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

Presented by: Melissa K. Thomas, MD, PhD, Chair

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

INTRODUCTION

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

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. In addition, 6.4 million, or 2.4% of the population over 12 years of age reported using prescription-type psychotherapeutic drugs for non-medical purposes in the past month - 4.7 million used pain relievers, 1.8 million tranquillizers, 1.1 million stimulants, and 272,000 used sedatives. Further adding to this burden, individuals with substance use disorders also frequently suffer from associated and significant complications and co-morbid conditions also requiring recognition and treatment.

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. With regard to mortality, in 2000, 435,000, or 18.1% of all deaths in the United States, were associated with tobacco use, 85,000 or 3.5% of all deaths were associated with alcohol consumption; and 17,000 or 0.7% of all deaths were associated with illicit drug use.

Furthermore, the economic costs associated with substance use disorders in a 1992 study were estimated to be $245.7 billion. In a more recent 1998 study, costs associated with supporting treatment and prevention for substance use disorders, treating their medical consequences, and associated lost productivity were estimated to be $7.5 billion, $18.9 billion, and $134.2 billion respectively.

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

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

SECTION 1: PRIOR AMA POLICY

The AMA has a long history of policy promoting physician education and involvement in the diagnosis and treatment of individuals with substance use disorders, substance abuse and/or addiction. In 1979, the AMA Guidelines for Physician Involvement in the Care of Substance-Abusing Patients were published – these Guidelines were reaffirmed in 1989 and again in 1999. Policy H-295.922 (AMA Policy Database) states that alcohol and other drug abuse education needs to be an integral part of medical education. Policy H-95.969 indicates “…The AMA believes immediate attention should be given to all of these areas of urgently needed action, and commits itself to continued participation in the formulation, dissemination, and evaluation of the national responses to the problems of alcohol and drug abuse.” AMA Policy H-95.983 (Reaffirmed I-97) states that it “…encourages physicians, other health care professionals, medical and other health related organizations and government and other policymakers to become more well informed about drug dependencies, and to base their policies and activities on the recognition that drug dependencies are, in fact, diseases.” In addition, the Council on Scientific Affairs in its Report 14, A-97 has reaffirmed these principles.

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

In response to AMA Resolution 326 (A-97), adopted by the House of Delegates at the 1997 Annual House of Delegates meeting, the AMA carried out a survey to determine the extent to which national specialty societies were either currently providing education in substance abuse, or believed that there was a need to have additional continuing medical education in this topic for their members. The mailed survey was completed by 46 of the 93, or 46%, of specialty societies in the AMA House of Delegates, although not all respondents replied to each of the survey items. The survey findings included the following: 24% (11/46) indicated that they had included materials on the treatment of addiction in one or more of their modalities of continuing medical education; 21% (9/43) stated that they were now developing training and educational materials in the management and treatment of addiction for their members; 58% (25/43) indicated that they
believed it would be desirable to have training and educational materials available in the
management and treatment of addiction for their members; 26% (7/29) indicated that they would
use assistance, if available, to develop training and educational materials in the management and
treatment of addiction disorders for their members; and, 50% (20/40) stated that they believed that
adding information on addiction disorders to their or continuing medical education activities
would be practical.

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

SECTION 2: DEFINITIONS – TERMS AND CONCEPTS

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

Terms related to substance use disorders

The general terms “drug abuse” or “drug misuse” are used to refer to the “…use of substances that
are considered illegal such as cocaine, heroin, marijuana, the misuse of legal substances such as
solvents, over-the-counter drugs, or prescription drugs, the abuse of tobacco and alcohol, or in the
case of underage children, the use of tobacco or alcohol…”15 Almost all of the substances are used
for their psychoactive effects. Substance abuse is characterized by the individuals’ continued use
of substances even though they have persistent negative consequences. Substance dependence, on
the other hand, is more serious as it involves psychological or physical tolerance or dependence.
Definitions for these two terms are set out in the American Psychiatric Association’s Diagnostic
and Statistical Manual of Mental Disorders (DSM-IV-TR),16 (see attached Table 1). As evidenced
by their inclusion in the National Household Survey on Drug Use and Health, these two DSM-
defined terms serve as substance abuse and dependence case definitions in describing the
epidemiology of substance use disorders.7 Individuals who reach the problematic late stages of
substance use - substance abuse or dependence - have moved through periods of drug initiation
including experimenting with, and/or recreational use of, substances.16 Although, a full picture of
the natural history of the myriad patterns of substance use initiation, progression, withdrawal, and
cessation is fundamental to preventing and treating substance use disorders, it is beyond the scope
of this report.18
Concepts related to physician competency and its cultivation

