

The UK Practitioner Health Programme: 8-year outcomes in Doctors with addiction disorders

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Abstract

Introduction: Doctors are vulnerable to addiction disorders and are at risk of poor outcomes due to delayed presentation and lack of appropriate services. The UK NHS Practitioner Health Programme (PHP) was commissioned in 2008 to address barriers facing addicted doctors. We analysed the substance misuse characteristics and outcomes of doctors under the care of PHP.

Methods: A longitudinal analysis of Doctors with addiction disorders under PHP over an 8-year period (November 2008 to November 2016) was completed.

Results: Of 255 eligible participants, most were male (72.9%) and had primarily alcohol dependence (71.8%). The mean age at presentation was 42.31±10.00 years and mean duration of treatment was 2.66±2.15 years. General practitioners (28.2%), Doctors in emergency specialities (24.7%), and psychiatrists (14.9%) made up the majority of the cohort. A total of 77.6% of Doctors were abstinent at the end of treatment (or time of data collection), and over two-thirds (68.2%) of the cohort had completed treatment and were discharged. Comparing work-related vari-

ables at presentation versus the end of treatment (or time of data collection), Doctors were more likely to be in active employment (43.0 vs 85.3%, $p=0.0002$, $N=251$), less likely to be unemployed (13.6 vs 4.8%, $p<0.0001$, $N=251$), on sick leave (25.9 vs 2.4%, $p<0.0001$) or suspended by their regulator (11.6 vs 3.6%, $p<0.0001$) at the end of treatment.

Conclusions: Over an 8-year period, The UK NHS PHP has demonstrated successful treatment of Doctors affected by addiction, with a high proportion of abstinence (77.6%) and nearly 2-fold increase in the proportion in active employment.

KEY WORDS: Practitioner health service, addictions, doctors, alcohol, substance misuse.

Introduction

Historically, no differences were reported between rates of substance abuse or addiction in Doctors or the general population (1-6). This maybe in part due to inherent underreporting by doctors in self-report surveys and a reliance on data from licencing boards, mortality studies, and surveys, rather than well designed studies (3, 5, 7). More recently, there has been an increasing awareness of the elevated risk of substance misuse and addiction disorders amongst Doctors, which can be up to 10-20% higher than the general population (7). High profile cases of Doctors who have died by drug overdose or suicide related to substance misuse have led to the urgent need to prevent premature death and morbidity in this vulnerable group (8).

Current knowledge in the area of addicted Doctors stems from from North America, Canada and Australia, with only a few prevalence studies in the UK. Addicted Doctors appear to show a pattern of predominantly alcohol misuse, followed by opiates and stimulants (4, 7, 9). Certain specialities have consistently been found to be more vulnerable to addiction than others. High risk groups include surgeons, physicians, anaesthetists (3, 10-14) and emergency Doctors (4,7). The aetiology of addiction in Doctors is multi-factorial, with contributory factors including genetic predisposition, personality factors, work-related stress, co-morbid mental illness, family stress, bereavement and/or an injury or accident at work (15). Although these are similar to risk factors found in the general population, Doctors are unique in the ease of access to prescribed and non-prescribed medication

(7), and their work environment which attracts high stress, low tolerance for failure and a culture of blame (13, 14). With respect to treatment, Doctors are often reluctant to admit illness to themselves or others and even more unwilling to seek help for mental health and addiction problems (16). Barriers include issues around fear of stigmatisation, perceived effect on career progression, sense of self-worth, and the possibility of being referred to their regulator (17). In the past, when Doctors have sought care there has been little help available. A survey of occupational health Doctors in the UK showed that despite coming into frequent contact with healthcare workers with drug and alcohol misuse problems, the majority felt ill equipped to support this group (18). When specialist treatment is available, there is evidence that Doctors respond well overall (19-21) and in comparison to matched cohorts in the general population (22). The earliest specialist treatment services for Doctors with addiction disorders began in North America in the 1970s (23). These initially operated on a volunteer basis, many of whom were recovered patients themselves. Since then, physician health programmes have shown good outcomes for recovery and assisting Doctors back to work, while minimising risk (7, 24). There are now physician health programmes in Australia, Switzerland, Norway, Spain, and the UK (25).

