

Chemical Dependency and the Physician

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Although the nature and scope of addictive disease are commonly reported in the lay press, the problem of physician addiction has largely escaped the public's attention. This is not due to physician immunity from the problem, because physicians have been shown to have addiction at a rate similar to or higher than that of the general population. Additionally, physicians' addictive disease (when compared with the general public) is typically advanced before identification and intervention. This delay in diagnosis relates to physicians' tendency to protect their workplace performance and image well beyond the time when their life outside of work has deteriorated and become chaotic. We provide an overview of the scope and risks of physician addiction, the challenges of recognition and intervention, the treatment of the addicted physician, the ethical and legal implications of an addicted physician returning to the workplace, and their monitored aftercare. It is critical that written policies for dealing with workplace addiction are in place at every employment venue and that they are followed to minimize risk of an adverse medical or legal outcome and to provide appropriate care to the addicted physician.

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Approximately 10% to 12% of physicians will develop a substance use disorder during their careers, a rate similar to or exceeding that of the general population.^{1,2} Although physicians' elevated social status brings many tangible and intangible rewards, it also has an isolating effect when they are confronted with a disease such as addiction, which has a social stigma. This isolation can lead to disastrous consequences, both in delaying the recognition of and in intervening in the disease process, as well as in the attendant risk of death by inadvertent overdose or suicide.³

Further causes for delay in diagnosis include fear on the part of the physician that disclosure of an addictive illness might cause loss not only of prestige but also of his or her license to practice medicine and thus livelihood. Additionally, a physician's family members and coworkers will often participate in a "conspiracy of silence" in an effort to protect the family or practice workers from economic ruin by the loss of the physician's job and income.

McLellan et al² conducted a 5-year longitudinal cohort study of 904 physicians, 87% of whom were male, who were enrolled in 16 state physician health programs (PHPs). Alcohol was the primary drug of abuse in 50.3%, opioids in 35.9%, stimulants in 7.9%, and other substances in 5.9%; 50% reported abuse of multiple substances, 13.9% a history of intravenous drug use, and 17% previous treatment for addiction. The authors found that certain specialties, such as anesthesiology, emergency medicine, and psychiatry, appeared to be overrepresented in these programs relative to their numerical representation in the national physician pool. Indeed, other investigators have

suggested that these specialties seem to have a disproportionate propensity toward addiction.^{4,5} Contributing factors may include stresses of the work, ready access to narcotics and other psychotropic drugs in the workplace, and perhaps a selection bias in the type of physicians who seek these specialties.⁶

Physicians in different specialties tend to abuse different classes of drugs. For example, although alcohol is the drug of choice for most physicians with addiction, only about 10% of anesthesiologists enter treatment for alcohol addiction. Instead, the vast majority of addicted anesthesiologists are addicted to potent intravenous opioids such as fentanyl and sufentanil.

Often, addicted physicians divert these drugs from the workplace, indeed from their individual patients, and losing their job would cut their lifeline to their drug of abuse. Thus, they preserve their work performance above all other aspects of their life, and by the time a physician's addictive illness becomes apparent in the workplace, the rest of his or her social, family, and personal life is in shambles.⁷

For a colleague who suspects addiction in a peer, the challenges of conclusively identifying and intervening can be daunting and include everything from a concern of "What right do I have to tell them how to live their life?" to a fear of retaliatory litigation. Additionally, the medical licensing boards in many states have included the risk of sanctions if a physician becomes aware of an addictive disease in a colleague and fails to intervene or notify the board or the state's PHP. This aspect will be covered more fully in a later section.

WHAT IF PHYSICIAN ADDICTION IS SUSPECTED?

The signs and symptoms of addictive illness range from very subtle to extremely overt (Table 1). Although they might be as obvious as intoxication on duty, with the stereotypical signs of ataxia and dysarthria, the findings in general are far more subtle. Particularly with opioid addiction, the addicted physician may continue to function at a

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TABLE 1. Signs and Symptoms of Addiction That Might Appear in the Workplace

Possible signs suggestive of alcohol dependence

Alcohol on breath
 Slurred speech
 Ataxia
 Erratic performance or decrement in performance
 Tremulousness
 "Out-of-control" behavior at social events
 Problems with law enforcement (eg, domestic abuse, driving while intoxicated)
 Hidden bottles
 Poor personal hygiene
 Failure to remember events, conversations, or commitments ("blackouts")
 Tardiness
 Frequent hangovers
 Poor early morning performance
 Unexplained absences
 Unusual traumatic injuries
 Mood swings
 Irritability
 Sweating
 Domestic/marital problems
 Isolation
 Leaving the workplace early on a regular basis

Possible signs suggestive of opiate dependence

Periods of agitation (withdrawal) alternating with calm (drug was just taken)
 Dilated pupils (opiate withdrawal)
 Pinpoint pupils (side effect of opiate)
 Excessive sweating
 Addition of long sleeves (to hide needle tracks)
 Frequent bathroom breaks (to take another dose)
 Frequent unexplained absences during workday
 Spending more hours at work than necessary (access source of drug)
 Volunteering for extra call
 Volunteering to provide extra breaks or refusing breaks
 Volunteering to clean operating rooms
 Volunteering to return waste drugs to pharmacy
 Rummaging through sharps containers
 Sloppy record keeping or discrepancies between charted dose and actual dose administered
 Excessive narcotic use charted for patients
 Assay of waste drug returned showing evidence of dilution
 Never returning any waste at the end of a case
 Patients arriving in postsurgical recovery room with pain out of proportion to charted narcotic dose

high level, and his or her colleagues have only a hint of a problem because of behavior changes. Although protecting the safety of our (and the addicted physician's) patients is of the utmost importance, the addicted physician who engages in parenteral opioid use has a very real risk of serious morbidity (eg, anoxic brain injury from inadvertent overdose) and death. Thus, rapid confirmation and intervention are necessary if physician addiction is suspected. Unfortunately, decisions must often be made in the face of inconclusive evidence of physician addiction or diversion of drugs for self-use. If an evaluation is delayed until evidence of physician addiction or diversion of drugs is secured "beyond a reasonable doubt," the risk of a tragic outcome

increases. As any intervention that requires an evaluation for chemical dependency does not consist of accusing the individual of a crime—reasonable suspicion of an addictive illness is sufficient.⁸ In the Figure, we provide a generalized (and greatly oversimplified because it is impossible to include the myriad ways these situations might unfold) approach to a prototypic investigation, intervention, and follow-up of a physician suspected of substance abuse; however, it is essential that each health care organization, regardless of its size, has written policies in place specific to the state laws. Because laws for dealing with these issues vary from state to state, the admittedly simplistic algorithm in the Figure is not sufficiently specific to substitute for a formal written policy for all health care organizations. If organizations fail to formalize in writing their policies, they are at subsequent risk of adverse medical or legal outcomes.

WHAT DOES INTERVENTION INVOLVE?

