to 20% of visits to primary
35 care physicians are associated with substance use disorders,¹² and both primary care and specialist

1 physicians frequently see patients with substance use disorders.¹³ In light of the evidence that
2 substance use disorders are amenable to identification, treatment, and management, the observation
3 that physicians frequently do not appropriately screen, diagnose, provide evidence-based brief
4 treatment interventions, manage medications, or make referrals to specialists to care for those with
5 substance use disorders is striking. This observation raises questions regarding physicians'
6 preparation in their undergraduate and postgraduate training to competently recognize and care for
7 patients with substance use disorders.

8
9 In response to Resolution 314 (A-06), this report addresses issues related to the extent to which
10 undergraduate and graduate medical education experiences are well designed to prepare medical
11 students and resident physicians to competently recognize and care for individuals with substance
12 use disorders.

13 **SECTION 1: PRIOR AMA POLICY**

14
15
16 The AMA has a long history of policy promoting physician education and involvement in the
17 diagnosis and treatment of individuals with substance use disorders, substance abuse and/or
18 addiction. In 1979, the AMA Guidelines for Physician Involvement in the Care of Substance-
19 Abusing Patients were published – these Guidelines were reaffirmed in 1989 and again in 1999.¹⁴
20 Policy H-295.922 (AMA Policy Database) states that alcohol and other drug abuse education needs
21 to be an integral part of medical education. Policy H-95.969 indicates "...The AMA believes
22 immediate attention should be given to all of these areas of urgently needed action, and commits
23 itself to continued participation in the formulation, dissemination, and evaluation of the national
24 responses to the problems of alcohol and drug abuse." AMA Policy H-95.983 (Reaffirmed I-97)
25 states that it "... encourages physicians, other health care professionals, medical and other health
26 related organizations and government and other policymakers to become more well informed about
27 drug dependencies, and to base their policies and activities on the recognition that drug
28 dependencies are, in fact, diseases." In addition, the Council on Scientific Affairs in its Report 14,
29 A-97 has reaffirmed these principles.

30
31 AMA Policy H-295.979 (reaffirmed I-95) states that the AMA "...urges medical schools to include
32 substance abuse prevention programs in their curricula..." In 1993, (Policy H-300.962),
33 the AMA "...(1) encouraged all physicians, particularly those in primary care fields, to undertake
34 education in the treatment of substance abuse; (2) directed its representatives to appropriate
35 Residency Review Committees (RRC's) to ask the committees on which they serve to consider
36 requiring instruction in the recognition and management of substance abuse; (3) encouraged the
37 treatment of substance abuse as a subject for continuing medical education; and (4) affirmed that
38 many physicians in fields other than psychiatry have graduate education and experience
39 appropriate for the treatment of substance abuse, and for utilization review, and for other
40 evaluation of such treatment, and should be entitled to compensation..."

41
42 In response to AMA Resolution 326 (A-97), adopted by the House of Delegates at the 1997 Annual
43 House of Delegates meeting, the AMA carried out a survey to determine the extent to which
44 national specialty societies were either currently providing education in substance abuse, or
45 believed that there was a need to have additional continuing medical education in this topic for
46 their members. The mailed survey was completed by 46 of the 93, or 46%, of specialty societies in
47 the AMA House of Delegates, although not all respondents replied to each of the survey items.
48 The survey findings included the following: 24% (11/46) indicated that they had included materials
49 on the treatment of addiction in one or more of their modalities of continuing medical education;
50 21% (9/43) stated that they were now developing training and educational materials in the
51 management and treatment of addiction for their members; 58% (25/43) indicated that they

1 believed it would be desirable to have training and educational materials available in the
 2 management and treatment of addiction for their members; 26% (7/29) indicated that they would
 3 use assistance, if available, to develop training and educational materials in the management and
 4 treatment of addiction disorders for their members; and, 50% (20/40) stated that they believed that
 5 adding information on addiction disorders to their our continuing medical education activities
 6 would be practical.