The UK NHS Practitioner Health Programme (PHP) was commissioned by the UK Department of Health in 2008 (26). This was triggered by a government inquiry into the suicide of a psychiatrist and child homicide of her 3-month old baby in the context of post-partum psychosis (27). The aim of PHP is to provide multidisciplinary services to manage, treat and support Doctors with mental health problems, substance misuse and addiction disorders, whilst maintaining a memorandum of understanding with the General Medical Council (GMC, UK). The present study is the first in the UK to analyse outcomes of the PHP specialist treatment service for Doctors with addiction over 8-years of clinic experience. We aimed to establish the demographic and substance misuse characteristics of addicted doctors treated in the NHS PHP. We also aimed to analyse the success rate of the NHS PHP over 8-years, as measured by outcome indicators including abstinence rates and employment status at the start and end of treatment.

Methods

A retrospective, longitudinal, notes-based cohort study of addicted Doctors treated in the Practitioner Health Programme (PHP) was completed. Data were completed over 8 years of clinic follow-up (November 2008 to November 2016).

Setting and participants

The PHP service is free at the point of delivery, as provided under the auspices of the National Health Service (NHS, UK). The service is based in London

and comprises a multi-disciplinary team of GPs (with special interest in mental health and addiction) and psychiatrists, experienced mental health nurses, psychologists and psychotherapists (26). Whilst other services, such as employers or the patient's GP may contact PHP about a Doctor requiring treatment, Doctors must self-refer in order to access the service. At the time of the study, only Doctors within the commissioned geographical area could attend the service (London and parts of South East England). Out of areas referrals are funded by local commissioning groups. Subsequent to referral, Doctors self-present to the service with no coercion to attend appointments. Confidentiality is maintained unless there are serious concerns about other patients' welfare or where the practitioner-patient continues to transgress the General Medical Council (GMC) core ethical guidance known as 'Good Medical Practice' (28). PHP offers a range of treatments which include: community treatment (e.g. case management and psychiatric assessment), psychology input (e.g. Cognitive Behavioural Therapy (CBT), and brief psychotherapy), medical community detoxification and substitution treatment (e.g. buprenorphine, acamprosate, naltrexone, alcohol detoxification) and other medication depending on clinical need (e.g. antidepressant and mood stabiliser therapy). There is also provision for Doctors to be admitted for residential detoxification and rehabilitation in a private facility funded by the commissioners. Uniquely, unlike American Physician Health Programmes, PHP not only provides treatment, but also monitoring, regulation, support groups and, where needed, is able to direct the practitioner-patient to management elsewhere. A number of Doctors attending PHP are under regulatory or disciplinary body processes either at the time of referral, or are referred whilst under treatment. PHP provides support and advocacy for Doctors, including attending hearings. Confidentiality is a key aspect of the service. A memorandum of understanding is in place with the GMC so that the service can put forward a case to negotiate disciplinary hearings and action if the Doctor is positively engaging in treatment and it is deemed safe to do so by the multi-disciplinary team. All cases meeting the following inclusion criteria were included in the study. If a Doctor was lost to follow up, data were inputted only until their last contact with the service.

Inclusion criteria

- (1) Started treatment in the designated time frame (November 2008 - November 2016)
- (2) At least 12 months of follow up (i.e. the last cohort registered 12 months prior to date of review)
- (3) Coded as a Doctor
- (4) Coded to have a primary addiction problem (defined clinically as having problematic drug or alcohol use or behavioural addictions (e.g. sex addiction) according to ICD 10 criteria of dependence syndrome or harmful of substances F10-19 or habit and impulse disorder F63)

- (5) Coded to have secondary worrying problematic drug / alcohol use.

Exclusion criteria

- (1) Did not undergo assessment
- (2) Not a Doctor e.g. allied health professionals (dentists, pharmacists)
- (3) No primary addiction problem (e.g. primary depressive episode with high alcohol intake).

Procedures

At NHS PHP, all patient records are electronically stored. Patients are coded as Doctor, Dentist or Allied Health Professional. The present analysis focuses on Doctors. After a detailed assessment and discussion at a weekly multidisciplinary team meeting, all Doctors were coded into one of the following categories for their primary presenting problem: 1. Common mental health disorders (classified as meeting ICD 10 criteria for mild-moderate depression, phobic anxiety disorders, acute stress reaction and adjustment disorder); 2. Complex mental health disorders (classified as meeting ICD 10 criteria for severe depression, post-traumatic stress disorder, schizophrenia, schizotypal disorder, acute and transient psychotic disorders, bipolar affective disorders); 3. Addiction, or 4. Complex (including multiple comorbidities and physical health problems).

