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Bringing Human Rights to the Workplace

LATEST RESEARCH REVEALS NEW PROBLEMS WITH DRUG TESTING
BY LEWIS MALTBY

Criminal defense attorneys who specialize in drug cases may have clients charged with violation of conditions of probation, parole or pre-trial reliance on the basis of "proof" of drug use reported by drug testing laboratories. In addition, persons facing discharge from employment on the ground of a positive drug test might seek an attorney member of the NORML National Legal Committee for legal help rather than an attorney who specializes in employment law.

Attorneys familiar with drug law are probably are aware that opponents of random drug testing have long known that many laboratories that conduct drug tests are unreliable[1] and that drug testing does not increase workplace safety or efficiency.[2]

Even opponents of drug testing, however, have generally not challenged the arguments that federally certified drug testing laboratories are reliable and that drug testing reduces drug use.

Recent research shows that both of these arguments are questionable.

Reliability of Certified Labs

In response to well documented quality problems in labs that were previously considered reliable, the federal government established certification programs. The U.S. Department of Health and Human Services has a program to certify laboratories.[3] And the U.S. Department of Transportation has a program.[4] Testing conducted by federal agencies or required by federal law must be conducted by certified labs.

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[1] Crisis in Drug Testing, *Journal of the American Medical Association (JAMA)* April 26, 1985

[2] Under the Influence? Drugs and the American Workforce, National Academy of Sciences, 1994

[3] To obtain certification, a laboratory must meet training requirements, submit to an on-site inspection, and perform adequate on blind samples. http://www.workplace.samhsa.gov/DrugTesting/pdf/Natl_Lab_Cert_Prog_Background1007.pdf (Accessed Oct. 5, 2011).

[4] Homepage for this program is http://www.dot.gov/odapc/ (Accessed Oct. 5, 2011).

After reviewing the certification programs, opponents of testing have tended to accept the argument that laboratories certified by the U.S. Department of Health and Human Services are accurate.[5]

Recent evidence, however, indicates that federally certified labs may not be reliable

I. Lack of Reliability Studies

The accuracy of certified labs has never been tested. Not a single study of the accuracy of HHS certified laboratories has ever been conducted. The National Academy of Sciences and other experts have urged HHS to conduct such tests,[6] but HHS has never done so. Nor has HHS allowed independent researchers to see its data. HHS' failure to conduct or allow accuracy studies of certified labs is especially troubling in light of the federal government's assurances that the labs it used were reliable prior to the CDC study.

The only relevant study actually indicates that certified labs are not reliable. In 2007, the United States General Accountability Office (GAO) studied 23 labs, all of whom were federally certified. The GAO found that not one of these labs consistently followed federally mandated procedures for lab accuracy.[7]

II. Absence of a Mandatory Standard of Accuracy as a Criterion for Certification

It is commonly believed that a lab must perform perfectly on blind samples to become federally certified. This is incorrect. Neither the Executive Order mandating drug testing[8] nor the Drug Free Workplace Act[9]contains any requirements for laboratory

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[5] Eric- The ACLU never officially agreed that certified labs were reliable. But we stopped attacking lab quality generally and restricted our criticisms of lab quality to uncertified labs. On occasion, I acknowledged that the certification program was well designed, as did other opponents of testing. (Homepage for the HHS drug testing program is http://www.workplace.samhsa.gov/Dtesting.html (Accessed Oct. 5, 2011).

[6] Under the Influence, *supra* note 2, p. 8. (Eric- NAS make a series of official recommendations in it's report. This cite is for NAS' recommendation that the accuracy of certified labs be studied and the data be made available to independent researchers.)

[7] Drug Testing, Undercover Tests Reveal Significant Vulnerabilities in DOT's Drug Testing Program GAO-08-225T, November 1, 2007

[8] Executive Order 12564

[9] P.L. 100-690

certification. HHS has unlimited discretion is determining whether a lab performs well enough to be certified.[10]

This might not be a serious problem if the actual standards were high. But they are not. HHS regulations allow labs to make mistakes on 10% of the blind samples used in the certification process.[11] None of the mistakes can be false positives, but there is no minimum number of blind samples that must be submitted.[12] If the lab does not meet this standard, it is not barred from certification. It can simply keep trying until it passes. There is no required waiting period and no limit to the number of times a lab can fail.[13] A lab that fails to meet quality standards ten times and finally passes on the eleventh try is granted certification.