7
 8 In addition, and in response to the same Resolution 326 (A-97), it was observed that the
 9 Accreditation Council for Graduate Medical Education (ACGME) included substance use and
 10 addiction as program requirements for only five specialties - anesthesiology, family practice,
 11 internal medicine, obstetrics and gynecology, and psychiatry. With regard to Board certification, it
 12 was observed that the American Board of Medical Specialties (ABMS) did not have information
 13 available as to the extent to which member Boards included questions related to substance abuse on
 14 either the initial certification or re-certification examinations. Based on this information, the
 15 Council on Medical Education recommended (I-98): (1) that the AMA reaffirm existing policies H-
 16 95.969, H-95.982, H-95.983, H-295.922, H295.979, and H-300.962; (2) that the AMA ask all
 17 (ACGME) Residency Review Committees to review their training requirements in the treatment
 18 and management of substance abuse and addiction and to make recommendations for strengthening
 19 this provision as needed; and (3) that the AMA encourage the development of specialty-specific
 20 needs assessment to determine whether targeted educational activities in substance abuse would be
 21 useful in their overall program of continuing medical education.” These recommendations were
 22 adopted as recommended.

23 24 **SECTION 2: DEFINITIONS – TERMS AND CONCEPTS**

25
 26 In addressing the issue of the extent to which undergraduate and graduate medical educational
 27 experiences are well designed to prepare physicians to care for patients with substance use
 28 disorders it is helpful to have in common, definitions of relevant terms and concepts. These
 29 include terms specifically related to substance use disorders, as well as terms and concepts related
 30 to physician competency in general, and more specifically, competencies required for caring for
 31 patients with substance use disorders.

32 33 **Terms related to substance use disorders**

34
 35 The general terms “drug abuse” or “drug misuse” are used to refer to the “...use of substances that
 36 are considered illegal such as cocaine, heroin, marijuana, the misuse of legal substances such as
 37 solvents, over-the-counter drugs, or prescription drugs, the abuse of tobacco and alcohol, or in the
 38 case of underage children, the use of tobacco or alcohol...”¹⁵ Almost all of the substances are used
 39 for their psychoactive effects. *Substance abuse* is characterized by the individuals’ continued use
 40 of substances even though they have persistent negative consequences. *Substance dependence*, on
 41 the other hand, is more serious as it involves psychological or physical tolerance or dependence.
 42 Definitions for these two terms are set out in the American Psychiatric Association’s Diagnostic
 43 and Statistical Manual of Mental Disorders (DSM-IV-TR),¹⁶ (see attached Table 1). As evidenced
 44 by their inclusion in the National Household Survey on Drug Use and Health, these two DSM-
 45 defined terms serve as substance abuse and dependence case definitions in describing the
 46 epidemiology of substance use disorders.² Individuals who reach the problematic late stages of
 47 substance use - substance abuse or dependence - have moved through periods of drug initiation
 48 including experimenting with, and/or recreational use of, substances.¹⁶ Although, a full picture of
 49 the natural history of the myriad patterns of substance use initiation, progression, withdrawal, and
 50 cessation is fundamental to preventing and treating substance use disorders, it is beyond the scope
 51 of this report.¹⁸

1 **Concepts related to physician competency and its cultivation**

2
3 The construct of professional competence has a long and well-established history of being defined
4 by the profession itself.¹⁹⁻²⁰ Competence is characterized by having the potential to apply specific
5 knowledge in real world settings – competence is about capacity to perform. With regard to
6 introducing new competencies in physician training, it is useful to note the origins of physicians’
7 thinking of themselves as competent in medical practice. Physicians begin to internalize and lay
8 the professional foundation for what it means to be competent in particular areas of medical
9 practice during their clinical years in medical school.¹⁹ That is, medical students learn what it
10 means to be competent in medical practice through their presenting and getting feedback regarding
11 their constructed clinical narratives in presentations and discussions with residents and clinical
12 faculty. Increasingly physician assessments in licensing and certification are based on measurement
13 of their competencies.^{22,23}