Although *intervention* can have different meanings in different contexts, we define it as the initial confrontation with the suspected addict in an effort to coerce the individual to submit to a formal chemical dependency evaluation by experts. An intervention is one of life's most stressful events, for both the suspected addict and those intervening. It is not to be undertaken casually; rather, it requires preparation and logistical support.⁹ Above all, the person intervening should never simply approach the suspected addict one-on-one and ask if he or she is addicted or diverting drugs or suggest that he or she stop using or diverting drugs. This strategy is not only pointless as denial is the hallmark of addictive illness, it is also potentially dangerous because the threat to the physician's status, autonomy, security, and financial stability may drive him or her to an act of desperation such as suicide.³

In the setting of suspected acute intoxication in a physician who provides patient care or who might be reasonably expected to provide care in the near future (eg, while being "on-call" for emergency care), immediate removal from the practice setting is essential. In such cases, an intervention will include accompanying the suspected addicted physician to an established health care environment, such as the employee health clinic or emergency department, where immediate drug testing can be undertaken. If testing confirms acute intoxication, this portion of the intervention (ie, documentation of substance abuse) is now complete. Care of the physician who abuses drugs now involves taking him or her to a facility that has the means to evaluate for addiction. Faithful adherence to preexisting institutional policies is important. In a less urgent situation in which addiction is suspected in the absence of workplace

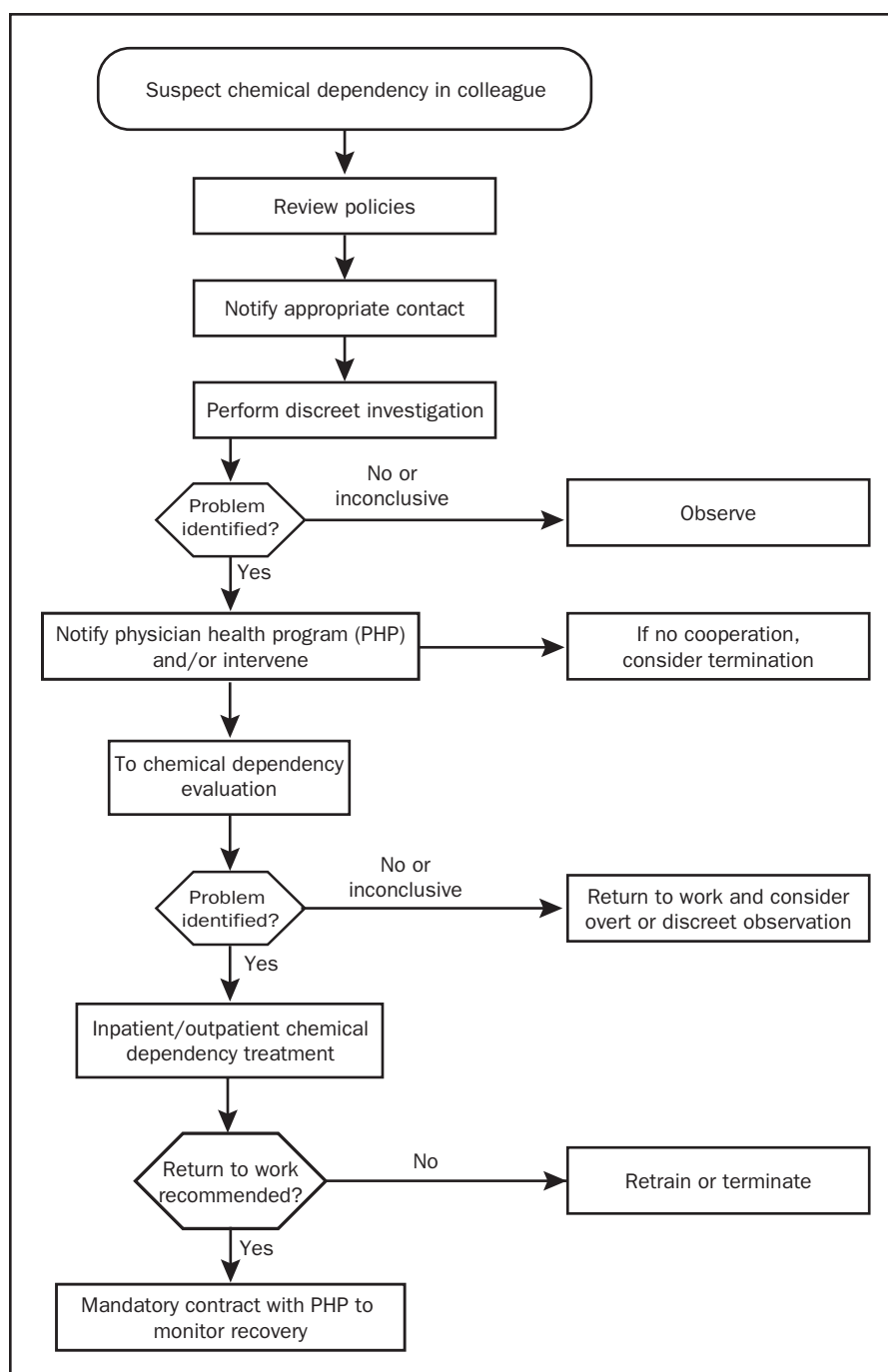


FIGURE. Generalized approach to a prototypic investigation, intervention, and follow-up of a physician suspected of abusing substances.

intoxication, it is critical that before intervention there is a plan for a chain-of-custody transfer of the suspected addict to the area where he or she will be evaluated, whether that is an employee health clinic, a state PHP, or directly to a chemical dependency expert. Most state PHPs will provide invaluable assistance with either conducting an effective

intervention or providing a recommendation for referral to a third-party specializing in interventions.¹⁰ Although it is beyond the scope of this article to provide a detailed manual on how best to perform a safe and effective intervention, in the past 20 years, theories of the timing of intervention have evolved from waiting until the addict has

reached “rock bottom,” ie, the point of absolute despair and having lost everything meaningful in his or her life, to a model in which an intervention occurs earlier in the disease process. Using this confrontational approach, the addict is faced by a roomful of family members, coworkers, supervisors, etc, who offer specific evidence of the addictive behavior they have witnessed in an effort to rapidly break down the tendency of the addict to deny a problem. The addict is then immediately transferred to a chemical dependency treatment facility for detoxification, evaluation, and treatment. After any intervention, the addicted physician must never be simply sent home with instructions to check in for an evaluation at some later date because the risk of suicide is far too great (M.D.S., oral communication, March 4, 2009). The evaluation phase may last from several hours to several days and is often an inpatient process.

One frustration in the aftermath of such an intervention is that, due to confidentiality concerns, once the suspected addict is in evaluation or chemical dependency treatment, there is very little transfer of information back to the workplace regarding the accuracy of the diagnosis in question or a possible timetable for return to practice. This can prove problematic for those trying to fill the manpower gap left by the physician’s absence from the workplace. Additionally, the medical evaluation of the physician can be inconclusive. In such cases, we recommend continued discreet observation of the physician for further worrisome behavior because even experts can be fooled by a well-crafted denial.

WHAT IS CHEMICAL DEPENDENCY “TREATMENT”?

Evaluation of physicians with substance abuse disorders is difficult and requires a multidisciplinary team with experience working with this population.¹¹ The intellect that physicians rely on to learn their craft allows them to develop exceptional rationalization, denial, and resistance techniques. Thus, recognition of their disease is difficult.¹² During the initial evaluation, most physicians will deny having a problem. Although a detailed substance use history is essential to the diagnosis, it can be remarkably difficult to obtain. Therefore, collateral information from friends, family, coworkers, and pharmacies is required to gather documentation to support the diagnostic evaluation, and the evaluating program will typically require signed releases from the physician undergoing evaluation to obtain this vital information. The substance use evaluation seeks to determine whether addiction indeed exists and the extent of the problem. Both a complete medical history and a physical examination are necessary because addicted individuals have often neglected their health. A family evaluation gathers information about the individual’s functioning

and determines how the family has been affected. Co-occurring psychiatric illness (called a dual-diagnosis, ie, substance use disorder combined with a major depressive disorder, bipolar affective disorder, or anxiety or panic disorder) is common in the addicted physician and can undermine recovery from addiction¹³; thus, psychiatric and psychological evaluations are needed. Cognitive screening is required to rule out substantial impairment, which can be further assessed by complete neurocognitive testing. Substantial cognitive and memory impairments are often seen in the setting of alcohol and methamphetamine dependence.

