



DETECTION OF ALCOHOL USE IN MONITORED AFTERCARE PROGRAMS: A NATIONAL SURVEY OF STATE PHYSICIAN HEALTH PROGRAMS

ABSTRACT

Monitored aftercare of health care professionals with documented substance abuse problems is organized differently by individual states and state licensing boards. A comparison of the physicians' health aftercare programs used by each state could yield useful information regarding more effective methods of aftercare monitoring.

A 36-question phone interview was conducted with directors of physician monitoring aftercare programs in 46 states regarding their current methods of drug testing. Results indicate that surreptitious alcohol use is a significant concern for all monitoring aftercare programs, yet there is no clear indication of the best methods for detecting alcohol use. Few state programs are utilizing a new, specific test for the presence of ethyl glucuronide (EtG), a minor metabolite of alcohol metabolism (see related article on page 14). In addition, wide variation exists between state programs and there is no clear consensus or standards with regard to testing frequencies, methods of randomization and specific tests for alcohol.

Suggested future improvements in the testing and monitoring of health care providers enrolled in aftercare programs may enhance detection of relapse so that all aftercare programs can help assure the abstinence of their health care professionals in recovery as well as protect public safety.

INTRODUCTION

The problem of substance abuse in society can also be found in the community of medical professionals.¹ In 1972, the American Medical Association (AMA) began addressing substance abuse as a problem among physicians.² The AMA recommended state medical societies establish programs or committees to help identify and aid impaired physicians. The AMA also developed model legislation to amend state practice acts so treatment rather than punitive disciplinary measures could be made available.² All states currently have physician health programs (PHPs) that share common goals for the treatment, recovery, rehabilitation and maintenance of sobriety for impaired physicians.³ Peer-group therapy and attendance at self-help meetings are essential components of treatment and recovery.⁴ Another important element of recovery, monitored aftercare, is managed differently by individual states. Some states use third-party administrators who contract with a state's licensing board. Other states monitor their clients using state medical associations closely affiliated with the state licensing board, while some state licensing boards operate their own monitoring programs. The Federation of State Physician Health Programs (FSPHP) was created in 1990 to focus, in part, on the rehabilitation and monitoring of physicians with psychoactive-substance use disorders. Because public safety is the primary concern, a practitioner may be reported for disciplinary action if treatment is refused or if the practitioner insists on continuing to practice against recommendations of the monitoring aftercare program.^{5,6,7}

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Strict monitoring of abstinence and mandatory group meetings influence the effectiveness of a monitoring aftercare program.⁷ Most states begin routine monitoring for substance use by using urine toxicology screens on a regular basis. The frequency of these toxicology screens may decrease with continued client compliance. Conversely, the frequency of screening may increase when relapse is suspected.⁴ Noncompliance may be the greatest contributing factor to relapse and, therefore, should be strictly monitored.¹

While the urine screen is useful to monitor compliance, it has limitations. Detection of substances in the urine is significantly related to the amount of time elapsed since their last use. Most drugs remain in the body long enough to be detected by testing once per week or twice per month. Therefore urinalysis may be sufficient. However, alcohol is an exception to this. The liver quickly metabolizes alcohol and detection using current techniques is limited to approximately six to eight hours after use. Because alcohol is the most frequently abused substance,⁸ adequate monitoring for alcohol is a major concern. During rehabilitation and recovery, the potential for alcohol abuse may increase due to the lack of efficient screening tests. The ingestion of alcohol while in aftercare is a violation of the contractual agreement made with the monitoring program and may lead to relapse and/or abuse of other psychoactive substances, thus rendering the practitioner unsafe to practice their profession. Therefore, alcohol detection remains an important component of contract compliance and sobriety.

While all state programs share common goals for treatment, recovery and rehabilitation of health care professionals, significant variation may exist in state monitoring practices of impaired practitioners. This study was conducted to identify common monitoring practices, variations in monitoring paradigms and, specifically, what methods are being used to monitor alcohol use.

