A Critical Assessment of the Impact of Drug Testing Programs on the American Workplace

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Introduction
In September 1986 President Reagan issued an Executive Order mandating federal agencies to institute drug testing programs in pursuit of a concept; the drug-free workplace. In 1986 the American Management Association surveyed its members regarding corporate drug policies. Twenty-one percent of its members had started drug testing programs and 79 percent had not. A decade later those proportions were reversed with some 81 percent of firms having instituted one form or another or urine drug testing. (Hoffman and Larison, 1998) In 1996 the Substance Abuse and Mental Health Administration Services Administration reported that some 13 percent of full time U.S. workers had taken a mandatory drug test.

We will trace the origins of workplace drug testing and carefully examine the claims made by drug testing proponents that fueled the dramatic growth of this “solution” to the “substance abuse problem in America.” If there is no workplace drug problem worthy of a costly response like national drug testing, or if significant problems exists but drug testing does not address them, then from a human relations point of view employee testing programs must be rejected as harmful, invasive and without redeeming merit. Is it not economically unjustifiable and morally irresponsible to promote the often indiscriminant use of an intrusive, stigmatizing, very expensive and arguably unconstitutional drug-testing technology whose efficacy has never been demonstrated?
Origins of Drug Testing

The application of drug testing technology grew rapidly in the 1980’s. In 1983, when President Reagan established the President’s Commission on Organized Crime (PCOC), only the military had a policy of widespread testing. The PCOC reported in 1986 and recommended drug testing for both the public and private sectors. In the same year, Reagan made the concept of a “drug free workplace” a national policy goal and mandated every federal agency establish a program of urine drug testing for employees working in “sensitive positions.”

The forces behind the rapid expansion of drug testing technology are not difficult to trace. Drug testing was sold to American business by the proprietary claims of the drug testing industry in conjunction with federal legislation and initiatives that have encouraged or mandated businesses to implement drug-testing programs. In their 1994 survey, the American Management Association found that over half of their members indicated that the decision to implement drug testing was based on federal requirements or incentives. (1994 American Management Association Survey, 1995)

What is the problem for which drug testing is the solution?

Workplace drug testing has been touted as a path to a safer work environment, a less expensive and more productive workforce, and as a technology to decrease substance abuse in America. Some of these claims are factually wrong, and most have been thoroughly discredited. There is no evidence that drug testing can make the workplace a safer and more prosperous environment nor is there any credible evidence that drug testing has any appreciable impact on rates of problematic substance misuse. Rather, the value of drug testing programs is symbolic. Workplace drug testing is a proxy for ‘doing something about the drug problem.’ It stands in lieu of a rational, planned managerial response to the real problems. Having a drug-testing program makes a public statement that the employer is ‘tough on drugs.’

Consider Anthony Scalia’s dissenting opinion when the Supreme Court upheld the validity of mandatory drug testing of Customs Official:

What better way to show that the Government is serious about its "war on drugs" than to subject its employees on the front line of that war to this invasion of their privacy and affront to their dignity? To be sure, there is only a slight chance that it will prevent some serious public harm resulting from Service employee drug use, but it will show to the world that the Service is "clean," and -- most important of all -- will demonstrate the determination of the government to eliminate this scourge of our society! I think it obvious that this justification is unacceptable; that the impairment of individual liberties cannot be the means of making a point; that symbolism, even symbolism for so worthy a cause as the abolition of unlawful drugs, cannot validate an otherwise unreasonable search.

(National Treasury Employees Union v. Von Raab [Judge Scalia dissenting], 1989)
Claims of Drug Testing Proponents

We will now take a detailed look at the claims that have sold drug testing to corporate America and to the American public for almost twenty years.