After a diagnosis of addiction has been established, treatment should be initiated at a program that specializes in the care of addicted physicians. Detoxification is frequently needed to prevent withdrawal symptoms and to provide a safe transition to a drug-free state. The patient will be assigned to an addiction counselor and a physician. Most treatment-program curricula include individual and group psychotherapy, education about addiction, and the opportunity for fellowship to reestablish positive relationships with peers.¹⁴ The primary focus of most treatment programs is complete abstinence from drugs and alcohol and is based around a 12-step program, as originally crafted for the Alcoholics Anonymous model. McLellan et al² found that 95% of physicians underwent treatment on the basis of this model, with 78% entering a residential treatment program for a mean of 72 days (range, 30-90 days) and 22% entering directly into outpatient treatment. Addiction treatment is designed to help individuals recognize the extent that addiction has controlled their behavior and altered their lives. Initial treatment efforts help addicts break through denial, recognize those aspects of their lives that need attention and healing, and come to accept that they have a life- and career-threatening disease. An effort is made to provide them with the skills and resources needed to stay abstinent and address their other problems, which range from marital and family issues to loss of job or professional license.

Addiction treatment programs specializing in the care of physicians offer specific therapeutic modalities targeted at physicians. Group therapy for physicians, consisting of meetings with multiple addicted-physician peers, is a primary feature of these programs. These groups provide the opportunity for physicians to recognize their own maladaptive behaviors reflected in their peers and to discuss those issues unique to the health care workplace. This includes discussion of access to addicting medications, licensure, shame and guilt, return-to-work issues, and dealing with patients. This type of therapy requires a staff familiar with physicians and their work environment. A medical practice assessment is used to identify risks and problems in the workplace and to establish a treatment plan supportive of

TABLE 2. Opioid Abuse with Coexisting Factors

History of major opioid abuse with	Relapse risk HR (95% CI)
No psychiatric illness	0.85 (0.33-2.17)
Coexisting psychiatric illness (dual-diagnosis)	5.79 (2.89-11.42)
Coexisting psychiatric illness and family history of substance abuse	13.25 (5.22-33.59)

CI = confidence interval; HR = hazard ratio.

abstinence. Such plans include recommendations for mutual help meetings (Alcoholics Anonymous, Narcotics Anonymous), therapy, monitoring, and workplace limitations.¹¹ The treatment plans attempt to align the patients' goals with those of their employers, the state PHP, and other interested parties (eg, the Drug Enforcement Administration). Additionally, it is beneficial for those leaving treatment to connect with physicians already in recovery from addiction and to establish a recovering peer group in their local community.

SHOULD THE ADDICTED PHYSICIAN RETURN TO PRACTICE?

Physicians have remarkable abstinence rates after completing an addiction/rehabilitation program compared with the general population. Abstinence rates are between 74% and 90%, similar to another professional group with higher than average success rates, airline pilots.¹⁵⁻¹⁷

These high rates could be due to motivation to maintain licensure and to continue professional practice, as well as the extensive treatment and long-term monitoring that are required. However, there is also a disturbing rate of recidivism for addicted physicians. The Washington State PHP reviewed its experience with health care professionals during a 10-year period and found that 25% had at least 1 relapse and noted apparent contributing or confounding factors.¹³ Relapse risk was increased by a family history of a substance use disorder and by a coexisting psychiatric illness (dual-diagnosis). Indeed, in the setting of opioid addiction, a coexisting psychiatric illness or a positive family history of addiction resulted in a significantly increased risk of relapse. The 3 factors, when combined in a single individual, resulted in a 13-fold increase in risk of relapse (Table 2). Menk et al¹⁸ found that even 1 relapse can be catastrophic in the setting of addiction to potent opioids such as fentanyl, because 16% of the relapsed anesthesia residents were found dead before anyone suspected a relapse. Thus, addiction treatment and monitoring programs must account for these factors when treatment plans are being developed and when physicians are being counseled about returning to practice.

Society and the individual's investment in physician training, as well as the high abstinence rates for addicted physicians who complete an appropriate treatment pro-

TABLE 3. Activities Required or Suggested by Physician Health Programs for Addicted Physicians

<i>Usually required by state physician health programs</i>
Abstinence from all drugs of abuse
Group therapy with other physicians provided by a professional facilitator (weekly)
Individual psychotherapy (weekly)
Mutual help meetings, usually a 12-step program (multiple times per week)
Monitoring meeting with state program (monthly)
Drug screening, random and for cause (multiple per month)
Workplace monitor to supervise return-to-work activities
<i>Possible further requirements</i>
Psychiatric care
Primary care physician (no self-prescribing or prescribing for family members, not even antibiotics)
Family therapy
Workplace limitations (eg, no access to opioids or procedures with opioids)
Prescribing limitations (eg, no prescribing of controlled substances)
Work hours limited
Neurocognitive testing
Return to work evaluation, if disability requires several months' absence

gram, support a rehabilitation model, not a punitive stance. Shore¹⁹ revealed a high suicide rate associated with a punitive model in contrast to high recovery rates associated with a good monitoring system. Many physicians can successfully return to practice with a solid addiction recovery program and monitoring systems in place. Any physician returning to practice should engage in his or her state's PHP, and in general such participation is mandatory. These programs are usually led by physician advocates, and they provide resources for individual and group therapy, psychiatric care, mutual help meetings, body fluid monitoring for drugs of abuse, and workplace education and monitoring. Usually, PHPs require contracts with the physician that document expected activities and require compliance with the activities (Table 3) most likely to ensure abstinence and successful return to practice. Failure to comply with the program required by the PHP will result in reporting to the state's medical licensing board, at which point there will typically be a disciplinary action taken with the possibility of public disclosure, sanctions up to and including license suspension, or, in extreme cases, revocation. The PHP will generally manage the logistics of obtaining and monitoring required drug screens, both random and for cause. Such testing both promotes abstinence and establishes a record of abstinence, although limits of such testing exist that can lead to both false-positive and false-negative test results. Often, limitations on physician prescribing are put in place to include opioids or other potentially addicting medications. Return to a group practice setting with the provision of on-site supervision by peers is considered optimal but typically is not mandatory (M.D.S., e-mail communication, March 30, 2009).

Anesthesiologists represent a special case, in that access to and use of highly addictive drugs are common in anesthesia practice. Furthermore, anesthesiologists who are addicted to anesthetic agents or anesthetic supplements (eg, opioids, propofol, volatile anesthetic agents) have a uniquely high relapse rate associated with an unacceptable risk of morbidity and mortality.¹⁸ As such, it is often preferable to limit the future professional activities of these once-addicted anesthesiologists to nonclinical roles such as research, teaching, and administration or to direct them to a new practice specialty. Indeed, this high relapse rate in anesthesiologists, coupled with the substantial risk that the initial manifestation of relapse will be death, has led 2 of the authors (K.H.B. and M.D.S.) to suggest in a recent editorial that anesthesia caregivers who become addicted to anesthetic agents should not be allowed to return to the operating room environment.²⁰

LEGAL ASPECTS

The legal aspects of addressing physician addiction can be thorny and complex. The first legal and ethical obligation of a clinic or hospital after discovery that a staff physician has an addiction is to safeguard patients by removing the physician from practice and counseling the physician to take a leave of absence for treatment. State laws vary on drug testing of employees.²¹ Some states disallow drug and alcohol testing unless the employer has a written drug and alcohol testing policy in place that meets certain legal requirements. Some state laws restrict random testing and limit grounds for testing based on "reasonable suspicion."