14 **Physician competencies in substance use disorders**

15
16
17 It is important to note that specific competencies have been set out for physicians in identifying and
18 caring for patients with substance use disorders.¹⁴ Earlier versions of physician competencies were
19 reviewed and revised by the 2004 White House Office of National Drug Control Policy (ONDCP)
20 Leadership Conference on Medical Education and Substance Use Disorders.²⁴ The three highest
21 priority competencies are: (1) *Screening, prevention and brief intervention* - physicians should
22 know how and when to screen patients for unrecognized substance use disorders, and how to
23 provide preventive counseling and brief interventions, as appropriate; (2) *Identification and*
24 *management of co-occurring substance use and medical or psychiatric disorders* - physicians
25 should be able to identify and treat or appropriately refer patients with co-occurring medical and
26 psychiatric conditions and substance use disorders, be prepared to provide ongoing medical
27 monitoring, and be prepared to address needs of special populations (e.g., adolescents and older
28 adults); and (3) *Prescribing of drugs with abuse potential* – to minimize the risk of inducing or
29 perpetuating prescription drug use or misuse or abuse, physicians should have the ability to
30 understand clinical, legal, and ethical considerations involved in prescribing medications with
31 abuse potential and the skills to address these considerations.²⁴

32 33 **SECTION 3 INCLUSION OF SUBSTANCE USE DISORDERS IN UNDERGRADUATE** 34 **AND GRADUATE MEDICAL EDUCATION**

35
36 Preparing medical students and resident physicians to competently care for patients with substance
37 use disorders requires that their undergraduate and graduate medical educational curricula and
38 learning experiences be intentionally and appropriately designed to facilitate their developing a set
39 of well-defined competencies. In this report, the information regarding the extent to which this is
40 currently occurring is from secondary data sources. Data sources for undergraduate medical
41 education include: the Liaison Committee on Medical Education Annual Questionnaires for 2003-
42 2004,²⁵ 2004-2005,²⁶ and 2005-2006,²⁷ the Association of American Medical Colleges 2006
43 Medical School Graduation Questionnaire All Schools Report,²⁷ and selected reports published in
44 the peer-reviewed literature. The data source for graduate medical education is from reports
45 published in the peer-reviewed literature.

1 Undergraduate medical education

3 Early surveys

4 A series of surveys of medical schools have been carried out to assess the extent to which
5 substance use disorders have been integrated in their curricula. In 1976, Pokorny et al^{29,30} carried
6 out a survey to assess drug and alcohol abuse teaching in all US medical schools. The findings
7 included that psychiatry had the largest number of curricular units devoted to substance abuse (2.4
8 required and 0.6 elective), followed by internal medicine (0.8 required and 0.2 elective), and family
9 medicine and pediatrics (each with 0.2 required and 0.1 elective). A second national survey was
10 carried out of four specialties in medical schools and residencies by Davis et al³¹ in 1986-1987. In
11 this study, the mean number of curricular units in substance abuse across all four specialties had
12 increased to 3.5. A third survey was carried out by Fleming et al³² in 1992. The number of
13 curricular units increased from 3.5 in 1986-1987 to 7.2 in 1991-1992 (paired t-test; $p < 0.1$).
14 Fleming et al³² also included information from the 1991-1992 LCME annual survey in which 6%
15 (8/126) of medical schools reported having a separate required course in substance abuse, 92%
16 (117/126) reported including substance abuse as part of a required course, and 55% (69/126)
17 reported having a separate elective course in substance abuse. In addition, it was noted that the
18 numbers of medical-school based departments reporting at least one curricular unit varied by
19 specialty: psychiatry 95%, family medicine 87%, internal medicine 46%, pediatrics 59%,
20 emergency medicine 46%, and obstetrics gynecology 45%. Fleming et al,³² also included
21 information for the period 1976-1992 from the AAMC Medical School Graduation Questionnaire;
22 the percentages of graduating medical students who indicated an interest in primary care who
23 assessed their instruction in alcohol abuse as adequate declined from 43% in 1976 to 31% in 1992.