Addiction was clinically diagnosed by the assessing clinician according to ICD 10 criteria for addiction disorders or habit and impulse disorder F63 This is therefore a broad clinical definition encompassing financial, social and other problems deriving from addictive use of substances or behaviours, as well as physical dependence. At the start and end of treatment, as well as at 6 monthly intervals during the treatment episode, each Doctor was coded on each of the following variables:

1. Work status:
 - I. Working
 - II. Short term sick leave
 - III. Long term sick leave
 - IV. Maternity/Paternity leave
 - V. Suspended from work
 - VI. Unemployed
 - VII. Retired
2. Abstinence status:
 - I. Currently abstinent
 - II. Currently using
 - III. On drug maintenance therapy
3. Regulator involvement status:
 - I. No regulator involved
 - II. Regulator involved
 - III. GMC suspension
 - IV. GMC undertakings
 - V. GMC-erased

Abstinence rates were used as a primary outcome measure for recovery. Abstinence was defined as being completely free from all substances or harmful addictive behaviours. Abstinence was determined through a mixture of clinical examination, self-report,

urine drug screens, collateral history and in some cases as part of external regulatory processes (hair strand testing, blood or urine samples). Some patients in the study were classified as having 'non-problematic use' at the end of treatment; this only applied to alcohol use (i.e. non-dependent social drinking). Use of any other substances was always deemed 'problematic' (this included, for example, addiction to over the counter drugs, self-prescribed antidepressants, or intermittent cocaine use). A secondary outcome measure was employment status. UK doctors are often simultaneously involved in multiple regulatory processes at any one time, and these were coded accordingly.

To protect the confidentiality of the Doctors, data were collected by a member of the clinical team at the PHP rather than an external data collector. The electronic records of eligible Doctors were analysed to extract the following data: age, sex, speciality, substance used, work status at start of treatment, work status at end of treatment, disciplinary actions, admission to inpatient detoxification and rehabilitation and death. In-patient detoxification and rehabilitation was at a commissioned private sector residential facility used by PHP and comprised 6 weeks with out-patient follow up and continued follow up and support from PHP. Once Doctors completed treatment and were discharged from PHP, it was not possible to obtain further follow-up data.

Ethics and funding

The Health Research Authority (HRA) was consulted and advised that formal ethical approval was not necessary for this service evaluation study. The study was discussed locally with the Caldicott Guardian who approved measures taken to ensure patient confidentiality. The funding source for the NHS PHP (Local London CCGs, NHS England) had no involvement with this study or paper.

Data analysis

Data were anonymised and analysed firstly using descriptive statistics. Continuously distributed data were expressed as mean±SD. We used McNemar's test for paired proportions to compare work-related variables at the start of treatment, and at the end of treatment / time of data collection. We set a significance level for all analyses at $p=0.05$ (two-tailed). Data were analysed using STATA (version 15.1).

Results

Demographics and patient characteristics (n=255)

A total of 255 patients met the inclusion criteria (Figure 1). Of these, 27.1% (n=69) were female and 72.9% (n=186) were male. Mean age at presentation to the service was 42.31 ± 10.00 years. General practitioners (GPs or family doctors) (28.2%, n=72), the emergency specialities (anaesthetics, emergency medicine & acute medicine) (24.7%, n=63) and psy-