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

Physician competencies in substance use disorders

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

SECTION 3 INCLUSION OF SUBSTANCE USE DISORDERS IN UNDERGRADUATE AND GRADUATE MEDICAL EDUCATION

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

Early surveys
A series of surveys of medical schools have been carried out to assess the extent to which substance use disorders have been integrated in their curricula. In 1976, Pokorny et al\textsuperscript{29,30} carried out a survey to assess drug and alcohol abuse teaching in all US medical schools. The findings included that psychiatry had the largest number of curricular units devoted to substance abuse (2.4 required and 0.6 elective), followed by internal medicine (0.8 required and 0.2 elective), and family medicine and pediatrics (each with 0.2 required and 0.1 elective). A second national survey was carried out of four specialties in medical schools and residencies by Davis et al\textsuperscript{31} in 1986-1987. In this study, the mean number of curricular units in substance abuse across all four specialties had increased to 3.5. A third survey was carried out by Fleming et al\textsuperscript{32} in 1992. The number of curricular units increased from 3.5 in 1986-1987 to 7.2 in 1991-1992 (paired t-test; p<0.1).

Fleming et al\textsuperscript{32} also included information from the 1991-1992 LCME annual survey in which 6\% (8/126) of medical schools reported having a separate required course in substance abuse, 92\% (117/126) reported including substance abuse as part of a required course, and 55\% (69/126) reported having a separate elective course in substance abuse. In addition, it was noted that the numbers of medical-school based departments reporting at least one curricular unit varied by specialty: psychiatry 95\%, family medicine 87\%, internal medicine 46\%, pediatrics 59\%, emergency medicine 46\%, and obstetrics gynecology 45\%. Fleming et al\textsuperscript{32} also included information for the period 1976-1992 from the AAMC Medical School Graduation Questionnaire; the percentages of graduating medical students who indicated an interest in primary care who assessed their instruction in alcohol abuse as adequate declined from 43\% in 1976 to 31\% in 1992.

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

Graduating medical students' reports in the Association of American Medical Colleges. 2006 Medical School Graduation Questionnaire All Schools Report\textsuperscript{28} of their assessments of the time devoted to their instruction in drug and alcohol abuse in 2004, 2005 and 2006 are noted in Table 3 (see attached Table 3). In 2004, 2005, and 2006 approximately 90\% of medical students reported that they believed that the time devoted to their instruction in drug and alcohol abuse was appropriate – only 8\% reporting that it was inadequate.

Graduate medical education
As in undergraduate medical education, studies have been carried out to assess the extent to which substance use disorders are included in graduate training programs. In a study carried out in June and July of 1995, 1996, and 1997, Stimmel et al\textsuperscript{33,34} assessed the knowledge of alcohol and substance abuse in a total of 345 postgraduate year 1 (PGY-1) resident physicians from 13 different residency programs (eight in internal medicine and one each in emergency medicine, family
practice, pediatrics, psychiatry and surgery) in eight institutions using standardized patients. Two
standardized patients were designated as primarily medical cases (coronary artery disease and
diabetes), three cases targeted physicians’ knowledge of opioids and substance abuse, and the
remaining case addressed a combine medical substance abuse problem. The authors concluded that
based on their scores, house staff performed history and physical examinations much better on the
two medical cases than on the four cases focused on substance abuse.

In 1997, a national study of training in substance use disorders in residency programs was carried
out as a two-phase survey of residency programs directors in six specialties and osteopathic
medicine - emergency medicine, family medicine, internal medicine, obstetrics-gynecology,
osteopathic medicine, pediatrics and psychiatry. In the first phase, 1,832 residency directors
were asked to complete a 1-page mailed questionnaire which included four questions: (1) Does the
residency program have a required curriculum about the prevention and treatment of substance use
disorders?; (2) How many curriculum hours are offered?; (3) What is the curriculum content?; and,
(4) What are the names and telephone numbers of three teachers who train residents about
substance use disorders? Isaacscon et al. report that of the 1,831 residency programs directors
contacted, 1,052 (57.5%) responded to the initial mailed survey. A sample of 161 randomly
selected non-responders was followed-up in a telephone interview to which 131 (79.4%)
responded. Of the combined group of responders (1,183), 666 or 56.3% (95% CI: 54.6, 58.0)
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 were: total group – 7, emergency medicine – 3, family medicine – 12, internal
medicine – 5, obstetrics-gynecology – 3; pediatrics – 4, psychiatry – 8, and
osteopathic medicine – 6.