This loose certification program is especially alarming in light of the fact that making mistakes on periodic testing does not automatically cause a lab to lose its certification. The circumstances under which certification is revoked are entirely at the discretion of the Secretary. The regulations suggest that revocation should take place only after the lab has had an opportunity to correct its deficiencies and failed to do so.[14]

The record of HHS's response to laboratory failures shows that unsatisfactory labs are allowed to continue operation for significant time periods before their certifications are revoked. The following is a description of HHS's responses to specific failures.

III. Demonstrated Errors

There are several documented examples of errors by HHS certified labs. In the last four years alone, one laboratory had its certification revoked and three others had their certification suspended.

The lab whose certification was revoked, Scitek Clinical Laboratories, was found to have:

a. an incompetent "responsible person" (i.e. lab director) who did not understand the procedures for equipment calibration or the procedures for confirmatory testing.
b. failed to maintain proper security of the sample storage area.
c. failed to follow quality assurance procedures

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[10] 73 FR 71858-01 Section 9.1(a)

[11] 73 FR 71858-01 Section 9.4(a)(2)

[12] 73 FR 71858-01 Section 9.1(a)(1)

[13] 73 FR 71858-01 Section 9.11

[14] 73 FR 71858-01 Section 9.13

d. made multiple mistakes in testing government submitted samples.[15]

SAMHSA did not suspend Scitek when it learned of these problems. Instead, it allowed Scitek to operate for two more years before taking action. The number of workers who lost their jobs during this period will never be known.

In some cases, SAMHSA missed the lab's problems completely and they were revealed only when workers who had lost their jobs filed suit in cases such as *Coleman v. Town of Hempstead*[16] and *Elliot v. Laboratory Specialists, Inc.*[17]

In one extremely alarming case, the government began parole revocation procedures based entirely on a positive drug test result from Kroll Laboratories (an HHS certified lab). The defendant retained an independent expert, Dr. James Woodford, who proved the test was wrong. The evidence of the mistake was so convincing that the government admitted it was wrong and dropped the revocation proceeding.

IV. Failure to Follow Best Practices

The universally accepted "gold standard" for drug testing laboratory practice is the methodology promulgated by the U.S. Department of Transportation.[18] While certified labs follow DOT rules (at least in theory) when testing the urine of workers covered by these rules, they frequently follow less demanding standards when testing non-DOT samples.

The most serious example of this abuse is to lower the minimum concentration of drug metabolite that must be found in urine in order to be considered positive. For various drugs, SAMHSA has established minimum concentrations of drug metabolites that must be found in urine before the test is considered positive for a drug.[19] SAMHSA does this in recognition that no system is perfect and even the most accurate technology has a margin of error. Cutoff limits also prevent positive test results from passive inhalation of second hand marijuana smoke or consuming legal products such as herbal teas that contain minute amounts of cocaine. Testing programs conducted under DOT rules must use SAMHSA's cutoff levels.

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[15] Scitek's revocation was published in the federal register on10/12/07.A copy of the revocation letter is on file with NWI. **THIS LETTER SHOULD BE ACCESSIBLE ON THE NWI WEBSITE.**

[16] 30 F. Supp. 2d 356 (ED New York 1999)

[17] 588 So.2d 175 (La. App. 1991)

[18] Homepage for this program is http://www.dot.gov/odapc/ (Accessed Oct. 5, 2011).

[19] http://www.workplace.samhsa.gov/DrugTesting/pdf/2010GuidelinesAnalytesCutoffs.pdf (Accessed Oct. 5, 2011).

Labs testing under programs that are not covered by DOT rules are not required to use SAMHSA's cutoff scores. *Federally certified labs can and do ignore SAMHSA's cutoff scores.* This circumstance necessarily means that the results from such laboratories are unreliable. SAMHSA's cutoff scores are relatively high to minimize the risk of false positives.[20] A very good lab may be able to use lower cutoff scores without making mistakes. However, drug test scores below SAMHSA's cutoffs should only be considered positive if the laboratory can demonstrate that it consistently produces accurate results at these lower levels.