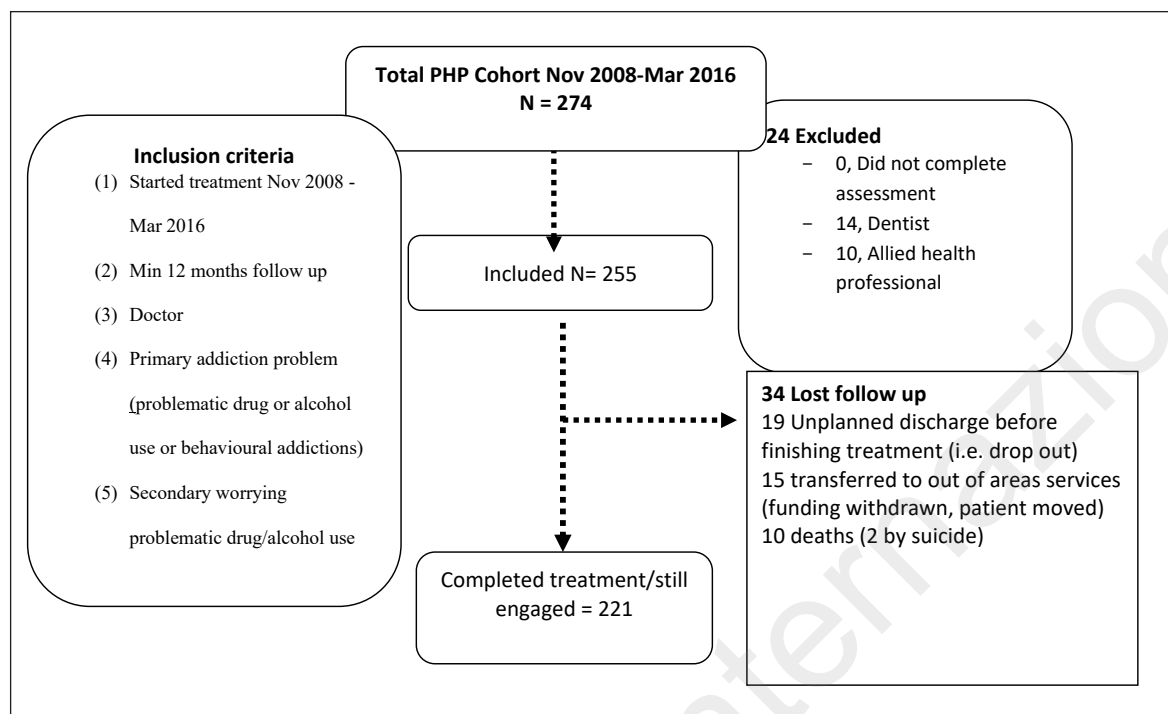


Figure 1. Consort diagram to demonstrate derivation of sample and gross outcomes.

chiatrists (14.9%, n=38) were the most common specialities presenting to PHP. Together these three groups made up 67.8% of the cohort. The remainder comprised medical specialities (e.g. respiratory medicine, cardiovascular medicine, haematology) (14.5%, n=37), surgeons (6.3%, n=16) and other medical fields or specialities (paediatrics, public health, occupational medicine, sports medicine) (11.4%, n=29).

Half of Doctors (51.4%, n=131) attending the service were involved in regulator or disciplinary body processes at the time of starting treatment. This was with either the GMC and/or NHS Foundation Trusts and/or local disciplinary processes (such as NHS England or the employing agency). Of the remaining 48.6% (n=124), 4.7% (n=12) were recommended by PHP to self-refer to the GMC or to disclose their substance use to their workplace at some point in their treatment. Whilst these Doctors did not meet the formal criteria for referral to a regulatory body by NHS PHP, the recommendation was based on a concern for the safety of their own patients. This may include, for example, Doctors who had frequent relapses, or it was felt that extra support and monitoring by a regulatory body would be necessary if continuing to practice medicine.

Substance misuse characteristics (n=255)

Nearly three quarters of the cohort had alcohol dependence (71.8%, n=183). The remainder (28.2%, n=73) misused opiates (10.2%, n=26), stimulants (4.3%, n=11), club drugs and Novel Psychoactive

Substances (NPS) (5.9% n=15) (including synthetic stimulants and hallucinogens), non-opiate prescribed medication (3.5% n=9), and behaviour addiction (3.1%, n=8), for example, sex addiction. Of all Doctors, 34.1% (n=87) were admitted for residential detoxification and rehabilitation whilst the remaining 65.9% (n=168) were treated in the community.

Substance misuse outcomes (n=255)

At the time of data collection, of the 255 Doctors identified, 68.2% (n=174) had completed treatment and had been discharged by PHP and 18.4% (n=47) were still open to the service. Mean duration of follow up was 2.66±2.15 years. Approximately 13.3% (n=34) Doctors were lost to follow up. Of these, half (n=19) had unplanned discharges and 5.9% (n=15) were transferred to local services, either because funding from their local CCG was withdrawn or for personal preference (e.g. their own ease of travel). Of those with unplanned discharges, 6/19 were actively using substances at the time of loss to follow up. A further 6/19 were abstinent from all substances prior to loss to follow up. The remaining 7/19 had non-dependent/non-problematic social alcohol use at the time of dropping out.

