

PHYSICIANS AND MEDICAL WORKERS, SUBSTANCE ABUSE AMONG.

Physicians and other health professionals (HPs) are not spared the ravages of addiction. In fact, some of history's most prominent physicians were addicted to drugs. Dr. William Halsted, known as the "Father of Modern Surgery," (innovator of blood transfusions, intravenous fluid therapy, and gall bladder surgery) was addicted to cocaine, while practicing, in the late 1800s. His friend, Sir William Osler, another prominent physician at Johns Hopkins University, attempted to wean Halsted off cocaine by using morphine.

Until the early twentieth century, medical practice went largely unregulated. As state medical regulatory boards evolved, their role was to assure that

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physicians received legitimate education and degrees. Not until the mid-1900s did medical boards begin to protect the public from impaired physicians.

Addicted HPs are excellent subjects to study because they are usually accessible both prior to and after treatment, and money is not a limiting factor in their receiving good treatment. The more than thirty types of licensed HPs include physicians, nurses, dentists, veterinarians, acupuncturists, massage therapists, social workers, and others; but all addicted HPs share the problem of substance abuse. Physicians have been studied the most; however, much of what is said about physicians applies to all HPs (Storr et al., 2000).

TERMINOLOGY

Historically, the word *impaired*, as in *impaired physician* or *impaired pharmacist*, became synonymous with *substance abusing*. This terminology is inaccurate because *impaired* actually means that one is unable to work with skill and safety. There are many causes for impairment unrelated to substance abuse (e.g., neurologic disorders, aging, psychiatric disorders, physical disability, or fatigue). Additionally, many HPs who have substance use disorders are not impaired at work, which is often the last place symptoms of addiction appear. Therefore, the word *impaired* should be limited to work-related impairment rather than used as a synonym for substance abuse.

EPIDEMIOLOGY

Substance use disorders (SUDs) are surprisingly common among physicians and other HPs. The lifetime prevalence among physicians is approximately 10–15 percent, similar to or slightly higher than the general population (Brewster, 1986; Talbott, 1987; Hughes et al., 1992b; Flaherty & Richmond, 1993). Nurses have a similar lifetime prevalence (Dunn, 2005). Physicians drink more alcohol than the general population, as do other members of higher socioeconomic groups. Substance abuse, disguised as *self-medication*, is especially common among physicians. As

use. In one study 18 percent of students met criteria for alcohol abuse in the first two years of medical school (Clark et al., 1987). Alcohol and drug-related problems account for 14 to 21 percent of all disciplinary actions by state licensing boards (Morrison et al., 1998). This does not include most HPs receiving confidential assistance for SUDs offered by physician health programs (PHPs).

GENDER

Among physicians with SUDs, males predominate 7 to 1 (McAuliffe et al., 1991). Female physicians are more likely to be younger and have medical and psychiatric comorbidity, past or current suicidal thoughts, and suicide attempts (Bissell & Jones, 1976). Interestingly, women physicians with SUDs are subject to more severe sanctions by medical boards than their male counterparts (Morrison & Wickerson, 1998).

SPECIALTY

Anesthesiologists, emergency room physicians, psychiatrists, and, in some studies, family practitioners have higher rates of SUDs than other physicians (see Table 1). Approximately 5 percent of all physicians are anesthesiologists, but they account for a disproportionately high share (13–15%) of physicians in substance abuse treatment (Talbott, 1987). The Anesthesiology Task Force on SUDs suggested that anesthesiologists have higher rates of SUDs due to the following (Berry et al., 2008):

- higher addictive potential of anesthetic drugs, such as fentanyl/sufentanil
- ease of diverting small doses of highly potent fentanyl for illicit use;
- easy access to drugs
- being accustomed to giving large doses of mood-altering, parenteral substances with immediate results
- lack of "needle taboo"
- expectation of being in control