Claim: Drug users cost businesses $33 billion each year in lost productivity

The claim the drug users are responsible for tens of billions of dollars in productivity losses has been very commonly asserted, and its persistence is quite remarkable. In the 1990’s the estimate was revised from $33 billion upward to $60 billion to account for “inflation,” and by the end of that decade drug users were said to be costing American business an even $100 billion in “lost productivity.” (Maltby, 1999) When there is a reference for this huge dollar-toll exacted on the profitability of American business, it is to a study by the usually reputable Research Triangle Institute (RTI) in North Carolina. The study was published in 1984 with the title, “Economic Costs to Society of Alcohol and Drug Abuse and Mental Illness.” (Harwood, 1984)

Here is how the RTI came up with the $33 billion number. Harwood, using data from the National Household Drug Use Survey, compared the income of households that never contained a daily marijuana user with the income of households that did include a daily marijuana user. Households with a daily marijuana user earned less on average, and this difference was ascribed to “lost productivity due to drugs.” The researchers then multiplied this figure by the estimated number of marijuana users in the workforce to come up with $33 billion in lost productivity due to drug use. One can only comment that a statistic labeled “lost productivity” that is not based on analysis of any actual productivity data is meaningless.

Interestingly, when the RTI researchers looked at other drug use measures, they failed to reach findings they found useful:

“For example, RTI researchers found no difference in the annual incomes of households with and without current marijuana users. Nor did they find any differences in households with and without members who used illicit drugs other than marijuana, in the past or in the present. If researchers had chosen any of these alternative measures, ‘lost productivity’ due to drugs would have been zero.” (Maltby, 1999)

A thorough review of the literature on drug testing and productivity was conducted under National Institute of Drug Abuse sponsorship and culminated in a book entitled, “Under the Influence? Drugs and the American Workforce,” which was published in 1994. The authors found “few systematic studies relating drug-testing programs to workers' productivity, and those that had been done were often flawed in significant ways.” (Normand, Lempert, and O’Brien, 1994)

There is one good study on the question of the relationship between drug testing and productivity that employs a sophisticated methodology to analyze actual productivity data. Shepard et. al.:

… used an economic production function model and a test industry to assess the effects of drug testing on performance in the workplace… The empirical results
suggest that drug testing programs do not succeed in improving productivity. Surprisingly, companies adopting drug testing programs are found to exhibit lower levels of productivity than their counterparts that do not. *The regression coefficients representing potential effects of drug testing programs on productivity are both negative and significant.* Both pre-employment and random testing of workers are found to be associated with lower levels of productivity. The estimation procedure includes controls or corrections for capital quality and heteroskedasticity. ([Shepard and Clifton, 1998](#); See also: Shepard and Clifton, 1998b) [Emphasis mine]

In this study, firms with drug testing programs were fully 20 percent less productive than firms without such programs. We will discuss some reasons why drug testing might be associated with a significant decrease in productivity at the end of this paper when we consider alternatives to drug testing.

Besides billions in lost productivity, other commonly made claims included statistics purported to show that drug users have 2.5 times more absences, are 3.6 times more likely to be in a workplace accident, are 5 times more likely to file a workman’s compensation claim and use 3 times more medical services than do non-drug using workers. Exactly where do these numbers come from?

**The Firestone “Study”**

These “statistics” are rarely accompanied by references. When a reference is given to support claims about accidents and absenteeism and benefits the citation is usually to “The Firestone Study.” The only problem is that the “Firestone Study” never existed. Quoting from "Drug Testing, A Bad Investment:"

> In 1972, in a luncheon address to executives of the Firestone Company, an unidentified speaker ... claimed that workers with 'medical-behavioral problems' ... had 2.5 times more absences [etc]. No mention was made of how the data had been obtained, how many workers had been examined, or the nature of the workers' 'medical-behavioral' problems. ... The following year, the Firestone speech was reproduced in an archival collection of essays where, ten years later, it was discovered by Sidney Cohen, editor of the widely read 'Drug Abuse and Alcoholism Newsletter. ([Maltby, 1999](#))

Cohen clearly implied that research had been done and that he had studied the results and was now going to interpret them for his readers. (Cohen, 1985). In any event, once Sidney Cohen sanctioned the Firestone “results” they gained the full backing of his significant stature and that of his Newsletter. This is how it happens.