METHODOLOGY

A survey was designed to obtain information from state aftercare monitoring programs regarding the detection of substance abuse by their clients under monitoring agreements. The survey consisted of five sections and utilized multiple choice, open-ended, yes/no and Likert scale questions. University Institutional Review Board approval was obtained to assure anonymity and confidentiality during of survey responses. Interviews were initially conducted on a sample of 15 directors of state physician aftercare programs. No significant changes were made to the survey following these interviews. Phone calls were then made to the program directors of the 36 remaining programs (including the District of Columbia). The initial 15 state programs were again contacted to update survey results due to the recent commercial availability of a new alcohol detection test (ethyl glucuronide or EtG). Multiple attempts were made to contact all program directors. One state has two monitoring programs — one an FSPHP member and one a non-member. One state has no formal monitoring program in place and uses personal physicians to treat and monitor impaired health professionals. Therefore, the final sample included 51 directors of physician monitoring aftercare programs. The results were analyzed using descriptive statistics (Microsoft Excel) such as means, modes, frequencies and percentages.

RESULTS

An 88 percent response rate was achieved by participation of 45 program directors. Table 1 (page 10) depicts the survey questions and final results.

Frequency of Drug Testing

The mean number of client drug tests required by state monitoring programs was 4.2 per month. The range of testing frequency varied from as many as 15 tests per month (for physicians in selected specialties) to less than one per month. In three states, the testing frequency did not vary over the contractual period. Those three states tested clients one or two times per month. Forty-two states (93 percent) reported they vary the testing frequency throughout the duration of the contract. Factors that may alter the testing frequency included a client's change in practice specialty or lifestyle, malpractice accusation or by client request. In three states, the medical board can mandate a change in the testing frequency.

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Table 1.

Question	Frequency of Testing	Total Responses
1	For a typical client contract, on average, initially what is the number of times per month a client is drug tested?	range: 15/month to <1/month mean: 4.2/month
2	Does the frequency of testing vary over the period of the contract?	yes=42; no=3
3	What is the variation and what circumstances would change the frequency of testing over time?	changes with compliance and suspicion; various (see text)
Randomization method		
4	Is client drug testing random?	yes=43; no=2
5	If yes, what is the randomization method?	computer generated=15; staff select=12; color=7; social security #=4; other=7
6	Would the Third Party Administrator or program staff contact the client for additional specimen testing?	yes=41; no=4
7	If yes, when and why?	most with suspicion or concern; behavioral changes (see text)
8	How much time is allowed for a client to provide a specimen for testing after notification?	range: 2 to 24 hours; mode: 8 hours
Testing Method		
9	What biological specimen is tested most frequently?	urine=45
10	What biological specimen is tested second most frequently?	hair=16; breath=10; blood=7; saliva=2; oral fluid=1
11	Are all collected specimens actually tested?	yes=41; no=4
12	Would any non-primary testing method be used?	yes=24; no=21
13	If yes, under what circumstances?	various (see text)
14	Which initial lab test is most often used?	uncertain=16; EMIT=14; ELISA=8; RIA=6; GC/MS=1
15	Are all positives confirmed by GC/MS?	yes=41; no=2; uncertain=2
16	Is the specimen collection witnessed?	always=22; sometimes=18; with suspicion=3; never=2
Alcohol Use		
17	How much of a concern is client alcohol usage? Non, Slight, Moderate or Significant	significant concern=32; moderate=11; slight=1; individually determined=1
18	Using your current testing, do you believe clients could use alcohol occasionally without being detected?	yes=45
19	Could they drink regularly?	yes=19; no=26
20	Is alcohol presence detected using a separate test other than ELISA or GC/MS?	yes=20; no=25
21	If yes, what is the test?	breath=10; EtG=6; saliva=3; enzyme=2; creatinine=1
22	Is alcohol presence tested using a separate biological specimen other than the regularly tested specimen?	yes=27; no=18
23	If yes, what specimen is most often used for alcohol testing?	breath=18; blood=8; saliva=5; urine=1
24	Are markers of alcohol use tested for?	yes=11; no=32; uncertain=1; as needed=1
25	How could you improve the detection of alcohol?	alter methods or markers; various (see text)
Tested Substances		
26	What testing panel is commonly used and for what substances?	range: 5 to 300 panel (see text)
27	Do you always test for the client's drug of choice?	yes=41; no=4
28	Are non-psychoactive medications tested for?	yes=12; no=33
29	Are psychiatric medications tested for?	yes=11; no=34
30	Are monitoring medications tested for?	yes=30; no=15