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Authors of study	Type of study	Number of subjects studied	Over-represented specialties	Under-represented specialties
Bissell	Closed Survey	98	Psychiatry, Emergency Medicine	Surgery
Earley and Weaver	Treatment Records	618	Anesthesiology, Emergency Medicine	Pathology, Pediatrics, Radiology
Hughes	Survey	1785	Psychiatry, Emergency Medicine	Pediatrics, Pathology, Surgery
Ikeda and Pelton	PHP/MB*	247	Anesthesiology, Emergency Medicine, Family Practice	
Knight	PHP/MB*	120	Anesthesiology, Emergency Medicine	Pediatrics
McAuliffe et al.	Survey	489	Psychiatry, Anesthesiology	
Meyers and Weiss	Resident Survey	1805	Psychiatry, Anesthesiology	Community health, Emergency Medicine, Surgery, Pediatrics
Morrison and Wickersham	PHP/MB*	375	Anesthesiology, Psychiatry	Internal Medicine, Pediatrics
Shore	PHP/MB*	34	Psychiatry	
Talbott	Treatment Records	1000	Anesthesiology, Family Medicine / General Practice	

*Physician Health Program/Medical Board.

Table 1. Addiction rate by specialty. ILLUSTRATION BY GGS INFORMATION SERVICES. GALE, CENGAGE LEARNING

In addition to these factors, an important debate rages about whether opioid-addicted anesthesiologists should ever return to the operating room. An early study showed poor outcomes for addicted anesthesiologists in training, reporting only 34 percent successful re-entry for those using parenteral opioids and 26 deaths (14% of the 180 reported cases), half attributed to drug relapse (Menk et al., 1990, p. 3060). This oft-quoted study potentiated a pessimistic view about anesthesiologists returning to work. It has been criticized, however, because it was an opinion survey of program directors rather than a longitudinal study. A similar survey study by Collins (2005) of anesthesiology program directors reported comparable findings, noting a smaller but still significant number (9%) of anesthesiologists in training who died from substance abuse relapses (p. 1460). By contrast, longitudinal studies report far better outcomes. California's PHP (California Diversion Program) reported a 10-year follow-up involving all 255 physician participants that showed no difference in relapse rates for anesthesiologists (Pelton &

Ikeda, 1991, p. 429). Paris and Canavan (1999) compared 32 addicted anesthesiologists with 36 addicted non-anesthesiologist controls for an average of 7.5 years and showed no difference in relapse rates (p. 6). Domino and colleagues (2005) found no statistical difference in outcomes for the anesthesiologists and, strikingly, not a single episode of patient harm or anesthesiologist overdose death (pp. 1457–1458). Long-term follow-up studies of groups of physicians have shown no difference in outcome between anesthesiologists and other physicians. It appears the pessimism regarding anesthesiologists returning to work may not be warranted, although careful monitoring for early detection and deterrence of relapse is required.

DRUGS ABUSED

Alcohol is the most common substance of abuse by physicians, followed closely by opioids (Domino et al., 2005; Hughes et al., 1992b, 1999; Lutsky et al., 1993; McAuliffe et al., 1986, 1991; Talbott, 1981). Interestingly, family practice and OBGYN specialists have a

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higher probability of abusing less potent opioids (i.e., hydrocodone, oxycodone, codeine, and other oral opioids) (Hughes et al., 1992a).

Exposure to, and availability of, drugs in the workplace predisposes to abuse of that drug (Hughes et al., 1999). For example, cocaine-using professions (ophthalmology, head and neck surgery, plastic surgery, and otolaryngology) have higher rates of cocaine abuse (Hughes et al., 1999). To underline this point, when surgery residents abuse cocaine, it often comes from hospital sources. Similarly, psychiatrists have higher rates of benzodiazepine abuse, 26.3 percent using benzodiazepines in the past year compared with 11.4 percent by other physicians (Hyde et al., 1995, p. 30). Nonprescription drugs, such as heroin and marijuana, contribute minimally to use pattern among physicians (Hughes et al., 1992b).

Skipper and colleagues (2004), writing about emerging abuse of tramadol among HPs, hypothesized that physicians may be the “point men” (i.e., the first) to abuse newly introduced pharmaceutical drugs. This has certainly been the case historically for opioids such as morphine, meperidine, pentazocine, butorphanol, and others. Physicians also have earlier access to unusual addictive drugs, such as propofol (Wischmeyer et al., 2007) or ketamine (Moore & Bostwick, 1999).