This may be difficult for a lab to accomplish. Few, if any, labs have their results independently tested. Unless the lab can obtain SAMHSA's ongoing quality testing records, it is unlikely to be able to demonstrate that it can reliably test below SAMHSA's cutoffs.

Some certified labs have no cutoff score. Any trace of drug metabolite, even one billionth of a gram, is considered a positive test. Such programs are virtually guaranteed to produce false positive results. It will also cause positive results with workers who have not used drugs but have been exposed to marijuana or cocaine smoke.[21] Workers who have consumed legal products such as certain forms of tea (such as "Inca Herbal Health") will also test positive.

SAMHSA's cutoff scores can be found on its website.[22] SAMHSA has occasionally modified its cutoff scores and manuals in light of ongoing experience.[23]

It is also possible that the lab in question, even if certified, does not follow other quality standards required in DOT testing. Comparing all the lab's standards to those of DOT is necessary to assure that the test comports with DOT standards.

V. Chain of Custody

In order to ensure a proper chain of custody, SAMSHA regulations require labs to maintain a written record of each person who handles a urine sample, including from whom they received it and to whom they gave it. Each person must sign the form in the

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[20] http://www.workplace.samhsa.gov/DrugTesting/pdf/2010GuidelinesAnalytesCutoffs.pdf **Eric: It seems to me that cut off scores are explained in the preceding paragraph. I don't really have Anything to add here.**

[21] EJ Cone, *Passive Inhalation of Cocaine,* Journal of Analytic Toxicology, 1995; 19(6): 399-411

[22] http://www.workplace.samhsa.gov/DrugTesting/pdf/2010GuidelinesAnalytesCutoffs.pdf (Accessed Oct. 5, 2011).

[23] http://www.workplace.samhsa.gov/DrugTesting/Level_1_Pages/historical_documents.html (Historical documents on the program, accessed Oct. 5, 2011).

location designated for their function. This document is known as a "Federal Drug Testing Custody and Control Form."[24]

Experience suggests that even HHS certified labs do not always maintain a proper chain of custody. In a West Virginia case involving a union employee named Simmons, NWI found multiple mistakes in the chain of custody records.[25]

VI. Conclusion

This new information does not prove that the reliability of HHS certified labs is as bad as that of labs before the certification program. It is highly likely that laboratory accuracy has improved under the certification program. But it clearly shows that certified drug testing laboratories have significant reliability problems and that the government's assurances that false positive test results are a thing of the past is untrue.

PART II.
DRUG TESTING DOES NOT REDUCE DRUG USE

Opponents of random drug testing have often pointed out that it does not improve job performance, but they seldom challenge the claim that drug testing deters drug use. It seems intuitively obvious that an employee who knows she or she can be tested at any time and fired if he or she tests positive would be less likely to use drugs.

The available evidence, however, does not support this claim. Three major studies have been conducted which are cited to support the claim that drug testing reduces employee drug use.

French, et al.[26]

French compared the percentage of employees who use illegal drugs in companies with drug testing programs to the percentage of drug users at companies that do not test. The study found that 11.8% of employees use drugs at companies that do not test and 10.02% use drugs at companies that test.

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[24] http://www.reginfo.gov/public/do/PRAViewIC?ref_nbr=201007-0930-002&icID=193835 (To obtain form, click on Attachment D) Accessed Oct. 5, 2011.

[25] In examining the Custody and Control Form in this case, NWI found three instances in which the urine sample was transferred without the signature of the individual who received the sample.

[26] French, Roebuck, and Alexandre, To test or not to test: do workplace drug testing programs discourage employee drug use?, Social Science Research, 2004 [**web address?](Eric- I don't have a web address for them. The research assistant who found it went home to Korea last year.)**

Carpenter[27]

Carpenter, analyzing the same data obtained by French, et al., distinguished between all drug users and current drug users (defined as having used drugs in the last 30 days). Carpenter also distinguished between companies that conduct anti-drug programs in addition to drug testing from those that use testing only. Carpenter reported that employee drug use at companies whose only anti-drug program is testing is 30% lower than at companies that do not test.