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

In 2002, Saitz et al. reported their findings of a survey of the satisfaction experienced by 144
hospital-based categorical and primary care internal medicine resident physicians and faculty in
caring for patients with substance use disorders. The participating faculty and resident physicians
were practicing at three outpatient primary care clinics in a single residency program in Boston.
Overall both faculty and resident physicians were less satisfied in caring for patients with substance
problems than in caring for patients with hypertension. In addition, the authors note that lower
levels of satisfaction in caring for patients with alcohol or drug problems among resident
physicians compared with faculty, suggest that experience and/or training may impact physician
satisfaction.
In a study reported in 2006, Lindberg et al report their findings of a survey of third-year medical students from the University of Connecticut School of Medicine and first through fourth-year residents in University of Connecticut residency training programs in emergency medicine, general surgery and internal medicine. The overall response rate was 57%. The authors noted 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. For example, responses to the survey item—“...these patients over-utilize health care resources and provide nothing in return...” for alcohol-abusing patients was 23.1% of medical students agreed/strongly agreed, but by the fourth year of residency training 43.8% agreed; for drug-abusing patients, the rate agreeing/strongly agreeing increased from 22.4% from third year medical students to 53.9% by the fourth year of residency training.

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

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

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

**SECTION 4: SUMMARY**

Substance use disorders constitute one of the most significant public health issues in the United States, and, in addition, there is solid evidence of an unmet need for care among those with these disorders. Although physicians are well placed to address this unmet need, there is also evidence
that they frequently do not appropriately screen, diagnose, provide treatment interventions, or make referrals to specialists for those 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.

The findings for inclusion of substance use disorders in graduate medical education are mixed. Nationally, in 1997, 56% of residency programs in six specialties and osteopathic medicine 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, were: total group – 7, emergency medicine – 3, family medicine – 12, internal medicine – 5, obstetrics-gynecology – 3; pediatrics – 4, psychiatry – 8, and osteopathic medicine – 6. Barriers are reported to be lack of time – 58%; lack of faculty expertise – 37%; lack of institutional support – 32%, and lack of training sites – 26%.

Resident physicians are reported to perform history and physical examinations far better on standardized patients with medical conditions than with substance abuse disorders. Both faculty and residents report that they are less satisfied in caring for patients with substance problems than in caring for patients with hypertension, although the level of satisfaction increased among faculty with more years of practice. 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. Nationally, emergency medicine residency directors report that, while three-fourths include training on how to make appropriate referrals, less than half teach residents screening methods for alcohol or substance abuse, only approximately one-third include teaching about quantitative cut-off levels for unhealthful alcohol consumption, and training on brief interventions, and less than one-quarter provide training on use of screening questionnaires.

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

With regard to residency training, it is important to note the differences across specialties. Based on reports from residency directors, psychiatry and family practice lead in focus on substance use
disorders, followed by internal medicine and pediatrics. When residents were surveyed directly, however, internal medicine residents and family medicine residents reported similar rates of preparedness for counseling patients about substance abuse (internal medicine – 84% and family practice – 88%), and for caring for patients with substance abuse (internal medicine – 75% and family practice 71%). This again raises the question of optimal measures for assessing the extent to which residents are being appropriately trained to identify and care for patients with substance use disorders. The observation that residents develop more negative attitudes toward patients with such disorders and derive progressively less satisfaction in caring for them during their residency training is alarming. A more in-depth, qualitative study would sharpen the focus on the problem, as well as suggest helpful solutions.

Several observations, however, offer hope for a different future. First, the 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, observation that satisfaction from treating patients with substance use disorders increased with time in clinical practice may mean that additional experience in treating such patients is required to derive professional satisfaction from this challenging work. Third, Seale et al, developed and implemented an innovative approach to increasing inclusion of alcohol screening and intervention in a 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.

SECTION 5 RECOMMENDATIONS

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


2. That our American Medical Association advocate for in-depth qualitative studies to facilitate the preparation of physicians to care for patients with substance use disorders. (Directive to Take Action)

3. That our AMA facilitate the identification, dissemination, and implementation of successful substance use disorder educational programs across the educational continuum. (Directive to Take Action)

4. That our AMA encourage the Accreditation Council for Graduate Medical Education (ACGME) to include education about substance use disorders in their program accreditation requirements. (Directive to Take Action)

5. That our AMA encourage the American Board of Medical Specialties (ABMS) to encourage its member boards to include substance use disorder questions in their certification process. (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.
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<th>Term</th>
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| Substance abuse      | “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:  
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).  
The symptoms have never met the criteria for Substance Dependence for this class of substance.” |
| Substance dependence | “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:  
1. Tolerance, as defined by either of the following:  
   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.  
   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.  
The substance use is continued despite 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).
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.

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Inadequate</th>
<th>Adequate</th>
<th>Excessive</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004 (n=10,712)</td>
<td>7.8%</td>
<td>89.7%</td>
<td>2.5%</td>
</tr>
<tr>
<td>2005 (n=9,452)</td>
<td>7.6%</td>
<td>89.6%</td>
<td>2.8%</td>
</tr>
<tr>
<td>2006 (n=11,413)</td>
<td>7.8%</td>
<td>89.7%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>