ETIOLOGY

Drug Access. Availability is a key factor preceding drug use in any population, including physicians. Despite ethical codes and state laws prohibiting self-prescribing, it is a common practice (Valliant et al., 1972). The particular drugs abused change over time due largely to changing patterns of availability. Hughes et al. (1992b) noted that many physicians began abusing benzodiazepines and opioids immediately after receiving their own prescribing privileges. Demerol, once the most commonly abused opioid (Talbot, 1987), dropped to 10 percent by 2004 as hydrocodone became the most frequent (40%) (Skipper et al., 2004, p. 1818).

Personality. Personality and character disorders are often consequences of drug use rather than causes of addiction. Nevertheless, certain personality factors may place physicians at risk for addictive diseases. “Sensation seeking” (McAulliffe, 1986), novelty seeking,

intense experience seeking (Hughes et al., 1999), perfectionism, and high class rank (Bissell & Jones, 1976), “emotionally barren childhood” (Vaillant et al., 1972), childhood parental deprivation (Johnson & Connolly, 1981), sense of omnipotence or invulnerability regarding drug use, and knowledge of pharmacology may all be important risk factors for substance abuse among physicians.

Stress and Emotional Issues. Physicians in treatment for SUDs report that the stress of medical school, combined with social isolation and a lack of support, provided the backdrop for the development of addiction. They are taught in medical school and residency (and often in their childhoods) at all costs to appear in control and competent. The addiction undermines the physician’s external appearance of competence. A physician falling deeper into addiction becomes more secretive and dishonest. Emotional regression and dysregulation are intensified by the secrecy and escalating stress.

CO-OCCURRING DISORDERS

Psychiatric. As in the general population, emotional and psychiatric problems appear with higher frequency in relation to substance abuse disorders, both as cause and result of substance abuse. Psychiatric problems, including depression, anxiety (including obsessive-compulsive disorder), and bipolar disorders are seen as frequently in addicted physicians as in other addicted groups. In recent years identified psychiatric comorbidity has increased, likely due to more careful evaluation rather than increased prevalence (Angres et al., 2003).

Chronic Pain. PHPs report working with an increasing number of physicians suffering from chronic pain. These cases pose diagnostic, treatment, and management difficulties. Regulatory enigmas further cloud the pain treatment of addicted physicians. Should a formerly addicted physician on opioids for pain be allowed to practice? If not, should any physician on opioids be allowed to practice? These can be perplexing questions.

IDENTIFICATION AND MANAGEMENT

Identification. Substance abuse is detected over a broad spectrum of symptom severity, from a self-report of alcoholism while in couple’s therapy to

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finding a physician unconscious or dead on the operating room floor. Physicians with SUDs have often had years of familial and social discord while struggling to maintain acceptable work performance. In addition, families (and medical partners) often codependently protect the addicted income earner. As soon as symptoms of substance abuse appear at work, the addiction is usually advanced. Denial, shame, and fear of reprisal often keep the HP from seeking needed care until significant external consequences occur (Centrella, 1994).

A confidential and effective PHP promotes early reporting and protects public health by offering physicians a safe haven for confronting substance abuse problems. By contrast, some patient advocacy groups claim that all HPs with a history of SUDs should be publicly identified. Most experts in physicians' health, however, believe that confidential PHPs promote early identification as opposed to the alternative, in which public stigma causes substance abusing physicians to hide their problems until disasters occur.

Other factors that work in concert with PHPs to encourage early reporting include the establishment in 2001 of new standards for physician health awareness by hospital accrediting agencies. Additionally, many states have *snitch laws* that require peers to report substance-abusing colleagues. PHPs collaborate with hospitals and rely on these laws, combined with their rehabilitative non-punitive approaches, to motivate early reporting that ultimately protects both patients and physicians alike.