Hoffman and Larison[28]

Hoffman and Larison compared the rates of drug use by employees in companies that test and companies that do not test. Rather than have a single category of drug users, Hoffman distinguished between marijuana and cocaine users. He also distinguished between various degrees of use, ranging from use more than three years ago to current use of once a week or more. Finally, he distinguished among employers that conduct pre-employment testing, those who conduct random testing, and those that do both.

The results varied widely. In some cases, drug use was lower at companies that test. In other cases, drug use was **higher** at companies that test.

Employees who had used marijuana more than three years ago were substantially **more** likely to work for companies that test than those who do not test. Employees who had used marijuana in the last year or less were less likely to work for employers who test.

The pattern was very different with cocaine. The percentage of employees using cocaine at employers who test was generally **higher** than at companies that do not test. Even employees who use cocaine at least once a week were more likely to work for companies that test.

The variation in results makes it impossible to draw generalized conclusions about the relationship between drug testing and employee drug use. However, it does not support the argument that drug testing reduces employee drug use.

Flaws in the Studies

In addition, these studies suffer from major flaws which make their conclusions virtually meaningless.

A. Failure to Control for Other Drug Programs

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[27] Carpenter, Workplace Drug Testing and Worker Drug Use, Health Research and Educational Trust, 2006

[28] Hoffman and Larison, Drugs and the Workplace, NORC University of Chicago, 1998

There are many types of drug control programs in addition to testing, including drug education and Employee Assistance Plans (EAPs). While neither of these other types of programs is a panacea, it is well documented that each of them has some effect of reducing employee drug abuse.[29]

In order to make a meaningful comparison of employee drug use between companies with and without testing, it is essential that the companies being compared are consistent in their other anti-drug programs. The French study does not do this. In essence, it concluded without any supporting data that if a company with drug testing, education, and an EAP has less drug use than a company that has none of these programs, the difference is due solely to the testing program.

It is a core principle of statistical analysis that when comparing the effect of one variable, it is essential to try to eliminate the influence of all other variables that might cause the same effect (confounding variables). Every competent analysis addresses the potential variables and how they were controlled for in the analysis, and if they could not be controlled, how that impacts the analysis. The authors of the French report did not control for other common, obvious variables, rendering their study essentially useless.

The Hoffman study made the same fundamental error. Thus, even if it had reached unambiguous conclusions, it would not be reliable.

The Carpenter study, comparing the rate of employee drug use in companies that have drug testing (but no other anti-drug programs) with the drug use rate in companies that do not test, is not subject to criticism on that point. However, there are generally multiple potential confounding variables in any study. SAMHSA data, for example, clearly show that age, race, and many other variables affect drug use.[30] Business in different industries, different locations of the same employer, and different businesses in the same industry are likely to have significant differences in the composition of their workforce on the basis of age, race, ethnicity, marital status, income, educational level, etc. Carpenter, however, made no attempt to identify and deal with any of these variables.

B. Self-Reporting Errors

Critically, all three of these studies rely upon self- reporting of drug use. The percentage of employees who are considered drug users is determined by asking the employees in

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[29] www.workplace.samhsa.gov/WPworkit/eap.html

[30] Larson, Eyerman, Foster, & GFroerer, *Worker Substance Use and Workplace Policies and Programs*, Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies 2007 (pages 11-20, *Substance Use among Workers by Demographic and Geographic Characteristics*

the sample whether they use drugs or not and accepting their answer as correct without any verification.

Not surprisingly, not everyone tells the truth about a subject this sensitive. Six major studies have been conducted on the accuracy of self-reporting.[31] In these studies, subjects were asked whether or not they had used drugs in a specified time period and the answers compared to actual drug test results.

Only one of these studies, however, involved employees. The other studies generally involved patients who were recovering from drug dependence. This distinction is critically important. One point on which researchers agree is that the accuracy of self-reporting varies widely among different groups of people for many reasons. One of the most important variables is the consequences of admitting to drug use. The more severe the consequences, the less likely people are to tell the truth.[32] Since the consequences of drug use in employment are generally higher than in a clinical setting, it is inappropriate to estimate the accuracy of self-reporting in employment from clinical studies.