25 More recent surveys

26 Medical schools' reports in the Liaison Committee on Medical Education Annual Questionnaires
27 for 2003-2004,²⁵ 2004-2005,²⁶ and 2005-2006,²⁷ of their including substance abuse topics in their
28 curricula are noted in Table 2 (attached). For 2005-2006, only one medical school reported not
29 including substance abuse in either a required or elective course. Fifty-four (54%) of schools
30 included substance abuse in only a required course, and 46% in both required and elective courses.
31 These rates for the 2005-2006 differed little from those reported in the prior two school years. The
32 mean numbers of hours devoted to substance abuse in a required course, when offered only in a
33 required course, showed a relative increase of 31.5% between the 2003-2004 (11.1 hours) and
34 2005-2006 (14.6 hours). Likewise, the mean numbers of hours devoted to substance abuse in a
35 required course, when offered in both a required course and an elective course, showed a relative,
36 but lower, increase of 4.0% between 2003-2004 (14.9 hours) and 2005-2006 (15.5 hours).

38 Graduating medical students' reports in the Association of American Medical Colleges. 2006
39 Medical School Graduation Questionnaire All Schools Report²⁸ of their assessments of the time
40 devoted to their instruction in drug and alcohol abuse in 2004, 2005 and 2006 are noted in Table 3
41 (see attached Table 3). In 2004, 2005, and 2006 approximately 90% of medical students reported
42 that they believed that the time devoted to their instruction in drug and alcohol abuse was
43 appropriate – only 8% reporting that it was inadequate.

45 Graduate medical education

47 As in undergraduate medical education, studies have been carried out to assess the extent to which
48 substance use disorders are included in graduate training programs. In a study carried out in June
49 and July of 1995, 1996, and 1997, Stimmel et al^{33,34} assessed the knowledge of alcohol and
50 substance abuse in a total of 345 postgraduate year 1 (PGY-1) resident physicians from 13 different
51 residency programs (eight in internal medicine and one each in emergency medicine, family

1 practice, pediatrics, psychiatry and surgery) in eight institutions using standardized patients. Two
2 standardized patients were designated as primarily medical cases (coronary artery disease and
3 diabetes), three cases targeted physicians' knowledge of opioids and substance abuse, and the
4 remaining case addressed a combine medical substance abuse problem. The authors concluded that
5 based on their scores, house staff performed history and physical examinations much better on the
6 two medical cases than on the four cases focused on substance abuse.

7
8 In 1997, a national study of training in substance use disorders in residency programs was carried
9 out as a two-phase survey of residency programs directors in six specialties and osteopathic
10 medicine - emergency medicine, family medicine, internal medicine, obstetrics-gynecology,
11 osteopathic medicine, pediatrics and psychiatry.^{35,36} In the first phase, 1,832 residency directors
12 were asked to complete a 1-page mailed questionnaire which included four questions: (1) Does the
13 residency program have a required curriculum about the prevention and treatment of substance use
14 disorders?; (2) How many curriculum hours are offered?; (3) What is the curriculum content?; and,
15 (4) What are the names and telephone numbers of three teachers who train residents about
16 substance use disorders? Isaacson et al³⁵ report that of the 1,831 residency programs directors
17 contacted, 1,052 (57.5%) responded to the initial mailed survey. A sample of 161 randomly
18 selected non-responders was followed-up in a telephone interview to which 131 (79.4%)
19 responded. Of the combined group of responders (1,183), 666 or 56.3% (95% CI: 54.6, 58.0)
20 reported that they had a required curriculum in substance use disorders: 55% in emergency
21 medicine, 75% in family medicine, 51% in internal medicine, 40% in obstetrics-gynecology, 32%
22 in pediatrics, 95% in psychiatry, and 41% in osteopathic medicine. The median numbers of
23 required hours were: total group - 7, emergency medicine - 3, family medicine - 12, internal
24 medicine - 5, obstetrics-gynecology - 3; pediatrics - 4, psychiatry - 8, and
25 osteopathic medicine - 6.