Intervention. PHPs have become skilled at conducting professional interventions, often by telephone. Using the telephone for interventions may be actually less threatening and more practical. The immediate goal of the intervention is to get the HP to stop working and into an evaluation program. An HP who resists is informed that failure to comply will very likely result in a report to the regulatory board. PHP staff, often recovering HPs themselves, become skilled at gently coercing their troubled colleagues into needed evaluations.

Evaluation. Most PHPs utilize independent expert evaluation teams, selected for their credibility with the HP and with the regulatory board, which may later become involved. Most PHPs have established criteria and maintain an authorized list

of evaluators (see Table 2). The opportunity for a thorough evaluation is uniquely valuable and, if mismanaged, can result in failure of the entire process.

Ideally, at the conclusion of evaluation, recommendations are presented to the HP patient in a formal meeting. Family members, particularly spouses, are commonly involved, as are PHP personnel. Such secondary interventions decrease confusion and "splitting" regarding the final recommendations. PHP personnel can answer questions about alternatives or consequences of noncompliance with evaluation recommendations. Finally, the evaluation team sends a written, comprehensive, integrated report to the PHP and other relevant parties, such as the referring hospital, if necessary.

Physicians as Patients. Treatment of physicians can be difficult, so good boundaries and experience are critical (Graham, 1980; Howard, 1983; Nace, 1995). Typically, physicians resist becoming patients, seek general medical check-ups and consultation visits less often than controls, and wait longer before seeking consultation for serious symptoms (Edelstein, 1984). They tend to diagnose and treat themselves, request "hallway" medical consultations regarding symptoms, get treatment from professional friends, and receive less than objective medical treatment. All of these factors inhibit an ill or impaired physician from seeking timely and effective treatment (Stoude-mire & Rhoads, 1983).

Treatment. Approximately a dozen addiction treatment programs in the U.S. have extensive experience and recognized expertise in treating addicted physicians. These programs usually have a full-time medical director, a highly sophisticated capability for evaluation, expertise and familiarity with PHPs and Licensing Boards, and specialized treatment components for HPs, such as groups where return-to-work issues are discussed (Skipper, 1997). In many ways these are model programs for what substance abuse treatment should be for everyone.

Because the initial treatment is typically long-term (6–12 weeks), and requires the physician to be off work, some think of treatment as limited to acute episodes. When physicians leave the treatment setting, whether outpatient or residential, three weeks or six months later and return to work, the PHP vernacular is that they have completed treatment. For the next five

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Component	Component type	Purpose of component*
Addiction Medicine Evaluation	Critical	Determine existence and extent of any type of addictive disorder
Addiction Psychiatry Evaluation	Critical	Determine comorbid Axis I and II disorders that interact with the addictive disease and impede treatment
History and Physical and Review of Medical Records	Critical	Determine existence and extent of medical consequences of substance use. Evaluate comorbid medical conditions (chronic pain, etc)
Psychological testing	Critical	Correlate with psychiatric evaluation, determine interaction of personality and treatment
Neuropsychological testing	Critical	Determine if cognitive deficits exist and ultimately, the physician's ability to practice
Family assessment	Critical	Determine how the evaluatee's family of origin and current nuclear family contributes to psychological, psychiatric, and addiction problems
Collection of collateral information	Critical	Evaluate effects of addiction on the workplace, family and social life. Behavioral observations that correlate with personality problems.
Hair and Body Fluid drug testing	Critical	Correlate with addiction history from multiple sources. Determine honesty of self disclosures.
Spiritual History	Critical	Assess past involvement with spiritual and religious pursuits. Determine potential pitfalls with twelve step programs.
Forensic Interview	Suggested	Determine level of honesty on a broad base of issues
Polygraph testing	Suggested	Address honesty on key issues of the evaluatee's history (Must have a list of specific questions prepared for polygrapher)
Pain evaluation	Suggested	Determine the interaction between an acute or chronic pain disorder and the addictive process. Distinguish between pseudo-addiction and addiction
Milieu interaction	Suggested	Evaluate physician for social abilities, personality issues. Help physician enter the patient role.
Sexual issues evaluation	Suggested	Evaluate need for sexual compulsivity treatment, predator treatment, or special sexual issues therapy.