The only study of self reporting involving employees was conducted by Cook.[33] For their study, Cook and his colleagues used a group of 1200 workers in a steel plant. They chose a steel plant because of the size and diversity of the group involved. Employees were asked about their drug use through individual interviews (both in and away from the

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[31] Akinci, Tarter, and Kirisci, Concordance between verbal report and urine screen of recent marijuana use in adolescents, Addictive Behaviors, 2001

Cook, Bernstein, and Andrews, Drug Use in the Workplace: A Comparison of Self-Report, Urinalysis, and Hair Analysis, National Institute on Drug Abuse, 1997

Harrison, The Validity of Self-Reported Drug Use in Survey Research: An Overview and Critique of Research Methods, National Institute on Drug Abuse, 1997

Hersh, Mulgrew, Van Kirk, and Kranzler, The Validity of Self-Reported Cocaine Use in Two Groups of Cocaine Abusers, Journal of Consulting and Clinical Psychology, 1999

Preston, Silver, Schuster, and Cone, Comparison of Self-Reported Drug Use with Quantitative and Qualitative Urinalysis for Assessment of Drug Use in Treatment Studies, National Institute on Drug Abuse, 1997

Weiss, Najavits, Greenfield, Soto, Shaw, and Wyner, Validity of Substance Use Self-Reports in Dually Diagnosed Outpatients, American Journal of Psychiatry, 1998

[32] Eric- The concept that the potential consequences of admitting to drug use affects self reporting is universally accepted by researchers. It's so obvious that they don't even discuss it. They go to great pains to create research designs in which the authority involved (employer, hospital, etc.) will not know who admitted to using drugs and to convince the participants that participation is safe. I could add a cite to support this statement, but the cite would actually be less authoritative than the operating consensus among researchers.

[33] Cook, Bernstein, and Andrews, Assessing Drug Use in the Workplace: A Comparison of Self-Report, Urinalysis, and Hair Analysis, National Institute on Drug Abuse (1997)

workplace), group questionnaires in the workplace, and telephone interviews. These reports were then compared to the results of urine and hair testing. Cook found that **54% of the employees who tested positive had reported no drug use.**

The importance of such errors lies in their relation to the *effect size* of the intervention that the study purports to find. For example, if having a drug testing program produced a decrease in self-reported drug use of 30%, the fact that 3% of that change may have been due to inaccuracies (the margin of error) in the data is not critical.

However, the errors created by self-reporting are much larger than the change in drug use as a result of drug testing that the studies purport to measure. Both the change in drug use from testing reported by French of less than 15% and the 30% change reported by Carpenter are substantially lower than the 54% error rate for self reporting found by Cook. This makes it impossible to determine whether the decrease represents a change in behavior or simply a variation that is insignificant because it may be a product of the inherently inaccurate methodology that relies on self-reporting in this context.

C. Countervailing Data: Industries That Test Do Not Have Less Drug Use

If the presence of a drug testing program reduced drug use, industries with the highest rates of drug testing would have lower rates of drug use than industries where testing is rare. This is not the case. The construction industry, for example, has the second highest rate of drug use (15.1%), despite the extensive use of drug testing. The industry in which testing is the most common, transportation, also has a relatively high rate of drug usage (8.4%). Most of occupations with low rates of drug use (such as teachers, lawyers, and financial professionals) use relatively little drug testing.[34]

D. Drug Testing Does Not Affect Student Drug Use

The only study of the impact of drug testing in an educational setting was conducted by the University of Michigan.[35] The researchers compared the rate of drug use by students in schools with a drug testing program with the rate in schools without a testing program. This comparison was made for students in 8th, 10th, and 12th grade. In all three grades,

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[34] Larson, et. al., Worker Substance Use and Workplace Policies and Programs, Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Statistics, pages 23,47, & 54

[35] Yamaguchi, Relationship Between Student Illicit Drug Use and School Drug Testing Policies, Journal of School Health/University of Michigan, 2003

having a drug testing program had **no** impact. The rate of drug use by students in schools without testing was identical to that of students in schools that test.

Conclusion

While the idea that drug testing reduces employee drug use has intuitive appeal, the studies purporting to demonstrate it are so flawed as to be virtually meaningless. In addition, data regarding the level of drug testing and employee drug use in various industries and data regarding student drug use suggest that there may be no relationship.

Additional Information

Additional and/or more current information regarding these issues is available from the National Workrights Institute.

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