**Claim: Drug users cause workplace accidents.**

This claim has been conclusively shown to be false. Hoffman and Larison’s thorough analysis of the 1994 National Household Survey data reveals no association between drug use, present or past, and workplace accidents. ([Hoffman and Larison, 1998](#)) Although these results may seem unintuitive, they agree with other studies on this issue. ([French, Roebuck, and Alexandre, 2001](#))
Claim: Drug users use more medical benefits.
Wrong again. Studies on this question are equivocal at best. A large study of postal workers published in 1990 found that 64 percent of drug test positives, compared to 48 percent of those testing negative for drugs, were above the median for medical claims made. But in another good study, Utah Power and Light workers who tested positive cost the company less in medical claims than their colleagues who tested negative for drugs ($1,009.00 vs. $1,438.00) (Normand, Lempert, and O’Brien, 1994)

Junk science and U.S. Government policy
It is particularly dismaying to find this same old tired litany of discredited misinformation written, without attribution, into the “Findings” section of the Drug Free Workplace Act of 1998.

(a) Findings.-Congress finds that- ... 
(4) employees who use and abuse addictive illegal drugs and alcohol increase costs for businesses and risk the health and safety of all employees because-

(A) absenteeism is 66 percent higher among drug users than individuals who do not use drugs;

(B) health benefit utilization is 300 percent higher among drug users than individuals who do not use drugs;

(C) 47 percent of workplace accidents are drug-related;

(D) disciplinary actions are 90 percent higher among drug users than among individuals who do not use drugs; and

(E) employee turnover is significantly higher among drug users than among individuals who do not use drugs. (Drug-Free Workplace Act, 1998)

What we have here is nothing less that the incorporation of bogus data into a federal law in order to justify mandatory drug testing for government employees in pursuit of the impossible ‘Drug-Free Workplace.’

Claim: Drug users cause increased employee turnover.
This is one claim made for drug testing that may have some merit. Workers who are weekly users of marijuana or cocaine, or workers who drank to intoxication weekly (3.8 percent) or who had signs of alcohol dependence, were more likely to be fired or to resign from jobs than other workers. Even though weekly use is very uncommon in the working population (3.0 percent of workers are weekly marijuana users, 0.3 percent are weekly cocaine users, and 3.8 percent drink to intoxication weekly), given an estimated 19 million full and part time workers we are talking about over 400,000 weekly marijuana users and over 4 million workers drinking to intoxication weekly. (Hoffman and
Larison, 1998) Therefore the association between frequent use and increased turnover likely does result in some significant cost to businesses to cover worker replacement.

On the other hand, it is not at all clear that drug testing all workers is the best way to identify this particular, small population. From the association between frequent use and firing rates we can infer that frequent drug and heavy alcohol use result in noticeable behavior and performance changes that lead to termination. This group is identifiable without the use of drug testing technology, and expense and effort would be better spent in training supervisors and co-workers to recognize the signs and symptoms of chronic drug and alcohol abuse than in random drug testing.

**Claim: The decreasing drug test positivity rate proves that drug-testing programs are effective in reducing workplace drug use.**

Ahh, no. Drug testing proponents have been perhaps most misleading when they have suggested that the fact that the percentage of workers testing positive steadily dropped after drug testing programs were deployed indicates that drug testing programs are effective in reducing substance abuse. Consider the appended graph (Figure 1) from the Center for Substance Abuse Prevention that suggest that the random drug testing of the employees of a major transportation company resulted in a decrease in the injury rate (virtually identical graphs show the associated decreases in medical costs and work loss costs associated with those injuries).

This graph is misleading because lower positivity rates do not prove that drug testing is an effective deterrent. The reason for this becomes clear if we examine another graph (see appended Trends in Drug Use and Drug Positives, Figure 2. Illicit drug use steadily dropped during the period in which drug testing was begun and strongly pushed by proponents. Note this trend clearly began approximately a decade before any routine workplace drug testing programs existed. The point is that the declining percentage of positive drug tests in suspicion-less testing programs would be expected given that national drug use rates declined sharply. (Groer et. al., 1997; See also: National Household Survey on Drug Abuse - 1985 Highlights, 1986; National Household Survey on Drug Abuse - 1980 Highlights, 1981) The argument that workplace drug testing caused the drop in overall usage rates is further refuted by the observation that almost identical declines occurred amongst the high school population over the years 1985 to 1990, a period of time during which high school students were not subjected to urine drug screening. (Rothstein, 1991)

**What can drug-testing technology accomplish?**

Drug tests cannot detect impairment, shed no light on the intensity or chronicity of use and are entirely useless in distinguishing non-problematic recreational use from use which leads to medical, behavioral or social consequences. Drug tests detect metabolites of illicit substances and only tell us that a substance may have been consumed at some point in the past. It is a very poor tool for detecting very recent use. For example, a urine drug test administered to workers on arrival at the workplace would more likely be positive in a person who had smoked marijuana three days earlier than it would a person
who snorted cocaine in the parking lot and then walked in the door. And alcohol, a substance that is far more widely abused than are illicit drugs, is completely ignored.