26
27 Fleming et al³⁶ report that in the second phase of the study consisting of 15-minute telephone
28 interviews with 769 of the 1,293 faculty identified by residency directors in phase 1 who met the
29 criteria for participation, the frequency of reported barriers to including substance use disorders in
30 training were: lack of time - 58%; lack of faculty expertise - 37%; lack of institutional support -
31 32%, and lack of training sites - 26%. The faculty members who were identified were primarily
32 full-time clinical faculty with responsibility for teaching resident physicians in their own
33 specialties. Only 12% (92/769) reported that they were certified by the American Society of
34 Addiction Medicine, and 7% (53/769) reported that they had fulfilled the requirements for the
35 Certificate of Added Qualifications in Addiction Psychiatry offered by the American Board of
36 Psychiatry and Neurology. In addition, only 13% (102/769) reported that they conducted clinical
37 work in alcohol or treatment programs. The faculty respondents also indicated their considerable
38 interest in attending additional faculty development activities in substance use disorders.

39
40 In 2002, Saitz et al³⁷ reported their findings of a survey of the satisfaction experienced by 144
41 hospital-based categorical and primary care internal medicine resident physicians and faculty in
42 caring for patients with substance use disorders. The participating faculty and resident physicians
43 were practicing at three outpatient primary care clinics in a single residency program in Boston.
44 Overall both faculty and resident physicians were less satisfied in caring for patients with substance
45 problems than in caring for patients with hypertension. In addition, the authors note³⁷ that lower
46 levels of satisfaction in caring for patients with alcohol or drug problems among resident
47 physicians compared with faculty, suggest that experience and/or training may impact physician
48 satisfaction.

1 In a study reported in 2006, Lindberg et al³⁸ report their findings of a survey of third-year medical
2 students from the University of Connecticut School of Medicine and first through fourth-year
3 residents in University of Connecticut residency training programs in emergency medicine, general
4 surgery and internal medicine. The overall response rate was 57% . The authors noted a
5 deterioration in attitudes toward treating patients with substance use disorders from the third-year
6 of medical school through the fourth-year of residency training. For example, responses to the
7 survey item –“...these patients over-utilize health care resources and provide nothing in return...”
8 for alcohol-abusing patients was 23.1% of medical students agreed/strongly agreed, but by the
9 fourth year of residency training 43.8% agreed; for drug-abusing patients, the rate
10 agreeing/strongly agreeing increased from 22.4% from third year medical students to 53.9% by the
11 fourth year of residency training.
12

13 In 2004, Stein et al³⁹ designed a substance abuse Objective Structured Clinical Examination
14 (OSCE) for use with third year internal medicine house staff at a large urban hospital. The OSCE
15 included five stations each with a standardized patient, representing a variety of substance use
16 disorders. The performance of resident physicians was evaluated at each station by the residents
17 themselves, a faculty member and the standardized patient. More than 70% of the participating
18 residents reported that the OSCE experience was a highly valuable learning experience. In
19 addition, 80% of the participating faculty reported that they gained new insights regarding
20 residents’ performance, and 62% reported that the experience resulted in their acquiring
21 “...teaching strategies.” Having participated in this OSCE, third year residents indicated that more
22 formal teaching in substance abuse would be helpful, and that the OSCE might have been more
23 helpful had it been introduced earlier in their training. The authors report that they are currently
24 developing a substance abuse curriculum beginning in the first year of training and continuing
25 throughout with use of the OSCE in the year as an evaluation tool.
26