The time frame allowed a client to provide a specimen for testing following notification ranged from two to 24 hours. The most common response was eight hours.

Client drug testing is random as reported by 43 program directors (96 percent). However, 12 administrators (27 percent) have control over the randomization procedure. Forty-one of the program directors (91 percent) reported that they might contact a client for additional testing. Their reasons included suspicion or concern (33 programs), a dilute or questionable urine specimen (seven programs), a positive toxicology screen (six programs), missed drug test or meeting (six programs), behavioral changes (five programs), before or after client's vacation (four programs), unusual incident (two programs) and one program each listed a reason as employer concern, a broken chain of custody or for "no reason."

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Testing Methods for Substances

All 45 states use urine specimens for the primary toxicology screen for illicit substance use. Secondary biological specimens include hair, breath and oral fluid/saliva. Four states do not test all collected biological specimens. For the initial urine test, states reported using enzyme-multiplied immunoassay technique (EMIT) screening (14 programs), enzyme-linked immunosorbent assay (ELISA) screening (eight programs), radioimmunoassay (RIA) screening (six programs) and gas-chromatography mass spectrometry (GC/MS) (one program). Sixteen program directors (36 percent) were uncertain of the screening technique used by their laboratories. Forty-one states (91 percent) reported the use of GC/MS to confirm positive urine screening test results. In addition, 22 state program directors (49 percent) stated that specimen collection is "always witnessed" and 21 directors (47 percent) stated specimen collection is "sometimes witnessed" or "witnessed with suspicion."

Alcohol Use and Detection Methods

All 45 directors said they believed it is possible that clients are using alcohol occasionally without detection. Thirty-three of the state program directors (71 percent) considered client alcohol use a "significant concern." Twenty-five state programs (56 percent) do not use a separate test for alcohol detection and 20 programs (44 percent) use separate alcohol tests that include breathalyzer, saliva, liver enzymes, creatinine and ethyl glucuronide (EtG). Two other programs reported they will soon implement EtG testing.

Twenty-seven state programs (60 percent) reported that they test separate biological specimens for alcohol such as saliva, breath, blood and/or an unknown "special" urine test. Eleven state programs (24 percent) test blood for markers of alcohol use including mean-corpuscular volume (MCV), gamma glutamyl-transferase (GGT), alanine aminotransferase (ALT), aspartate aminotransferase (AST), carbohydrate deficient transferrin (CDT) and complete blood count (CBC), in addition to liver enzyme tests.

When asked, 42 state program directors (93 percent) recommended improvements in the methods for detection of alcohol use. Fifteen directors considered EtG testing to be an important means for this improvement. Nine program directors recommended increasing the frequency of testing, six recommended the use of breathalyzer or oral fluid testing, five programs would use the markers GGT, AST/ALT, CDT, four recommended decreasing the time frame for specimen collection, two directors would test six or seven days a week and one director each recommended the use of a sweat patch, ankle bracelet-monitoring device or observed specimen collection.

Tested Substances

The program directors reported using toxicology panels that tested between five and 300 substances. Nineteen state programs (42 percent) reported using a type of "medical" or "health professional" panel. Four state programs reported use of a 10-panel test. One program director screens for 300 substances, one director uses a 50-panel screen, and six state directors use a five-, six-, seven- or eight-panel test. Five program directors reported use of an "extensive" or "broad" panel screen, while one program reported the use of this panel on one test per month. Five directors use testing panels that vary based on individual client assessments.