*All components of the evaluation contribute to determining if an addictive disease exists, the level of care needed, and treatment planning for eventual care.

Table 2. Suggested components of a comprehensive physician addiction assessment.
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years, however, they receive far more intense treatment than members of the general public usually receive during their primary treatment. This typically includes weekly group therapy sessions, peer support groups, aftercare groups, individual counseling or psychotherapy, self-help group attendance, drug testing, worksite monitoring reports, and more. In essence, PHP-managed treatment for health professionals actually lasts more than five years because the distinction between treatment and monitoring is blurred.

Ultimately, HPs need to receive the best possible treatment because hospitals, malpractice carriers, regulatory boards, health insurance companies, family, and friends all have high expectations for continual abstinence. Relapse for an HP can and does carry harsh consequences professionally and often within the family.

The following are important components of treatment for HPs:

1. Intensive day or residential treatment
2. Personnel experienced in setting firm limits and boundaries with physician-patients
3. Regular contact with a peer (HP) support group facilitated by a physician during assessment and/or treatment
4. Opportunity for extended treatment for patients who need additional time before returning to work (2–6 month program)
5. Comprehensive family program for family and associates
6. Availability of neuropsychiatric assessment to substantiate ability to return to work

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7. Availability of staff to conduct assessments, handle treatment, and advocate for the HP to return to work
8. Personnel capable of addressing needs post-discharge (Skipper, 1997).

Most HPs have work-related triggers (e.g., drug access at work, prescription pads, or locations in the office or hospital where use occurred); therefore trigger management skills and relapse prevention plans are developed prior to discharge. HPs receive minimal pharmacological treatment for addiction. About one-third of physicians in treatment receive antidepressants. Naltrexone, an opioid-blocking drug, is occasionally used in opioid-addicted physicians.

PHYSICIAN HEALTH PROGRAMS (PHPS)

History. The physician's health movement can be traced to the founding of International Doctors in Alcoholics Anonymous (IDAA) by Clarence Pearson, MD, in 1949. IDAA grew from 24 physicians, meeting in Dr. Pearson's garage in Cape Vincent, New York, to an international organization attracting thousands of physicians. On the regulatory side, the Federation of State Medical Boards called for a model probation and rehabilitation process for addicted physicians in 1958; however, no meaningful change occurred until 1973 with the publication of the watershed article from the *Journal of the American Medicine Association* titled "The Sick Physician. Impairment by Psychiatric Disorders, including Alcoholism and Drug Dependence" (Council on Mental Health, 1973). The AMA held its first conference on physician impairment in 1975. State medical societies organized committees on physician impairment, resulting in the state-by-state emergence of PHPs. Currently, all but two states in the U.S. have a formal PHP, ranging in size from one employee and a \$20,000 budget to a \$1.5 million budget and 19 full-time employees. Over 9,000 physicians are now in monitoring in the United States. (Skipper et al., 2004, p. 1818). Although most PHPs (85%) address other psychiatric disorders and disruptive behavior, SUDs remain the most common problems.

Education and Referral. PHPs strongly emphasize education aimed at early detection of all impairments, not just SUDs. Educational programs afford PHP staff the opportunity to network with medical leadership throughout their state. Public relations/

training efforts help individuals and institutions understand and trust PHPs, which in turn promotes early referral of potentially impaired HPs.

Abstinence Monitoring. Monitoring has become more sophisticated in recent years and includes hair testing, flexible variations in drug testing panels, new markers for alcohol, medical devices to detect alcohol exposure, and software to track results more efficiently. All PHPs use random drug testing (most frequently, urine testing, but at times hair, saliva, sweat, or blood analysis). Screens commonly taper in frequency over the course of monitoring, for a period of five or more years.

Drug testing in physician populations requires considerable expertise, resourcefulness, and accuracy. Addicted physicians can use their knowledge to evade detection. Most drug panels test for 20 to 25 drugs, including a wide variety of opioids and other prescribed controlled substances (Skipper et al., 2004). Observed collection at the lab is often required to reduce the risk of cheating. Some PHPs perform periodic hair or saliva tests because these tests are less vulnerable to deception. Special screenings for fentanyl are necessary for some recovering physicians. Hair testing for fentanyl is best as these anesthesia drugs have very brief half-lives, but are readily detected in hair. Because physicians occasionally abuse more unusual drugs (e.g., ketamine, propofol, or dextromethorphan) personalized drug test panels are sometimes necessary.