27 In 1998, Krishel and Richards⁴⁰ carried out a faxed survey of residency directors of all 112
28 accredited Emergency Medicine residency programs in the US. Eighty-one (72%) of the residency
29 directors completed the survey. The directors’ reports included the following: 49% teach residents
30 methods for screening patients or alcohol or substance abuse; 36% include teaching regarding
31 quantitative cut-off levels for unhealthful alcohol consumption; 25% provide training on use of
32 screening questionnaires; 35% provide training on brief interventions; and, 75% include training on
33 how to make appropriate referrals for patients with substance use disorders.
34

35 In 2004, Waldbaum et al⁴¹ conducted a mailed survey of directors of all 113 accredited US Child
36 and Adolescent Psychiatry (CAP) residency programs in 2002-2003. Seventy percent (79/113) of
37 the CAP programs directors responded. Seventy-three (73%) of the responding program directors
38 indicated that substance use disorders were common among their clinical populations and that 82%
39 and 89% of their CAP residents treat patients with substance use disorders in their 1st and 2nd years
40 of training respectively. Only 37% of directors, however, indicated that there was a rotation
41 primarily devoted to substance use disorders, and 58% indicated that their programs devoted too
42 little time to substance use disorders in didactic lectures and clinical supervision. Reasons for lack
43 of focus on substance use disorders included the psychiatric co-morbidity of addiction in
44 adolescence, time constraints, lack of appropriately trained supervisors, and limited clinical
45 training settings.
46

47 **SECTION 4: SUMMARY**

48

49 Substance use disorders constitute one of the most significant public health issues in the United
50 States, and, in addition, there is solid evidence of an unmet need for care among those with these
51 disorders. Although physicians are well placed to address this unmet need, there is also evidence

1 that they frequently do not appropriately screen, diagnose, provide treatment interventions, or make
2 referrals to specialists for those with these disorders.

3
4 In 2005-2006, all but one medical school reported that they included the topic of substance abuse in
5 required courses in their curricula. In addition, the number of curricular hours devoted to this topic
6 increased from 3.5 curricular hours in 1986-1987 to 7.2 in 1991-1992 and, to 14.6 hours in 2005-
7 2006. Approximately 90% of graduating medical students consistently reported in 2004, 2005, and
8 2006 that they believed that the time devoted to their instruction in drug and alcohol abuse was
9 appropriate. In individual studies of medical students, however, they report declining satisfaction
10 in working with patients with substance use disorders during their clinical years in medical school.
11

12 The findings for inclusion of substance use disorders in graduate medical education are mixed.
13 Nationally, in 1997, 56% of residency programs in six specialties and osteopathic medicine
14 reported that they had a required curriculum in substance use disorders: 55% in emergency
15 medicine, 75% in family medicine, 51% in internal medicine, 40% in obstetrics-gynecology, 32%
16 in pediatrics, 95% in psychiatry, and 41% in osteopathic medicine. The median numbers of
17 required hours, however, were: total group – 7, emergency medicine – 3, family medicine – 12,
18 internal medicine – 5, obstetrics-gynecology – 3; pediatrics – 4, psychiatry – 8, and osteopathic
19 medicine – 6. Barriers are reported to be lack of time – 58%; lack of faculty expertise – 37%; lack
20 of institutional support – 32%, and lack of training sites – 26%.

21
22 Resident physicians are reported to perform history and physical examinations far better on
23 standardized patients with medical conditions than with substance abuse disorders. Both faculty
24 and residents report that they are less satisfied in caring for patients with substance problems than
25 in caring for patients with hypertension, although the level of satisfaction increased among faculty
26 with more years of practice. Studies consistently report a deterioration in attitudes toward treating
27 patients with substance use disorders from the third-year of medical school through the fourth year
28 of residency training. Nationally, emergency medicine residency directors report that, while three-
29 fourths include training on how to make appropriate referrals, less than half teach residents
30 screening methods for alcohol or substance abuse, only approximately one-third include teaching
31 about quantitative cut-off levels for unhealthful alcohol consumption, and training on brief
32 interventions, and less than one-quarter provide training on use of screening questionnaires.
33