Over three-quarters (77.6%, n=198) of the cohort were abstinent at the end of treatment / time of data collection. Of the 7.8% (n=20) still using substances problematically, half (3.9%, n=10) were still engaging in active treatment with PHP. Of the 3.9% who were not engaged in active treatment, half (2%, n=5) were transferred to local alcohol and drug services to con-

tinued their treatment. Of the 5.5% coded with a co-morbid behavioural addiction, there was a 100% recovery rate achieved.

Comparison of work related outcome variables (n=251)

Table 1 compares various work-related variables at the start and end of treatment (or time of data collection). Data on work status at the end of treatment was unknown in four Doctors at the end of treatment, thus this analysis was restricted to n=251 Doctors in whom work related outcome was known at both the start and end of treatment. As shown, Doctors were more likely to be in active employment at the end of treatment / time of data collection (43.0 vs 85.3%, $P=0.0002$), and were less likely to be specifically unemployed (13.6 vs 4.8%, $P<0.0001$), on sick leave (25.9 vs 2.4%, $p<0.0001$) or suspended by their regulator (11.6 vs 3.6%, $P<0.0001$), compared to at enrolment.

There were ten deaths (3.9%) amongst Doctors analysed. Of these, two had died by suicide (causes of death: 1) hanging using ligature, and 2) deliberate self-harm by cutting and overdose of psychotropic medication). Both of these individuals had co-morbid mental health disorders and neither were known to be actively using substances at the time of death. Other causes of death included myocardial infarction, hepatitis, and alcohol-related liver disease. Of the eight non-suicide related deaths, four were abstinent from substances at the time of their death and the remaining four were actively using substances.

Discussion:

The NHS Practitioner Health Programme (PHP) is a confidential multi-disciplinary support and specialist

treatment service for Doctors with mental health problems including substance misuse and/or addiction. This study shows that the NHS PHP is a successful intervention for Doctors with addiction disorders. Whilst only 42.4% of addicted Doctors were working at entry to treatment, double (85.3%) were actively employed at the end of treatment (or time of data analysis) over 8 years of study ($P=0.0002$). Doctors were also significantly less likely to be on sick leave ($P<0.0001$) or suspended by their regulator ($P<0.0001$), at the end of treatment. Complete abstinence from all substances or behaviours was achieved by 77.6% of Doctors and a further 14.6% had 'unproblematic,' i.e. controlled, alcohol use. This degree of success is similar to a retrospective 5-year analysis of US state physician health programmes which found 78.7% of physicians were licenced without restriction and either practicing or working in a non-clinical capacity after 5 years (23).

The vast majority of Doctors treated in PHP were General Practitioners (GPs), the emergency specialities (anaesthetists, emergency medicine and acute care common stem doctors) and psychiatrists. This trend follows most studies in the literature (7,22,29-32) and highlights the importance of supporting these consistently high-risk sub-specialities. Some studies suggest that anaesthetists tend to present with opiate and alcohol issues predominantly (22,29,30), often using medication sourced in hospital such as Fentanyl and Sufentanil, suggesting access is an important risk factor (30-32), and in particular, the intravenous route (7,32). The understanding that alcohol is the most frequently abused substance by Doctors was confirmed by the present study, as was the finding that pharmaceutical substances (opiates, benzodiazepines) are more frequently abused than illicit substances (5,9). The majority of Doctors were effec-

Table 1. Comparison of various work related outcomes at the start versus end of treatment (or time of data collection) (n=251). P value calculated using McNemar (exact) test.