Workplace drug testing programs mostly detect marijuana users. This is true both because marijuana is by far the most commonly used illicit drug and because the tested-for metabolites of marijuana are detectable for weeks after the last use compared to hours or days for other substances. An analysis of the drug testing programs of eleven large firms confirms that the overwhelming majority of positive findings are for marijuana. On average, 78 percent of positive drugs tests are for marijuana, with a range of 67 percent (Southern Pacific Railroad) to 93 percent (Utah Power and Light). (Maltby, 1999) See also Figure 3, which shows positivity rates by drug category as a percentage of all workplace tests submitted to Quest Labs (over 5.2 million tests) from 1997 through 2001. The proportion of tests positive for marijuana dwarfs all other drugs by an order of magnitude.

The accuracy of drug tests can be subverted by a wide variety of means from dilution to substitution of another person’s urine, to ingestion of products to speed up elimination of drug metabolites or taken in order to introduce similar chemicals so as to invalidate the results. Direct observation of the employee urinating can reduce tampering by dilution and substitution but increases the intrusiveness of the procedure. To reduce the problem of legal substances being interpreted as drugs of abuse, employees are required to report all recently used over-the-counter and prescription medications. This is a particularly odious side effect of drug testing programs because it forces employees to reveal information about what medications they are taking to their employers (who might very well also be the providers of their medical insurance).

Finally there is the very real problem of “False Positives” which we will not consider here except to say that when weighed against an intrusive technology widely deployed the overall efficacy of which has never been established, any harm done to innocents will tip the scales rather severely against drug testing as unjustifiably harmful.

**Drug testing is not a victimless crime – Exactly who is harming whom?**

Are the people detected in workplace drug testing programs “the problem?” Conversely, does removing them from the workforce or mandating them into substance abuse treatment result in a safer more productive workplace? In 1994, a committee of the venerable National Academy of Sciences (NAS) published a report entitled “Under the Influence? Drugs and the American Workplace,” an exhaustive analysis of the body of empirical research to date in order to make a rational assessment of the costs and benefits of workplace drug testing. They concluded that,

[The] data… do not provide clear evidence of the deleterious effects of drugs other than alcohol on the safety and other job performance indicators… It is often assumed, rather than proven that those who use alcohol and other drugs away from work will also do so on the job. While performance decrements attributable to alcohol emerge clearly in laboratory studies, decrements attributable to marijuana are harder to find. ([Normand, Lempert, and O’Brien, 1994](#))
We have seen that the overwhelming proportions of positive drug tests are for marijuana. It is also true that most workers who use marijuana do so occasionally and moderately. Hoffmann and Larison’s analysis of the 1994 National Household Survey data found:

Over half the workers had never used marijuana and over three-quarters had never used cocaine in their lives. [A] majority of those who had ever used marijuana or cocaine [last] did so over three years ago. Only a small percentage reported weekly use of marijuana (3.0 percent) or cocaine (0.3 percent) in the last year. (Hoffman and Larison, 1998)

Drug testing programs mostly catch occasional, moderate marijuana users and it is very difficult to cast this group as “the problem” or “the enemy.” There is a wealth of evidence that occasional marijuana users are similar to non-users on most measures. (Zimmer and Morgan, 1997) For example, studies have failed to demonstrate a difference between marijuana users and non-users in career aspirations, grade-point averages, and extracurricular activities. Marijuana users have scores similar to non-users on cognitive tests. “In laboratory and field studies, marijuana users are found to work as hard or harder than non-users. Marijuana users earn slightly higher wages than non-users. In short, there is nothing about marijuana users that would lead one to suspect them of being dysfunctional or unproductive workers.” (Maltby, 1999)

**Drug Testing is expensive**

To be cost effective, it would have to be demonstrated that drug testing programs could identify a significant number of drug abusers, that is drug users with behavioral, social, and / or medical consequences of their use, who would only be identified much later or not at all except for the existence of the testing program. Unfortunately, as we have discussed, drug test positives tend to be occasional, asymptomatic, marijuana users not dangerous, impaired chronic drug users.