34 Juxtaposing the findings of medical schools' reports of increasing focus on substance use disorders
35 in their curricula, and medical students' reports that the time devoted to these disorders is adequate,
36 with evidence that medical students' attitudes toward such patients deteriorate, and that the
37 students derive progressively less satisfaction in caring for them during medical school clinical
38 experiences, is intriguing. What do these findings say about medical students' learning
39 experiences? The answer to this question is likely complex and may require more in-depth
40 qualitative research to fully comprehend. As noted by Miller et al,⁴² the causes may be related to
41 their role models, or clinical teachers, and their attitudes toward patients with these disorders. In
42 addition, perhaps the reported numbers of hours of substance abuse education in the curricula do
43 not fully reflect student preparation; and, that students who report that their education is adequate
44 do so as they have not had sufficient exposure to patients with these problems to become aware of
45 what they don't know. This conjecture is consistent with the experience of internal medicine
46 residents, who after having been tested with an OSCE which included standardized patients with
47 substance use disorders, became aware of what they did not know and requested additional
48 education and training.
49

50 With regard to residency training, it is important to note the differences across specialties. Based
51 on reports from residency directors, psychiatry and family practice lead in focus on substance use

1 disorders, followed by internal medicine and pediatrics. When residents were surveyed directly,⁴³
2 however, internal medicine residents and family medicine residents reported similar rates of
3 preparedness for counseling patients about substance abuse (internal medicine – 84% and family
4 practice – 88%), and for caring for patients with substance abuse (internal medicine – 75% and
5 family practice 71%). This again raises the question of optimal measures for assessing the extent
6 to which residents are being appropriately trained to identify and care for patients with substance
7 use disorders. The observation that residents develop more negative attitudes toward patients with
8 such disorders and derive progressively less satisfaction in caring for them during their residency
9 training is alarming. A more in-depth, qualitative study would sharpen the focus on the problem,
10 as well as suggest helpful solutions.

11
12 Several observations, however, offer hope for a different future. First, the OSCE that included
13 standardized patients with substance use disorders raised internal medicine residents’ awareness of
14 their unpreparedness and led to their requests for additional training. Second, observation that
15 satisfaction from treating patients with substance use disorders increased with time in clinical
16 practice may mean that additional experience in treating such patients is required to derive
17 professional satisfaction from this challenging work. Third, Seale et al,⁴⁴ developed and
18 implemented an innovative approach to increasing inclusion of alcohol screening and intervention
19 in a family medicine residency clinics. Simultaneous system-based interventions and clinician
20 training of the harms of drinking alcohol were implemented leading to significant increases in the
21 numbers of patients assessed. The integration of alcohol screening in ambulatory processes of care
22 is consistent with recommendations in the 2006 Institute of Medicine report - Improving the
23 Quality of Health Care for Mental and Substance-Use Conditions.⁴⁵

24 25 **SECTION 5 RECOMMENDATIONS**

26
27 The Council on Medical Education recommends that the following be adopted and that the
28 remainder of the report be filed.

- 29
30 1. That policies H-95.969, H-95.982, H-95.983, H-295.922, H-295.979, H-295.988, and
31 H-300.962 be reaffirmed. (Reaffirm HOD Policy)
- 32
33 2. That our American Medical Association advocate for in-depth qualitative studies to facilitate
34 the preparation of physicians to care for patients with substance use disorders. (Directive to
35 Take Action)
- 36
37 3. That our AMA facilitate the identification, dissemination, and implementation of successful
38 substance use disorder educational programs across the educational continuum. (Directive to
39 Take Action)
- 40
41 4. That our AMA encourage the Accreditation Council for Graduate Medical Education
42 (ACGME) to include education about substance use disorders in their program accreditation
43 requirements. (Directive to Take Action)
- 44
45 5. That our AMA encourage the American Board of Medical Specialties (ABMS) to encourage its
46 member boards to include substance use disorder questions in their certification process.
47 (Directive to Take Action)