	Status at start of treatment (n=251)	Status at end of treatment/time of data collection (n=251)	P value (McNemar's test)
In active employment	43.0% (n=108)	85.3% (n=214)	P=0.0002
Unemployed	13.6% (n=34)	4.8% (n=12)	P<0.0001
Sick leave	25.9% (n=65)	2.4% (n=6)	P<0.0001
Advised to go off sick by PHP	5.6% (n=14)	0.0% (n=0)	P<0.0001
Suspended	11.6% (n=29)	3.6% (n=9)	P<0.0001
Actively seeking work & eligible to work	0.0% (n=0)	2.0% (n=5)	P<0.0001
Retired	0.4% (n=1)	2.0% (n=5)	P<0.0001

tively managed in the community (65.9%), in comparison to a study of US physician health programmes where 78% entered residential treatment (23). This finding may be explained by the fact that in the US, physician health programmes rely on external referrals without the capacity to self-refer, resulting in a delayed presentation to services at a stage where Doctors may require inpatient treatment.

Limitations

Our study has several limitations. Firstly, the sample is representative of Doctors based in London who are able to access services under PHP. A higher burden of Mental Health diagnoses, social adversity, burnout in urbanised environments limits the generalisability of the data UK-wide (33). From January 2017 the NHS PHP has expanded, allowing general practitioners across England to access the service. Our cohort had a mean age of 42 years, and may not be generalisable to trends of substance misuse in newly qualified Doctors, for example. We did not analyse objective laboratory data such as blood samples, but rather used clinical abstinence as a primary outcome measure for recovery. Laboratory analyses would have added more certainty to our primary end point in Doctors. Novel Psychoactive Substances (NPS) including synthetic cannabinoids and hallucinogens are known to evade traditional urinary drug screen techniques which may have affected reporting of abstinence. There are currently no studies on NPS misuse in Doctors. A majority of Doctors included in the analysis were involved in disciplinary or regulatory body processes at the start of treatment. The effect of concurrent disciplinary action on outcome was not directly assessed by the current study, but would be valuable to investigate in further analysis. Finally, we were unable to follow up outcome data for Doctors who left the programme over the course of the 8-years of analysis. However, we note that two-thirds of those who were lost-to-follow-up were either abstinent or had non-problematic alcohol use at the time of dropping out, which is promising.

Conclusions

To conclude, the UK NHS Practitioner Health Programme (PHP) is a holistic and multidisciplinary service comprising GPs, psychiatrists, psychologists, therapists and others, designed for the anonymous treatment and support of doctors with mental health problems including substance misuse / dependence issues and addiction. Overall, the outcomes of this evaluation suggest that the NHS PHP is effective and that the majority of Doctors can be safely treated and returned to the workforce. Doctors with substance misuse and addiction issues are vulnerable and reluctant to seek help, and by offering a service which is except from distinct from regulators, employing NHS trusts or disciplinary bodies, favourable outcomes are achieved over 8-years of analysis.

Acknowledgements

We would like to thank the staff and patients at the Practitioner Health Programme (PHP).

Declaration of competing interest

Authors SS, JK and CG are employed by the NHS Practitioner Health Programme (PHP). Authors EA and GA declare that they have no conflicts of interest.