State medical licensing boards typically require physicians to self-report and to report on other physicians who are unable to practice medicine safely because of drug or alcohol use.²² Most states have a bypass mechanism that allows foregoing of a report to the state licensing board and instead allows a report to the state's PHP to satisfy this requirement.²³ However, these bypass programs may have eligibility requirements that exclude certain physicians from participating and require a report to the medical board. Typical exclusions are for physicians who are already under licensing board discipline, those who previously have been terminated from a professional rehabilitation program, those who have diverted controlled substances for other than self-administration, or those whose continued practice of medicine would create a serious risk of harm to the public.²⁴ As long as the reported physician complies with the practice limitations and continuing care requirements of the rehabilitation program and abides by the requirements of the PHP, the physician engaged in a bypass program typically can avoid formal, public reprimand or disciplinary action by the licensing board. How-

ever, in California, such a bypass rehabilitation program has come under public attack for permitting impaired physicians to continue to practice and for not being effective in adequately protecting patients from substandard care.²⁵

Federal laws, such as the Americans with Disabilities Act,²⁶ and state civil rights laws²⁷ generally protect physicians actively engaged in chemical dependency treatment programs as well as recovering addicts. These laws generally require "reasonable accommodation" for the recovering alcoholic and drug addict, such as a modified work schedule. (However, the Americans with Disabilities Act specifically excludes as a covered disability "psychoactive substance abuse disorders resulting from current illegal use of drugs."²⁸) Furthermore, federal and state laws mandate job protection, typically up to 12 weeks, during a medical leave for addiction treatment.²⁹

When a physician returns to work after addiction treatment, employers and hospitals generally can impose restrictions on employment, as described in the previous section. Clinics and hospitals should spell out for the returning physician the consequences of a relapse or failure to comply with any of the return-to-work conditions.

Is an impaired or recovering physician required to disclose this status to patients as part of informed consent? State courts are split on this issue. For example, in 2000 the Georgia Supreme Court ruled that no cause of action existed against a physician for his failure to disclose his drug (cocaine) use to his patient before a surgical procedure and that this failure did not void the patient's informed consent to the procedure.³⁰ In contrast, a Louisiana appellate court ruled in 1991 that a surgeon's failure to disclose his alcohol abuse voided the patient's consent to a lumbar spine procedure.³¹ The court reasoned that the alcohol abuse created a material risk relating to the physician's ability to perform the surgery, and if the physician had disclosed this information, the patient could have opted for another type of treatment.

CONCLUSION

Addictive disease is relatively common in the general population and in the physician population. Prompt recognition of addictive disease in a physician is difficult and yet critical because delay could result in morbidity or mortality not only in the addicted physician but also in his or her patients. It is vital that written policies and procedures are in place to assist in these highly emotionally charged situations, because they will promote a consistent and effective approach to promoting early recognition of a substance abuse problem, an effective intervention, and effective treatment and aftercare. Such policies can help prevent

disastrous medical and legal outcomes for the affected physician, for his or her colleagues or employer, and for the physician's patients. Each state's PHP can serve as a valuable source of information and assistance and should be contacted when an optimal course of action is unclear. Many physicians can achieve long-term recovery and sobriety with appropriate treatment, aftercare, and monitoring, although certain specialties, such as anesthesiology, present unique challenges and concerns. Given the potential harm that might befall both the addicted physician and patients, it is essential that family, friends, colleagues, and employers not "turn a blind eye" to a physician in whom addiction is suspected. Effective, and often life-saving, evaluation and treatment are available and must be sought for the benefit of all.

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Lifetime Psychiatric and Substance Use Disorders Among Impaired Physicians in a Physicians Health Program: Comparison to a General Treatment Population

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Abstract

Objectives—The prevalence of substance abuse and other psychiatric disorders among physicians is not well-established. We determined differences in lifetime substance use, and abuse/dependence as well as other psychiatric disorders, comparing physicians undergoing monitoring with a general population that had sought treatment for substance use.

Methods—Participants were 99 physicians referred to a Physician's Health Program (PHP) due to suspected impairment, who were administered the Computerized Diagnostic Interview Schedule Version IV (CDIS-IV) to assess the presence of psychiatric disorders. Referred physicians were compared to an age, gender, and education status-matched comparison group from National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) Wave 1, in a 1:1 ratio.

Results—While referred physicians did not differ from their counterparts on lifetime use of alcohol, opiates, or sedatives, they did have significantly higher conditional odds of meeting criteria for alcohol, opiate, and sedative DSM-IV abuse/dependence disorders. Physicians referred

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to the PHP had significantly lower odds of obsessive compulsive disorder, major depression, and specific phobia compared to their counterparts.

Conclusions—Physicians referred to a PHP have significantly higher odds of abuse/dependence disorders for cannabinoids, and cocaine/crack, compared to a matched general population sample that had ever sought treatment for substance use, even though physicians were less likely to report use of those substances. Although the rate of alcohol use was similar between the two populations, physicians had higher odds of abuse/dependence for opiates, sedatives, and alcohol. More research is needed to understand patterns of use, abuse/dependence and psychiatric morbidity among physicians.

Keywords

Physician impairment; psychopathology; substance abuse; epidemiology; MDs; drug abuse

There is limited epidemiological research and data on substance use disorders and other psychiatric illnesses among physicians. The dearth of such data is due in large part to methodological constraints. Specifically, physicians might be concerned about divulging confidential information to an interviewer; additionally, physicians might feel stigmatized when admitting to symptoms of mental illness, fearing professional consequences (Marshall 2008; Wallace 2010). Studies conducted among convenience samples of physicians suggest that rates of substance use disorders are between 6 and 15%, similar to the general population (Baldisseri 2007; Flaherty and Richman 1993; Hughes 1992; Hughes, Brandenburg et al. 1992). This is in spite of the fact that the prevalence of alcohol and substance use is lower among U.S. physicians than the general population (Hughes, Brandenburg et al. 1992). While depression among physicians has been reported to be similar to rates for the general population (12 to 13%) (Dyrbye, Thomas et al. 2006; King, Cockcroft et al. 1992), suicide rates in physicians were found to be significantly higher than those in the general population, with female physicians at a higher risk than their male counterparts when compared to matched controls (Lindeman, Laara et al. 1996; Roy 1985).

No study assessing rates of psychiatric and substance use disorders has been conducted with physicians referred for monitoring due to suspected impairment. Currently, 42 state programs in the United States are members of the Federation of State Physician Health Programs (FSPHP). State programs generally mandate participation in a formal program that monitors abstinence, relapse, and compliance (DuPont, McLellan et al. 2009). In many cases, health care professionals may sign a contract with a PHP voluntarily to avoid sanctions such as job loss, licensure revocation/suspension, and/or other legal matters. Health care professionals diagnosed with substance dependence are generally required to sign a five-year contract agreeing to undergo random drug screens (that decrease in frequency from once per week to once a month or less by year five of the contract), attend self-help group meetings, and attend a monitoring group once per week (DuPont, McLellan et al. 2009). There is evidence from one PHP program that physicians are satisfied with their program participation and recognize its value in their recovery process (Cummings, Merlo et al. 2011; Merlo and Greene 2010).

However, it is not known whether the population of physicians undergoing monitoring has significantly higher rates of lifetime substance use, substance abuse/dependence, or other psychiatric disorders than a general population comparison group that has also undergone treatment. We hypothesized that physicians undergoing monitoring would demonstrate no higher rate of these disorders than their comparison group. To our knowledge, this is the first study to compare impaired physicians to a matched general population group who sought treatment for substance use.

Methods

Physician Participants

Recruitment—Physician participants were recruited from one state's PHP under a waiver of authorization of consent. All individuals had to be at least 18 years of age to participate. Physicians (including allopathic and osteopathic physicians) were recruited by independent clinical evaluators who work with the state PHP. These participants were recruited at evaluation sites in six cities in the Southeastern United States between 2008 and 2009. The study was approved by the Washington University in St. Louis and University of Florida Institutional Review Boards (IRBs) and was conducted in accordance with the Helsinki declaration.