- 1 6. That our AMA, through its Council on Medical Education, monitor and track implementation
- 2 of the recommendations of the December 2006 House Office of National Drug Control Policy
- 3 White House Leadership Conference on Medical Education in Substance Abuse report.
- 4 (Directive to Take Action)

Fiscal Note: \$45,000 for staff time for literature review and creating documents for dissemination.

Complete references for this report are available from the Medical Education Group.

Table 1 Definitions for substance abuse and substance dependence, Diagnostic and Statistical Manual of Mental Disorders. Fourth Edition, Text Revision, DSM-IV-TR. Washington, DC, American Psychiatric Association, 2000.

Term	Definition
Substance abuse	<p>“A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:</p> <ol style="list-style-type: none"> 1. Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor work performance related to substance use; substance-related absences, suspensions, or expulsions from school; neglect of children or household). 2. Recurrent use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use). 3. Recurrent substance-related legal problems (e.g., arrests for substance-related disorderly conduct). 4. Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (e.g., arguments with spouse about consequences of intoxication, physical fights). <p>The symptoms have never met the criteria for Substance Dependence for this class of substance.”</p>
Substance dependence	<p>“A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:</p> <ol style="list-style-type: none"> 1. Tolerance, as defined by either of the following: <ol style="list-style-type: none"> a. A need for markedly increased amounts of the substance to achieve intoxication or desired effect. b. Markedly diminished effect with continued use of the same amount of the substance. 2. Withdrawal. <ol style="list-style-type: none"> a. The characteristic withdrawal syndrome for the substance. b. The same (or closely related) substance is taken to relieve or avoid withdrawal symptoms. 3. The substance is often taken in larger amounts or over a longer period than was intended. 4. There is a persistent desire or unsuccessful efforts to cut down or control substance use. 5. A great deal of time is spent in activities necessary to obtain the substance (e.g., visiting multiple doctors or driving long distances), use the substance (e.g., chain smoking) or recover from its effects. 6. Important social, occupational, or recreational activities are given up or reduced because of substance use. <p>The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g., current cocaine use despite recognition of cocaine-induced depression, or continued drinking despite recognition that an ulcer was made worse by alcohol consumption).</p>

Table 2. Medical school reported frequencies that substance abuse topics are included in courses in the undergraduate medical school curriculum, Liaison Committee on Medical Education: Annual Medical School Questionnaires 2003-2004, 2004-2005, and 2005-2006.

School year/s	Substance abuse topic included in			
	Neither required nor elective course	Elective course – no required course	Required course - no elective course	Both required and elective courses
2003-2004				
Percent	0% (0/126)	1% (1/126)	53% (67/126)	46% (58/126)
Required course hours				
Mean (SD)			11.1 (16.0)	14.9 (12.2)
2004-2005				
Percent	2% (3/125)	0% (0/125)	48% (60/125)	50% (62/125)
Required course hours				
Mean (SD)			12.4 (15.8)	15.4 (14.0)
2005-2006				
Percent	1% (1/125)	0% (0/125)	54% (67/125)	46% (57/125)
Required course hours				
Mean (SD)			14.6 (16.3)	15.5 (12.8)

Table 3. Graduating medical students' reports of the adequacy of the time devoted in their instruction in drug and alcohol abuse, 2004, 2005, and 2006. Association of American Medical Colleges, Medical School Graduation Questionnaire, 2006.

	Adequacy of time devoted to drug and alcohol abuse:		
Year	Inadequate	Adequate	Excessive
2004 (n=10,712)	7.8%	89.7%	2.5%
2005 (n=9,452)	7.6%	89.6%	2.8%
2006 (n=11,413)	7.8%	89.7%	2.5%