All 45 directors believed that it is possible that clients are using alcohol occasionally without detection. Thirty-three of the state program directors (71 percent) considered client alcohol use a "significant concern."

The majority of state program directors do test for the client's drug of choice (91 percent) and monitoring medications (67 percent) including naran, naltrexone and antabuse. However, 33 directors (73 percent) do not test for non-psychoactive medications, while 34 program directors (76 percent) do not test for a client's psychiatric medication.

DISCUSSION

Results of this survey indicate that all 45 program directors believe clients could use alcohol occasionally without detection, while 43 percent believe regular alcohol use could go undetected using their current testing methodologies. Thirty-three programs (73 percent) currently have an eight- to 24-hour window for collection. The more generous allowances could be due, in part, to clients' locations in more distant or remote geographical areas or a client's unusual work shift. Three state program directors consider decreasing the "drop-window time frame" as a method for the improvement of alcohol detection, because a time frame for specimen collection of greater than eight to 10 hours increases the likelihood that alcohol can be used without detection.

Ethanol is metabolized by the liver and eliminated from breath, blood and urine less than 12 hours after the last drink is consumed, thereby limiting the effectiveness of breathalyzer, saliva/oral fluid, urine ethanol and blood alcohol concentration (BAC) tests.⁹ Thirty-two state program directors (71 percent) reportedly do not use blood markers for alcohol, because most tests are unreliable. Markers such as liver enzymes, GGT, AST, ALT and mean-corpuscular volume may be elevated due to disease and not alcohol consumption. Furthermore, 16 program directors (36 percent) reportedly test hair as a secondary biological specimen. Hair testing is useful for the detection of recently used substances such as fentanyl, marijuana, cocaine, opiates, heroin and ecstasy. However, at present, hair cannot be used to detect recent alcohol use and may be prohibitively expensive.¹⁰

A recently available test for alcohol use identifies an ethanol metabolite, ethyl glucuronide (EtG).¹¹ EtG can be detected in urine as long as 18 hours after blood alcohol levels reach zero and demonstrates exceptional specificity (100 percent) and sensitivity because even small amounts of alcohol (7 g, or less than one alcoholic beverage) can be detected.¹² Thus, improving the sensitivity of screening tests for alcohol use may be a practical and effective alternative to (or be used in conjunction with) decreasing the specimen collection window. Furthermore, 17 state programs (38 percent) contacted currently use EtG testing on specific clients — primarily those who have demonstrated repeated positive urine ethanol screens, those under significant suspicion or concern or those whose drug of choice was alcohol. One program tests all clients using EtG one time per month. At least seven other states are interested in including EtG testing in their protocol but believe more research needs to be done to verify the test's accuracy.

Interestingly, more than one-third of the state aftercare programs are uncertain of what toxicology screens are being utilized for their drug tests. In addition, nine percent of the surveyed directors do not test all of the biological specimens collected from their clients. Therefore, wide discrepancies exist between state monitoring programs with regard to drug-testing protocols. These results indicate the potential need for uniform standards for aftercare monitoring and testing.

Results of the current study may not extrapolate to individuals who are not clients of physician health programs and who are not closely monitored for abstinence. Results may be limited because the interview responses were self reports by the various program directors and, therefore, may be subjective and open to interpretation. Nonetheless, future attempts to increase program effectiveness could consider issues related to drug testing methodologies such as testing frequency, collection windows and number of tested substances. In addition, the use of more recent toxicology tests that demonstrate improved sensitivity and specificity may dramatically increase the effectiveness of aftercare programs to detect the use of alcohol. However, any changes to current testing protocols must always be balanced with consideration for their intrusiveness and invasiveness. Future studies could focus on programs that have been success-

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ful in the deterrence of relapse. These reports may further address the need for uniform standards of monitoring protocols by aftercare programs so that all state physician health programs may achieve their common goals.

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