Evaluation—Physician participants were administered the Computerized Diagnostic Interview Schedule Version IV (CDIS-IV) during their initial evaluation following referral to the PHP. The CDIS-IV is a fully structured assessment based on the logic and background of DSM-IV to ascertain lifetime substance use, abuse, dependence, and other psychiatric diagnoses among participants. The Diagnostic Interview Schedule (DIS), in its paper or computer format, has been used in various forms since 1980 (Eaton, Anthony et al. 1997; Robins, Helzer et al. 1981; Robins, Helzer et al. 1984; Robins and Regier 1991). It has undergone extensive reliability testing in various settings (Endicott 1981; Semler, Wittchen et al. 1987; Ustun, Compton et al. 1997). For the current study, the CDIS-IV was computer-administered in a private location. Clinical staff members from each evaluator's office were trained in a 2 day workshop by a co-author of the DIS (LBC) and a frequent user of the DIS (SJN). These staff members briefly explained how to use the CDIS-IV with participating physicians. The evaluator and staff members remained blinded to the CDIS-IV results, and sent CDIS data directly to the state PHP. After removing identifying information, the PHP staff sent de-identified CDIS data to the research team at Washington University on a monthly basis for quality control and analysis. Physicians being evaluated were not required to complete the CDIS-IV; however, nearly all those approached did. Interviews were conducted from December 2007 until March 2010.

General Population Comparison Group

Recruitment—A comparison group for the physicians was sought; it was determined that the publically available National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) Wave 1 (2001-2002) population would be suitable, as participants could be matched on certain conditions to the physicians in our sample (Grant, Dawson et al. 2003).

Evaluation—The comparison group from the NESARC study was interviewed with the AUDADIS, also by computer-assisted personal interview (CAPI) (Grant, Dawson et al. 2003). The AUDADIS closely resembles the CIDI, which is an adaptation of the DIS. Since both the AUDADIS and CDIS-IV matched the DSM-IV as close as possible, and authors of the assessments worked on DSM-IV, a diagnostic crosswalk between the two assessments was not completed. The methods for the NESARC study have been detailed elsewhere (Grant, Dawson et al. 2003).

Matching and Statistical Analysis—Physicians referred for evaluation were randomly matched with a comparison group from NESARC that answered affirmatively to the questions “Ever Sought Help Because of Drinking” or “Ever Sought Help Because of Medicine or Drug Use”. The physicians were matched in a 1:1 ratio based on age (within six years), gender, and education status. The variable optimal matching algorithm was implemented using the DIST macro (Kosanke 2004). Education status was coded as having completed a master's degree or higher, or not. By default, all doctors had an education status

of “master's degree or higher”. The 99 people in the comparison group were drawn from the 43,093 participants of NESARC; from that group, 2,304 people had sought treatment for drug or alcohol use and of those, 113 met the educational match and from them, 99 people were matched based on age and gender.

For analyses involving DSM-IV substance abuse and dependence, prevalence rates and unadjusted odds ratios (ORs) were calculated only among *lifetime users* of each substance. Conditional prevalence was calculated because individuals cannot meet criteria for abuse or dependence for a substance they have never used. If a use or abuse/dependence category had a prevalence of zero in the sample, a logit estimator was used to estimate the odds ratio. All analyses were performed using SAS® proprietary software (SAS version 9.3, SAS Institute NC, USA).

Results

For descriptive purposes, Table 1 displays the specialties of the physicians referred to the PHP (n=99). Family practice and anesthesiology were the most highly-represented specialties. Shown in Table 2 are the demographic characteristics of physicians, along with the age, gender, and educational achievement-matched comparison group from the general population group that sought treatment. As expected, there was no significant difference in age, gender, or educational status. There was also no difference in the racial/ethnic makeup of the two groups. Physicians were significantly more likely to self-report “excellent health” than their general population counterparts (63.6% vs. 31.3%, $p < 0.01$).

Substance use disorders (conditional on lifetime use of each respective substance) are shown in Table 3 for physicians and the comparison group. While there was no significant difference in lifetime use of alcohol, opiates, and sedatives between physicians and the comparison group, physicians had significantly higher odds of having lifetime alcohol (OR 2.56 (95% CI 1.29, 5.06)), opiate (OR 86.58, (95% CI 4.71, 1589.90)), or sedative (OR 54.76, (95% CI 2.87, 1045.18)) DSM-IV abuse/dependence. While physicians and their counterparts reported smoking at similar rates, physicians had significantly lower lifetime odds of tobacco dependence (OR 0.06, (95% CI 0.02, 0.16)). Physicians referred to the PHP had significantly *lower* odds of lifetime use, but *higher* odds of lifetime abuse/dependence for cocaine/crack and cannabis compared to the comparison group (see Table 3). Lifetime amphetamine use (OR 0.21, (95% CI 0.09, 0.48)) was also lower among referred physicians than the comparison group, though there was no difference in abuse/dependence.

Table 4 compares other psychiatric disorders between referred physicians and the matched comparison group. As shown, the only significant differences were for DSM-IV major depressive episode (OR 0.50, 95% CI (0.28, 0.90)) specific phobia (OR 0.21, 95% CI (0.06, 0.75)), and obsessive compulsive disorder (OR 0.04, 95% CI (0.01, 0.29)), with physicians meeting criteria at lower rates compared to their matched comparison group.

Discussion

To our knowledge, this is the first report of psychopathology among physicians referred to a PHP due to suspected impairment. It is also the first study to compare referred physicians to participants from the general population, matched on specific characteristics, including treatment seeking. Thus, it is a glimpse into a vulnerable and hidden population that has been previously neglected in epidemiological research. Given the significant public health implications of physician impairment, research in this area is clearly needed.

We found that physicians undergoing monitoring for substance use or behavioral problems were more likely than a matched general population sample to meet criteria for alcohol,

opiate, and sedative abuse/dependence (among those who had ever used a particular drug) even though there was no difference in overall use between the two groups. These findings align with an earlier study suggesting that rates of opioid dependence and abuse are higher among physicians than matched controls (Hughes, Brandenburg et al. 1992) where both groups were *not* in treatment programs. Many hypotheses have been presented to explain this finding, including the fact that physicians generally have increased access and exposure to these drugs (Cummings, Merlo et al. 2011; Merlo, Goldberger et al. 2008).

Another important finding was that physicians suspected of impairment had significantly *lower* lifetime use of cannabis and cocaine/crack than the comparison group, but among those who had ever used, they had *higher* prevalence of abuse/dependence. It is also worth noting that of the drugs for which physicians had lower odds of reporting lifetime use (amphetamines, cannabis, and cocaine/crack), all were illicit. Much of the research regarding physician drug abuse has focused on alcohol and prescription drug abuse, and there is little data regarding illicit drug use among physicians. Further research is needed.

Most studies ignore conditional prevalence and choose to present rates of substance abuse/dependence using the total number of the sample as a denominator. Since lifetime use among the physicians and general population differed significantly for some drugs, the conditional prevalence rate is a better indicator of liability for abuse/dependence.

There were few significant differences in non substance-related psychiatric disorders between physicians referred for evaluation and the general population, with physicians displaying significantly lower rates of major depression, OCD, and specific phobia. This conflicts with results of previous studies that suggest the rate of depression among physicians is similar to that of the general population (Dyrbye, Thomas et al. 2006; King, Cockcroft et al. 1992). This may be the result of a less comprehensive diagnostic approach and methodology in the earlier studies. Additionally, these studies did not concern populations that had sought treatment. More studies evaluating depression among physicians in general, and specifically among those suspected of impairment, must be conducted.

The demographics of the physicians studied closely resembled those of the current practice population in the United States (Runy 2009). Recent surveys have shown the average age of this population to be 41-49, similar to the 45.6 in the survey (Runy 2009). Moreover, the gender split shown among these physicians referred for evaluation (76.7% male, 23.3% female) resembles that of the American physician practice population (Runy 2009). This may suggest that gender and age are not likely factors for referral for monitoring. Further research is needed.