References

1. Brewster J. Prevalence of alcohol and other drug problems among physicians'. *J. Am. Med. Assoc.* 1986;255:1913-20.
2. Hughes P, Brandenburgh N, Baldwin DJ, Storr C, Williams K, Anthony J, et al. Prevalence of substances use among US physicians'. *J. Am. Med. Assoc.* 1992;267:2333-9.
3. McAuliffe W, Rohman M, Breer P, Wyshak G, Santangelo S, Magnuson E. Alcohol use and abuse in random samples of physicians and medical students. *Am. J. Public Health.* 1991;81:177-82.
4. Myers T, Weiss E. Substance use by internes and residents: An analysis of personal, social and professional differences. *Br. J. Addict.* 1987;82:1091-9.
5. Vaillant G, Brighton J, McArthur C. Physicians use of mood-altering drugs: A 20-year follow-up report. *N. Engl. J. Med.* 1970;282:365-70.
6. The misuse of alcohol and other drugs by doctors report of a working group 1998. London; 1998.
7. Hughes P, DeWitt C, Baldwin MJ, Sheehan D, Conard S, Storr C. Resident physician substance use, by speciality. *Am. J. Psychiatry.* 1992;149:1348-54.
8. Dyer C. Julien Warshafsky: how this doctor died and what it tells us about the system that failed him. *BMJ.* 2018;361:k2564.
9. Brooke D, Edwards G, Taylor C. Addiction as an occupational hazard: 144 doctors with drug and alcohol problems. *Br. J. Addict.* 1991;8:1011-6.
10. Sreckovic M, Kaups KL, Balch CM, Hanks JB, Satele D, Sloan J, et al. Prevalence of alcohol use disorders among American surgeons. *Arch. Surg. (Internet).* 2012;147:168-74. Available from: <http://archsurg.jamanetwork.com/article.aspx?doi=10.1001/archsurg.2011.1481>
11. Oreskovich M, Shanafelt T, Dyrbye L, Tan L, Sotile W, Satele D, et al. The prevalence of substance use disorders in American physicians. *Am. J. Addict. Psychiatry.* 2014;
12. Lutsky I, Hopwood M, Abram S, Cerletty J, Hoffman R, Kampine J. Use of psychoactive substances in three medical specialties: anaesthesia, medicine and surgery. *Can. J. Anaesth.* 1994;41:561-7.
13. Pedersen A, Sorensen J, Bruun N, Christensen B, Vedsted P. Risky alcohol use in Danish physicians: associated with alexithymia and burnout? *Drug Alcohol Depend.* 2016;160:119-26.
14. Mayall. Substance misuse in anaesthetists. *BJA Educ.* 2016;16:236-41.
15. Brooks D, Edwards G, Andrews T. Doctors and substance misuse: types of doctors, types of problems. *Addiction.* 1993;88:655-63.
16. Marshall E. Doctors health and fitness to practice; treating addicted doctors. *Occup. Med. (Chic. Ill).* 2008;58:334-40.
17. Brooks S, Gerada C, Chalder T. Review of literature on the

- mental health of doctors: are specialist services needed? *J. Ment. Heal.* 2011;20:146-56.
18. Gross S, Marshall E. Substance misuse among health care workers: national survey of occupational physicians. *Occup. Med. (Chic. Ill).* 2012;62:254-60.
 19. Shore J. The Oregon experience with impaired physicians on probation: an eight year follow up. *J. Am. Med. Assoc.* 1987;257:2931-4.
 20. Vogtsberger K. Treatment outcomes of substance-abusing physicians. *Am. J. Drug Alcohol Abuse.* 1984;10:23-37.
 21. Lloyd G. One hundred alcohol doctors; a 21 year follow up. *Alcohol.* 2002;37.
 22. Lefebvre L, Kaufmann M. The identification and management of substance use disorders in anaesthesiologists. *Can. J. Anaesth.* 2017;64:211-8.
 23. McLellan A, Skipper G, Campbell M, DuPont R. Five year outcomes in a cohort study of physicians treated for substance use disorders in the United States. *Br. Med. J.* 2008;337.
 24. McKay J, Knepper C, Deneke E, O'Reilly C, DuPont R. An initial evaluation of a comprehensive continuing care intervention for clients with substance use disorders: My first year of recovery (MyFYR). *J. Subst. Abuse Treat.* 2016;67:50-4.
 25. Braquehais M, Valero S. Doctors admitted to a Physicians' Health Program: a comparison of self-referrals versus direct-ed referrals. *Br. Med. J.* 2014;4.
 26. Gerada C. The Practitioner Health Programme: a free and confidential health service for doctors and dentists in London. *London J. Prim. Care.* 2008;1:74-7.
 27. Obituaries. Daksha Emson. *BMJ.* 2004;328:291.
 28. Good Medical Practice (2013). UK Gen. Med. Council.
 29. Boulis S, Khanduja P, Downey K, Friedman Z. Substance abuse: a national survey of Canadian residency program directors and site chiefs at university-affiliated anesthesia departments. *Can. J. Anaesth.* 2015;62:964-71.
 30. Jungerman F, Alves H, Carmona M, Conti N, Malbergier A. Anesthetic drug abuse by anesthesiologists. *Rev. Bras. Anesthesiol.* 2012;62:375-86.
 31. Oreskovich M, Caldeiro R. Anesthesiologists recovering from chemical dependency: can they safely return to the operating room? *Mayo Clin. Proc.* 2009;84:576-80.
 32. Kintz P, Villain M, Dumestre V, Cirimele V. Evidence of addiction by anaesthesiologists as documented by hair analysis. *Forensic Sci. Int.* 2005;153:81-4.
 33. Srivastava K. Urbanization and mental health. *Ind. Psychiatry J.* 2009;18:75-6.