The cost per positive drug test is very high. In 1990 the federal government spent approximately 11.7 million dollars to test workers in some 38 federal agencies. Of 29,000 tests administered, only 153 were positive or about 0.5 percent. The cost per positive drug test to the taxpayer is therefore about $77,000. (Maltby, 1999) But because drug testing can only detect past drug use, not drug abuse or drug impairment, the real cost is even higher. For example, if we make the ridiculously conservative assumption that 1 out of 5 of drug users is addicted or impaired, then the useful-positive rate drops to 0.1 percent and the cost per useful positive test jumps to roughly $385,000. If we assume that one in ten users is addicted or impaired (still a very conservative assumption), the useful-positive rate drops to 0.05 percent and the cost spirals to almost $765,000 per drug abuser detected.

**Suspicion-less drug testing is unconstitutional**

The Courts will not interfere with a private company’s right to administer pre-employment or random (“suspicion-less”) drug tests because prospective employees have the choice to apply for work elsewhere, and because the Fourth Amendment affords
protection only from unreasonable governmental search. Nonetheless, suspicion-less
governmental drug testing is unconstitutional under the Fourth Amendment to the
Constitution of the United States. Post-accident (also known as “for cause”) drug testing
is not prohibited. The Fourth Amendment guarantees the "right of the people to be secure
in their persons ... against unreasonable searches and seizures." (U.S. Constitution, Amendment
IV, 1791) The Constitution requires the government to obtain a warrant supported by
probable cause to search a person, the only exception being when the government has
demonstrated to the satisfaction of the Court that it has a special need for a search, such
as protecting public safety. “In this case a court will uphold the search if it is found
"reasonable" after balancing the physical intrusion against the governmental interest at
stake.” (Fish, 2002)

The Supreme Court has upheld Department of Transportation regulations mandating the
post-accident drug testing and it held that Customs employees seeking promotions or
transfers to positions involving the use of firearms could be compelled to submit to
random drug testing granting the government’s claim of ‘special need’ by finding that
Customs had an ‘almost unique mission’ as the nations first line of defense against drug
smuggling. However, the Supreme Court has NOT sanctioned suspicion-less drug testing
except in the context of a governmental assertion of special need. It has specifically
refused to allow drug testing if the government fails to show a special need to test. For
example,

In Chandler v. Miller, the Court struck down a Georgia statute that required
candidates for elected office to be drug tested within thirty days prior to
qualifying for nomination or election. The Court found that Georgia failed to
show a “special need” that was substantial enough to override a candidate’s
privacy interest. (Fish, 2002)

The Court has held that the government has a legitimate special interest that workers
involved in public safety positions and those in dangerous and skilled activities, so called
“safety-sensitive employees,” not be drug users. For example, many courts have found
firefighters to be such special class of worker and have upheld random drug testing on
this basis. However, “it is important for fire departments to recognize that not all of their
employees may be tested for drug use at all times. As such, a department policy requiring
that every employee [clerk and firefighter alike] undergo drug testing may be found
unconstitutional.” (Fish, 2002) This is the crux of the constitutional problem with
suspicion-less drug testing: you cannot claim a special interest in everyone. Similarly, a
Georgia law requiring all applicants for state employment to submit to and pass a drug
test was held to be unconstitutional. (Georgia Association of Educators v. Harris, 1990)

We have carefully traced the origins and true meaning of the data behind these claims
and, except as noted above, they are utterly without merit.