This study was launched as a pilot study to understand the feasibility of conducting diagnostic assessments in an evaluator's office and to evaluate the prevalence of psychiatric conditions among physicians undergoing monitoring. The strengths of this study include the acceptance of the assessment in the practice, although the team felt that a stronger relationship between evaluators and academics would be favorable. Additionally, information on symptoms was obtained using a standardized instrument that was administered by computer, removing interviewer biases. While our feasibility study did not allow evaluators to access the results of the CDIS-IV, a future study where evaluators were offered access to the CDIS-IV results would be beneficial.

Examining the particular psychopathology of this group may help elucidate why the treatment facilitated by PHP programs has been so successful (Merlo and Gold 2008). A study examining the 5-year outcomes of physicians sampled from 16 state PHPs found that 78% of participants had no positive alcohol or drug test results over this monitoring period, and that 72% continued to practice medicine (DuPont, McLellan et al. 2009; Gold 2005).

Without such data, and without data on psychopathology among physicians in general, our best option is to compare these physicians' substance use disorders with a matched comparison group from the general population who had also sought treatment, as we have done.

While there were a number of strengths, limitations included the fact that the sample was small (n=99 impaired physicians), and from one state, leading to high confidence intervals for the odds ratios. The general population group from NESARC was also small, due to the low proportion of people with master's degrees or higher who had ever sought drug/alcohol treatment in that sample, and explains the high confidence intervals on many of the odds ratios. In addition, the issue of stigma that could result from reporting symptoms of psychiatric disorders raised earlier may affect the findings.

Conclusions

In conclusion, physicians suspected of impairment that had ever used alcohol, cocaine, cannabis, opiates, and sedatives had significantly higher rates of abuse/dependence than members of the general population who had tried these substances. More research is needed to understand psychiatric morbidity in physicians, especially those suspected of impairment, due to their higher risk for abuse.

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Table 1

Specialties of Physicians Surveyed

Specialty	#	Specialty	#
Family Practice	12	Pulmonary Disease	3
Anesthesiology	10	Otology	2
Internal Medicine	8	Cardiology	2
Surgery	6	Dermatology	2
Pediatrics	6	Gastroenterology	2
Emergency Medicine	5	Urology	2
Obstetrician/Gynecologist	4	General Practice	1
Neurological Surgery	3	Preventative Medicine	1
Psychiatry	3	Radiology	1
Orthopedic Surgery	3	Resident	1
Plastic Surgery	3	Unspecified/Unknown	19

Table 2

Demographics of Physicians and NESARC Wave 1 matched comparison group

	Physicians (n=99)	NESARC Wave 1 matched comparison group(n=99)	p-value
Age (Mean (SD))	45.6 (10.8)	47.1 (10.3)	0.32
Male gender	76 (76.7%)	76 (76.7%)	1.00
Master's Degree or Higher	99 (100.0%)	99 (100.0%)	1.00
Race/Ethnicity:			0.13
Non-Hispanic White	72 (72.7%)	82 (82.8%)	
Non-Hispanic Black	2 (2.0%)	5 (5.1%)	
Hispanic	14 (14.1%)	8 (8.1%)	
Asian	7 (7.1%)	2 (2.0%)	
Other	4 (4.0%)	2 (2.0%)	
Married	53 (53.5%)	43 (43.4%)	0.16
Self Reported "Excellent" Health	63 (63.6%)	31 (31.3%)	<0.01

Abbreviations: NESARC, National Epidemiologic Survey on Alcohol and Related Conditions; SD, Standard Deviation

Table 3Substance Use Disorders of Physicians and NESARC Wave 1 Matched Comparison Group^{*}

Substance	Physicians (n=99)	NESARC Wave 1 matched comparison group (n=99)	OR (95% CI)
Alcohol	89 (91.8%)	97 (98.0%)	0.23 (0.05, 1.11)
Abuse/Dependence	31 (35.2%)	17 (17.5%)	2.56 (1.29, 5.06)
Amphetamines	8 (8.3%)	30 (30.3%)	0.21 (0.09, 0.48)
Abuse/Dependence	1 (12.5%)	0 (0.0%)	12.2 (0.45, 330.38)
Cannabis	28 (29.2%)	64 (64.6%)	0.23 (0.12, 0.41)
Abuse/Dependence	5 (17.9%)	1 (1.6%)	13.70 (1.52, 123.54)
Cocaine/Crack	18 (18.8%)	37 (37.4%)	0.39 (0.20, 0.74)
Abuse/Dependence	8 (44.4%)	0 (0.0%)	60.7 (3.23, 1140.58)
Opiates	26 (27.1%)	23 (23.2%)	1.23 (0.64, 2.35)
Abuse/Dependence	17 (65.4%)	0 (0.0%)	86.58 (4.71, 1589.90)
Sedatives	17 (17.7%)	24 (24.2%)	0.67 (0.33, 1.35)
Abuse/Dependence	9 (52.9%)	0 (0.0%)	54.76 (2.87, 1045.18)
Tobacco	63 (64.9%)	71 (71.7%)	0.73 (0.40, 1.34)
Dependence	6 (9.5%)	45 (63.4%)	0.06 (0.02, 0.16)

Abbreviations: NESARC, National Epidemiologic Survey on Alcohol and Related Conditions; OR, Odds Ratio

^{*} Percentages out of participants with data

Table 4

Psychiatric Disorders of Physicians and NESARC Wave 1 matched comparison group *

	Physicians (n=99)	NESARC Wave 1 matched comparison group (n=99)	OR (95% CI)
Agoraphobia	1 (1.0%)	4 (4.0%)	0.24 (0.03, 2.21)
ASPD	7 (7.2%)	11 (11.1%)	0.62 (0.23, 1.68)
Major Depression	30 (30.3%)	46 (46.5%)	0.50 (0.28, 0.90)
Generalized Anxiety Disorder	7 (7.1%)	6 (6.1%)	1.18 (0.38, 3.64)
Hypomanic Disorder	5 (5.2%)	3 (3.0%)	1.74 (0.40, 7.49)
Manic Disorder	6 (6.2%)	9 (9.1%)	0.66 (0.23, 1.93)
OCD	1 (1.0%)	21 (21.2%)	0.04 (0.01, 0.29)
Pathological Gambling Disorder	1 (1.0%)	1 (1.0%)	1.03 (0.06, 16.73)
Social Phobia	5 (5.1%)	7 (7.1%)	0.70 (0.21, 2.28)
Specific Phobia	3 (3.0%)	13 (13.1%)	0.21 (0.06, 0.75)

Abbreviations: ASPD, Antisocial Personality Disorder; OCD, Obsessive Compulsive Disorder; NESARC, National Epidemiologic Survey on Alcohol and Related Conditions; OR, Odds Ratio

* Percentages out of participants with data

Physicians Impaired by Substance Abuse Disorders

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Abstract

Physicians are at risk for substance abuse disorders at rates comparable to non-physicians. While overall substance abuse is no more common in physicians than in age-matched controls, abuse of prescription drugs and opiates is more common in physicians. Also, certain specialties, such as anesthesiology, are overrepresented among substance abusers. Detection of a physician impaired by substance abuse is a challenge, since a physician's practice is often the last segment of life to be impacted. While colleagues are ethically obligated to report an impaired physician, they are less likely to do so if the physician's career and reputation will be immediately destroyed. Physician Health Programs (PHPs) in each state have guidelines for treatment and monitoring, and the prognosis for the physician addict is excellent.

Keywords: Impaired Physician, Physician's health, Prescription drug abuse

Definition

Physician Impairment, according to the American Medical Association (AMA), is any physical, mental or behavioral disorder that interferes with the physician's ability to engage safely in professional activities (1). Although the impairment of physicians can also be due to mental illness, neurological problems, and infectious diseases such as HIV or Hepatitis C, we will review specifically the impairment of physicians as a result of substance use, abuse or dependency. This is particularly relevant, since overall, physicians may have more narcotic and other prescription misuse than any other profession or group, and the disease of addiction impairs more physicians than any other disorder or disease (2). Some experts consider the term *impaired physician* to be archaic, demeaning, and inaccurate given that many physicians with these problems are able to continue working if they are treated and monitored.