In 2002 PHPs began using ethylglucuronide (EtG), a metabolite of alcohol that persists for several days or more after drinking, for early detection and deterrence of alcohol relapse (Skipper et al., 2004). Previous tests for alcohol use were inadequate due to the short half-life of alcohol in the body. Negative EtG tests, often better proof of abstinence, are needed before HPs return to work. One problem with EtG testing, however, is false-positives. The test cannot differentiate drinking from incidental alcohol exposure to various foods, hygiene products, over-the-counter medications, or topical products containing alcohol (especially if excessive alcohol vapors are inadvertently inhaled). Thus, HPs under EtG monitoring must avoid exposure to products containing alcohol, and PHPs must use care in interpreting low positive EtG results.

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Recovery Support. In addition to drug testing, PHPs utilize group-facilitated psychotherapy (Caduceus groups, similar to twelve-step meetings). Unlike Alcoholics Anonymous meetings, direct feedback (*cross-talk*) is encouraged. Newcomers often obtain sponsors or guidance from Caduceus members. In one survey, "A.A. was perceived by respondents as the most potent element of their recovery" (Galanter et al., 1990, p. 63). Most PHP treatment programs strongly encourage or require Alcoholics Anonymous or Narcotics Anonymous attendance.

Relapse Management. Some PHPs have formalized models of assessing relapse with categories based upon severity:

- Level I relapse consists of missing therapy meetings, support groups, or engaging in dishonesty or other behavioral infractions (without relapse to substance use).
- Level II relapse involves use of unauthorized drugs or alcohol, but outside the context of medical practice.
- Level III relapse involves drug or alcohol use within the context of medical practice with potential risk to patients.

If managed properly, singular episodes of relapse, detected early, are not necessarily indicators of failed treatment. Unfortunately, consequences of relapse can be severe for physicians, including loss of license, arrest, and damage to professional reputation. Once a physician is in monitoring, patients run little risk even if relapse occurs, because under the careful scrutiny of PHPs, relapse is rapidly detected. Ultimately, even relapsing PHP participants have excellent long-term prognoses.

Typical responses to a relapse include:

- Reevaluation by an addiction specialist to identify the cause and suggest remedial actions to prevent future relapses
- Reexamination of the HP'S psychiatric status for psychiatric disorder, character disorder, or past unresolved trauma
- Reassessment of HP'S family dynamics and physician's support system
- Evaluation of the physician's ability to practice
- Determination of the need to repeat primary residential treatment (or to treat other elements of the addiction).

HPs who have difficulty maintaining abstinence are often removed from the workforce for extended periods until treatment providers are confident that they can safely practice. The physician's treatment provider and the monitoring PHP decide when a physician can return to work. The medical board and the public at large place pressure on all parties, so great care must be exercised in returning substance abusing HPs to work.

Outcomes. Physicians have been the subject of multiple outcome studies. Success rates have been remarkably high (Gallegos et al., 1992), with good outcomes for 91 percent over five years (Ganley et al., 2005, pp. 10–11), and low relapse rates of 25 percent (Domino et al., 2005, p. 1458) and 21 percent defined as *any* unauthorized substance use. Long-term monitoring with random drug testing under a signed PHP contingency contract may be the most important procedure accounting for their high success rates. Satisfaction surveys of PHPs by participants have generally been favorable (Fletcher & Ronis, 2005).

CONCLUSION

By utilizing the highest level of evaluation and treatment and by careful long-term monitoring with meaningful consequences for noncompliance or relapse, the nation's PHPs have achieved excellent outcomes with reduced risk to patients. PHPs are distinctive programs of care management that actively pursue early detection of SUDs prior to overt impairment at work and have high success rates with very low risk to patients, and thus should be supported.

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