Rates of drug use are low – Why don’t we all just declare victory and go home?
Drug (including alcohol) use is not equivalent with drug abuse. By definition, drug abuse
is drug use that causes problems or harm to self or others. We have seen that chronic,
frequent, immoderate drug and alcohol use does indeed cause problems in the workplace, but this group is underrepresented in the work force and represents a very small minority. There is no “drug problem” in the workplace that a mass-screening program like suspicion-less drug testing could possibly impact. This is not surprising given an understanding of the natural history of substance abuse and dependence. First, frequent users of hard drugs such as heroin and cocaine are unlikely to be productive, reliable workers. Second, the dramatic decrease in national drug use over the past two decades means that there are fewer and fewer drug users of any sort in the national labor pool. Most workers who use drugs are occasional, moderate users and there is no evidence that associates this group with any safety or financial consequences to their employers. Why don’t we all just declare victory and go home?

Problems caused by drug testing
In our consideration of the claims of drug testing proponents we briefly discussed a methodologically rigorous productivity study by Shepard and Clifton. When they compared companies that had drug testing programs to companies that did not they found that companies that drug tested had a statistically significant 20 percent lower productivity. (Shepard and Clifton, 1998) There are several reasons why this might be so.

First, besides the high price of the initial procedure itself, drug testing programs generate a myriad of more hidden costs. There are the opportunity costs of both the employees who administer the tests and those who are tested. There is the cost of confirmatory testing on all positive specimens and this is absolutely necessary given the significant false-positive rate. There is the cost of retaining a Medical Review Officer to process all positive tests, and if a worker resigns or is fired as a result of a drug testing program, there is the cost of replacing her and of training her replacement. If a formal grievance follows, a cascade of opportunity costs will be the result and these must also be considered.

Second, there is evidence that drug testing discourages highly qualified workers from applying. Surveys have shown that the minority of the public that is opposed to drug testing is as high as 40 percent. (Califano, 1982) “According to a report from the R. Brinkley Smithers Institute for Alcohol-Related Workplace Studies… some employers ‘have dropped pre-employment screening because it unduly hindered their ability to recruit employees with the proper skills.”’ (Maltby, 1999)

Third, drug testing very likely has a negative impact on worker morale and loyalty. Several surveys have shown that workers view drug testing, especially suspicion-less drug testing, negatively. Shepard cites a survey published in 1990 by Hanson that found that only 16 percent of railroad workers, for example, believe random drug testing is fair. “If drug tests contribute to a negative view towards the company, then workers may not contribute as much in return, or they may seek employment elsewhere; some workers may not seek or accept jobs from companies with drug testing programs.” (Shepard and Clifton, 1998) Morale is also affected because many workers find the process of urine drug testing degrading and embarrassing, and because they fear the potentially devastating consequences of a false-positive test.
Fourth, drug testing could lower productivity if it caused marijuana users to switch to more impairing substances like alcohol, which is not tested for, or to more harmful drugs with a much smaller window of detectability like cocaine or heroin. “Some evidence of substitution effects have been found by other researchers.” (Shepard and Clifton, 1998)

**There is an alternative…**

There are alternatives to drug testing that are more cost effective and which do not raise issues of justice or privacy. EAP programs that include training supervisors and co-workers to identify and refer workers who might be having performance-impairing problems are a tried and true way to confront this issue in a manner consistent with the human relations movement ethos. Studies by the NAS and the U.S. Department of Health and Human Services have shown that such programs can be effective in improving the performance of referred workers and that managers are eager to spend time in this sort of training. (Maltby, 1999) Careful reference checking is another well-established methodology to screen out job applicants who have a drug problem by focusing on the applicant’s prior job performance. Finally, fitness-for-duty testing which measures motor coordination and alertness, while too time consuming and expensive for general use, is a reasonable alternative to drug testing in truly safety-sensitive occupations.

Suspicion-less drug testing is the antithesis of everything the human relations movement in labor management stands for. It is a paternalistic and degrading technology that establishes a de-facto adversarial relationship between employers and employees in companies that practice it. We have seen that drug testing targets a group of employees, casual marijuana users, which are particularly unlikely to be a source of workplace problems and that it is ineffective in detecting acute hard drug use or any degree of alcohol abuse. It may be an effective symbol that an employer is “tough on drugs” but it is morally wrong to trash the individual liberties of many, and cause harm to innocents, in order that a few be punished in pursuit of making a symbolic point.

**References**


[END]

Addiction, Pain, & Public Health website - www.doctordeluca.com/