Policy and Physician Health Programs

While physicians have long been susceptible to substance abuse disorders (SUDs), national attention was not received until the AMA Council on Mental Health's 1972 paper promoting state programs for the impaired physician. Still today, though, an AMA consensus statement acknowledges that not enough has been done to address mental health issues among physicians (3).

The public has no tolerance for impaired physicians, with most patients accepting only abstinence for any practicing physician (4). However, physicians are not commonly tested for substance use. Drug testing is performed for other professions where public safety is involved, such as transportation, yet drug testing is rarely a condition for employment for physicians.

While the public advocates for punishment of impaired physicians as the single best method for protecting patients from physician addicts, we argue that punishing physicians for substance abuse is not the best approach. Patient safety is most compromised while the impaired physician is in practice. Thus, encouraging the identification and treatment of impaired physicians is paramount for improving physicians' and patients' health. Survey data suggests that colleagues are less likely to report a doctor with an SUD if this doctor will face immediate and severe consequences for his actions. While many states have confidential treatment programs, with an estimated 8,000 practicing doctors enrolled nationwide, some states do not maintain an impaired physician's anonymity and immediately suspend an impaired physician's medical license. Exempting impaired physicians from punitive action also encourages them to proactively seek treatment and increases the likelihood that they will receive the comprehensive treatment they require.

Nearly all states have legal requirements that physicians report impaired colleagues to the Board of Medicine or PHP (5). Colleagues must play a role in the identification of impaired physicians. Many states allow for this to be done anonymously. The AMA Code of Medical Ethics informs physicians that they have an ethical obligation to report impaired, incompetent, and unethical colleagues. A 2002 Ethics Survey found that 65% of physicians would report an impaired colleague to the state medical board or chief of staff. However, many experts believe that this number simply reflects physicians' understanding of what they should do if they encountered an impaired physician, rather than what they actually would do in this situation. Experts argue that many physicians would prefer to speak to their colleagues about their problems rather than turn them in. In reality, most impaired physicians are referred for treatment by their family members or law enforcement (after a DUI, domestic violence report, or buying illegal drugs).

Physicians are particularly astute in their substance use and are overwhelmingly in denial. Most areas of the physician's personal life are affected prior to an apparent impact on clinical performance. In fact, clinical performance is often the last facet of a physician's life to be impacted by substance abuse. The fact that physicians' work is impacted very late in the course of substance-induced impairment actually contributes to the overwhelming denial we see from physicians with SUDs. Thus, by the time work-related impairment is apparent, the illness is severe and warrants prompt action. While it could take as long as fifteen years before an alcohol dependent physician might be impaired to the point that the user or colleagues recognize the need for treatment, the IV fentanyl user may require intervention within months. Indeed, one study found the mean duration of physicians' substance-related problems before treatment was 6-7 years (6).

Epidemiology

The number of physicians diagnosed and treated for a substance abuse disorder has increased significantly over the past decade (7). Medical students are also increasingly recognized as having substance misuse, abuse, or dependence. This is likely due to increased awareness and detection.

The leading cause of physician impairment is chemical dependency. Estimates suggest that approximately 15% of physicians will be impaired at some point in their careers. While this rate is no different from the rates in the general public, we would expect the rate of substance abuse to be lower than in the public, since all-cause mortality is lower among physicians than the general public, and because physicians smoke less and exercise more than age-matched non-physicians. Also, among professionals, physicians are over-represented in treatment for substance abuse disorders. Further examination of this overall rate reveals a number of troubling patterns. Furthermore, it is unclear how many physicians initiate and/or maintain an SUD through self-prescription, misuse of prescriptions, or use of illegal drugs.

Prescription misuse, opiate abuse and dependence, and suicide appear to be more common among physicians than their matched controls. is this the same reference as 8? In not, it requires a reference.. Although alcohol abuse and dependence are no more common among physicians than similarly matched controls, alcohol is the most commonly abused substance among physicians (8). Physicians have higher rates of abuse of prescription drugs; most notably, rates of physician misuse of benzodiazepines and opioids are up to five times higher than in an age matched population (9). Abuse of these drugs can be considered prescription misuse and are often self-prescribed, perhaps for self-medication. These patterns are particularly troubling because physicians have easy access to these prescriptions and are assumed to be educating their own patients about the appropriate use of medications (i.e. only take medications prescribed for them and only take medication according to the dose and directions prescribed). One possible implication of physicians' misuse of prescription medications is that physicians' familiarity with prescription drugs can lead to overconfidence about drug use and a false belief that substance use can be controlled without resulting in dependence or abuse.

2007 data from 109 physicians receiving treatment at a PHP showed a distribution of abused drugs as below (10).

Drug of Abuse	Percent
Alcohol	39.5
Opioids	33.9
Cocaine	11.9
Sedatives	3.7
Marijuana	2.8
Inhalants	1.8
Amphetamines	1.8
Other	4.6

Drug use often began before medical school and residency (11-13). Although some data suggests drug use increases in medical school, evidence for this conclusion is limited and varied. Surveys of medical students cannot be readily published for fear that the student drug users will be identified or the school will be branded as a drug-using institution. Strikingly, in one study of substance use among medical students, 17% of survey respondents used cocaine in medical school (14). It is imperative to learn more about substance use by medical students because use patterns appear different from the past, with more drug use and less alcohol use. Additionally, medical students may unfortunately choose professional specialties where their drug use as students and experimentation could rapidly lead to addiction and death.

Highest Risk Careers

Several theories exist to explain the prevalence of addiction among physicians, including stress, chronic fatigue, and access. Additionally, the same factors that contribute to non-physicians becoming substance

abusers could be at play. These factors include a genetic predisposition, particular personality characteristics, and youth experimentation. In support of this, studies have found that three-fourths of physicians with substance use disorders have a family history of addiction (15-16).

In data from PHP programs, impaired physicians are often family practitioners, emergency medicine physicians, and anesthesiologists (17-18). Additional studies found an overrepresentation of anesthesiologists, emergency medicine doctors, and surgeons among opiate abusers (19). Among all surgeons captured in a survey study from 1978-2002, 7% reported alcohol dependence (20). Data suggests that female surgeons have the highest incidence of alcohol abuse of all female physicians (21).

Anesthesiologists have a higher rate of substance abuse than any other specialty. For example, in 2003, while anesthesiologists represented only 5.6 % of Florida's physicians, they accounted for 25% of Florida's impaired physicians referred for an SUD (10). Anesthesiologists have the highest rate of narcotics and IV drug use of any medical specialty (22). Fentanyl is the controlled substance most often abused by anesthesiologists (23).

Table 2: PHP program participants by medical specialty, Florida 2007 (10).

Specialty	Percent
Anesthesiology	21
ER	18
Surgery	6
Family Medicine	6
OB/GYN	6
Radiology	6
Pathology	6
Orthopedics	3
Neurology	3
Psychiatry	3

Much research has also been done to understand why physicians in a particular specialty are more prone to SUDs. The apparent increased vulnerability of anesthesiologists has been attributed to everything from boredom, stress, and access, to a theory that certain specialties may preferentially attract physicians who are interested in using mind-altering drugs, to a theory that predilection for developing an SUD is related to work-related exposure to drugs with abuse potential (i.e. anesthesiologists have higher rates of SUDs because they, while in the operating room are continuously being exposed to drugs with abuse potentialreference ?)). Physicians do have much greater access to drugs than does the general population (24). While access can generally explain some of the trends in narcotic usage among physicians, access alone cannot account for some obvious discrepancies in data on substance abuse by physicians. For example, oncologists have access to many pain medications but very uncommonly become addicts. Alternatively, the field might be particularly attractive to those interested in mind-altering medications. Perhaps the same medical students who use drugs might be interested in anesthesia. Additionally, a recent hypothesis explores the operating room as a hazardous work environment that can sensitize the brain to drugs via secondhand exposure. The occupational hazard hypothesis, which found fentanyl and propofol in its bioactive form in the OR, suggests that these exposures can lead to neuronal sensitization and increased risk for developing addiction (25-26). Today, there is a heightened awareness in anesthesia programs, which might be contributing to the high reporting rates of substance abuse disorders in anesthesiology (22). However, despite this awareness in anesthesiology, the use of controlled substances has not significantly declined (23).

Other Impairment and Comorbidities

While we focus on impairment from substance abuse, it is important to recall that impairment can occur from other physical or mental limitations. Additionally, substance abuse disorders often occur concurrently with other mental illness. For example, the two most common comorbid diagnoses for the physician opiate addict are depression and cigarette smoking.

Physician substance abuse is associated with increased risk of suicide (27-29). Suicide rates are 40% higher in male physicians than age-matched peers and 130% higher in female physicians than age-matched peers. Among physicians, anesthesiologists have higher rates of suicide (30-32). This data can be skewed since physicians are more likely to succeed at suicide than are non-physicians. However, suicides by physicians may be underreported or erroneously reported as accidents by the pathologist or medical examiner.

Mental health problems frequently begin before medical school and may worsen during training. A review of 40 studies of medical students found that medical students are more likely to have higher levels of depression and suicide than age-matched cohorts (33-34).

Assessment and Treatment Outcomes

When receiving appropriate assessment and treatment, the prognosis for a physician with chemical dependence is excellent. Evidence suggests they can return to both professional and personal productivity. PHPs report high rates of professionals returning to work; a pooled sample of over 900 physician participants in 16 state PHP programs found an overall return to work rate of 72%. Additionally, for the 50% of physicians who completed the program, the rate of return to work was 91.4% (35). This is commonly attributed not only to the highly structured programs, which we will discuss below, but also the high cost of failure, which includes loss of medical license, income, reputation, and the significant reward of being able to return to practice if sobriety is maintained.

Abstinence is the goal for physicians impaired by substance abuse disorders. Opioid addict physicians, unlike their nonphysician counterparts, are consistently referred to detox and long-term treatment rather than Methadone Maintenance Treatment (MMT). In a 5-year study of 26 physicians in Florida's Professional Recovery Network for opioid abuse/dependence, no opioid addict physicians were referred or treated with MMT, and all were referred for detoxification and long-term treatment (36).

Physician addicts can have greater than 80% successful 5-year outcomes compared to most addiction treatment outcome studies, which report 6-month success rates ranging from 30-60%. Factors associated with physicians' high recovery rates include last-onset addiction (MDs using drugs in their 30s or 40s, not in their teens), long-term treatment with inpatient and 5-year outpatient components, having their career in jeopardy, random urine testing, and 12-step recovery groups. Additionally, treatment at a facility that has expertise in treating impaired physicians may result in a more favorable outcome.

Positive prognoses were associated with affiliation with Alcoholics Anonymous/Narcotics Anonymous, acceptance of addiction as a disease, honesty, and acceptance of spiritual principles (37). While AA and other 12-step programs are recommended and proven, this should be in addition to intensive treatment modalities (38) such as therapy for the individual, appropriate pharmacologic treatment of any comorbid psychiatric conditions, and family therapy.

In one study from the Washington Physicians Health Program (39), relapse was associated with past potent opioid use, coexisting psychiatric disorders, and a family history of addiction. Multi-substance abuse was also associated with failed treatment (40). Physicians who did not return to work were more likely to be using opioids or IV drugs (41). Thus, anesthesiologists have the greatest battle, with high risk for both relapse and accidental overdose. Relapse rates in anesthesia approach 20% (42). In one survey of 159 anesthesiology training programs, 34% of opioid users and 70% of non opioid abusers were able to return to anesthesia (43). This survey found 14 cases of suicide or lethal overdose among those returning to anesthesia, and in 16 percent of these 14 cases, death was the initial indicator or relapse. In another survey, 19% of anesthesiology training programs had at least one fatality (44). With the knowledge that fentanyl and propofol are in the air in the OR, perhaps additional counseling of the impaired anesthesiologist is necessary before a return to the field and toxic OR.

Although there is lore of a "needle barrier," which implies that IV addicts have the worst outcomes, recent trials and reports suggest otherwise. Data from a 5-year study in the state of Florida's impaired physician program found that outcomes were independent of type of drug used or route of administration. More than 88% of physicians who used crack, injected drugs, or both, had negative drug tests and positive physician assessment for 5-years and returned to work (45). Additionally, evidence from Florida also suggests that there is not significant outcome disparity between those who turned themselves in for treatment voluntarily and those who entered treatment by coercion.

Following successful completion of treatment, physicians enter into a multiple year contract with the PHP outlining conditions for return to practice. The contract includes:

- ▶ Avoidance of all mood altering drugs,
- ▶ Randomized drug testing (in urine, and in some states, testing of hair),
- ▶ Participation in weekly monitored group sessions with other physicians under contract,
- ▶ Attendance in weekly groups such as Caduceus or International Doctors in Alcoholics Anonymous, as well as AA or NA,
- ▶ Professional follow-up with an addiction specialist,
- ▶ Precise outline of consequences should the physician violate the contract.

This contract between the impaired physician and the PHP seems quite powerful and effective. In a study of 233 physicians under contract with North Carolina Physicians Health Program for the period 1995-2000, 91% had a good outcome (46).

Despite these encouraging statistics, physician impairment remains a serious issue in public health and patient safety. In order to achieve the best outcome for the physician and public, we must get better both at recognizing substance abuse disorders in our colleagues and in referring them early for treatment.

Biography

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Kimberly Gold is a fourth year medical student at the Yale University School of Medicine. She received her Bachelor of Arts from Columbia University. She is applying for residency in Internal Medicine and is interested in medical errors, patient safety, and the health of physicians.

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Scott Teitelbaum, M.D., F.A.A.P., A.S.A.M. received his undergraduate degree in Psychology at Lehigh University. He attended medical school at Rochester University. Completing his residency in Pediatrics at University of Connecticut, Dr. Teitelbaum served in private practice for ten years at Teitelbaum & Katz Pediatrics in Middletown, Connecticut after which he completed his Postdoctoral Fellowship in Addiction Medicine under the mentorship of Dr. Mark Gold and Dr. Kenneth Thompson at the University of Florida. Additionally, Dr. Teitelbaum completed a fellowship in Child Psychiatry at the University of Florida. Joining the Faculty in 2002, Dr. Teitelbaum serves as the Medical Director for the Florida Recovery Center, Director of Adolescent Recovery Services and Clinical Associate Professor for the Department of Psychiatry as well as the Department of Pediatrics. Additionally, he currently serves as the Clinical Chief of the Addiction Medicine Division within the Department of Psychiatry. His expertise in Addiction Medicine goes beyond chemical dependence and includes an intensive, in depth knowledge of compulsive gambling. He has been involved in the treatment and evaluation of compulsive gamblers on a statewide level. Dr. Teitelbaum currently serves as an Expert Panelist and Speaker for The National Youth Anti-Drug Media Campaign which is sponsored by The White House, Office of National Drug Control Policy. In addition to being board certified as a Pediatrician, Dr. Teitelbaum is certified by the American Society of Addiction Medicine and is a certified medical review officer.

Conflict of Interest Statement:

I declare that I have no proprietary, financial, professional or other personal interest of any nature or kind in any product, service and/or company that could be construed as influencing the position presented in, or the review of, the manuscript entitled Physicians Impaired by Substance Abuse.

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