Workplace alcohol-testing programs: prevalence and trends

Although testing for illicit drugs is more prevalent than alcohol testing, results from two nationwide surveys reveal that alcohol testing of employees is on the rise

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Since the beginning of the industrial era, employers have been concerned about the costs and consequences of inappropriate alcohol consumption by workers on and off the job. "By far the most common of the drugs that can affect work performance is ethanol (alcoholic beverages)," according to the Institute of Medicine.[1] Many studies have shown that both heavy drinking over time and the misuse of alcohol in safety-sensitive situations have had significant negative effects on worker productivity and health, and on employer costs and profits.[2] As a consequence, several strategies have emerged to control this behavior. Modern interventions include occupational alcoholism programs and their successors; employee assistance programs, health promotion programs, and education and training efforts.

In the 1980s, impairment testing programs also became a popular workplace method to address substance misuse.[3] Testing programs are primarily intended to detect the use of illicit drugs, but also are used in many worksites to detect inappropriate ethanol use among employees.

This article describes the prevalence and characteristics of alcohol-testing programs in U.S. worksites. The data are derived from two national prevalence surveys of worksites. These surveys were conducted in 1993 and 1995 with support from the National Institute on Drug Abuse. We present national prevalence estimates of alcohol-testing programs for job applicants and current employees. Prevalence is presented by worksite size (number of employees), type of industry, and census region. For programs that test current employees, these estimates are given for both 1993 and 1995. We then compare the prevalence of alcohol- and drug-testing programs for applicants and current employees in 1995. We also describe employee and worksite characteristics by alcohol-testing prevalence at the worksite. Finally, we present alcohol-testing prevalence by type of testing program, testing method, and organizational unit responsible for testing. (For a description of the methodology, see appendix.)

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Background

A vast amount of literature has consistently documented the negative effect of alcohol use on production costs and worker and public safety. Research indicates that chronic and situational misuse of alcohol is positively associated with absenteeism,[4] job turnover,[5] industrial accidents,[6] poor job performance, lack of self-direction, poor interpersonal relations,[7] lower levels of job satisfaction,[8] theft, vandalism, and negative work behaviors.[9]

Historically, employers have relied on supervisors to identify alcohol misusers. Some of the telltale signs are: deterioration of job performance, poor work habits, antisocial behavior, accidents, absenteeism, and a host of other incidents that could cause management to inquire about alcohol misuse.[10] These approaches have their shortcomings, such as the reluctance of supervisors to monitor and intervene with alcohol-related behaviors,[11] their tendency to cover up the alcohol misuse of workers under their supervision,[12] and their failure to handle the reactive nature of alcohol misusers. Many managers believe that alcohol testing is a valuable approach to controlling the workplace consequences of chronic and situational alcohol misuse. One reason for this is

Table 1. National estimates of alcohol testing among private nonagricultural worksites by size, industry, and census region, 1995

[In percent]

Characteristic	Worksites that test—				Government regulation requires testing, 1995[2]
	Applicants	Current employees		Applicants and/or employees[1]	
	1995	1993	1995	1995	
All worksites	21.7	20.3	[3]28.4	36.0	31.7
	(1.4)	(1.0)	(1.5)	(1.6)	(2.5)
Worksite size					
50–99 employees	19.2	15.8	[3]25.0	31.4	33.7
	(2.4)	(1.6)	(2.6)	(2.8)	(5.1)
100–249 employees	19.7	19.3	[3]26.8	33.6	26.2
	(2.3)	(1.6)	(2.5)	(2.7)	(3.9)
250–999 employees	26.5	28.4	34.1	42.9	33.8
	(3.0)	(2.0)	(3.2)	(3.3)	(4.9)
1,000 employees or more	33.3	37.5	40.0	55.2	38.3
	(5.0)	(3.5)	(5.2)	(5.6)	(6.1)
Industry					
Manufacturing	33.7	25.1	[3]38.1	49.5	24.3
	(2.8)	(1.9)	(2.8)	(2.9)	(3.5)
Wholesale/retail	19.4	18.0	26.3	33.1	37.3
	(3.5)	(2.5)	(3.9)	(4.1)	(7.4)
Communications, utilities, and transportation	30.3	32.3	[3]47.4	52.7	67.7
	(4.1)	(3.0)	(4.6)	(4.7)	(6.5)
Finance, insurance, and real estate	5.8	6.8	7.3	11.0	11.6
	(1.4)	(1.3)	(2.3)	(2.5	(6.0)
Mining and construction	29.3	26.6	[3]39.0	45.5	46.3
	(4.1)	(3.4)	(4.6)	(4.8)	(6.4)
Services	13.3	16.1	20.2	26.5	21.4
	(2.3)	(1.7)	(2.7)	(3.1)	(5.3)
Region					
Northeast	19.2	11.7	[3]20.1	27.2	39.2
	(3.1)	(1.6)	(2.9)	(3.4)	(7.1)
Midwest	24.5	21.0	27.3	36.0	26.3
	(2.7)	(2.0)	(2.8)	(3.1)	(4.0)
South	19.2	23.2	[3]37.9	41.9	32.7
	(2.3)	(1.7)	(2.9)	(3.0)	(4.1)
West	24.7	23.2	22.3	34.7	31.3
	(3.4)	(2.5)	(3.1)	(3.8)	(5.9)

[1] Worksites that test applicants only, current employees only, and both applicants and current employees. Columns 1 through 4 are not exclusive categories.

[2] Percent of worksites that test for alcohol in which Government regulation requires testing.

[3] Difference between 1993 and 1995 is significant at the .05 level.

NOTE: Data are based on worksites with 50 or more employees.

Data in parentheses represent the standard error.

the apparently objective, scientific nature of testing procedures. However, while typical substance screening procedures (urinalysis, breathalyzers, and blood tests) are reliable indicators of the *presence* of ethanol, they only link the levels of inebriation to individual job performance impairment in a very general way.[13]

Given the relatively pervasive nature of alcohol misuse and its associated work-related problems, it is ironic that alcohol testing is much less prevalent than illicit drug screening programs.[14] This could be attributed to several factors, including differing social tolerances of alcohol and illicit drug use[15] and applicable Federal policy regulations. For instance, according to a 1994 study by Jacques Normand and others:

> "Urine tests do not, however, show whether there is alcohol-induced impairment, whether alcohol has been used in the workplace, or whether there is alcohol in the blood while at work. Establishing impairment due to alcohol is important because the Americans with Disabilities Act (ADA) does not protect current users of illicit drugs, but it does protect those who are diagnosed as alcoholics. Thus under the ADA, any test result that is to be the basis of negative action has to establish impairment. This requirement inevitably leads to the need to establish threshold blood alcohol concentration (BAC) above which the employee may be presumed to be under the influence of alcohol with attendant physiological and behavioral impairments."[16]

Presently, an acceptable blood alcohol concentration level in the workplace has not been established. Therefore, alcohol impairment guidelines for many employers remain discretionary. While presidential Executive Order 12564, signed in 1986, mandated that employers are legally allowed to test for illicit drugs, the guidelines established in 1988 by the Department of Health and Human Services excluded alcohol as a substance for which workers were to be tested. The only exception to this omission of alcohol is the recent Omnibus Transportation Act of 1991, which requires the Department of Transportation to include alcohol as a target drug in its testing program.

In summary, while labor and management have attempted to control the problems associated with alcohol misuse in the workplace, historically, alcohol-testing programs have not been adopted in great numbers, certainly relative to the prevalence of illicit drug-testing programs. Our research, however, suggests that the prevalence of testing for alcohol is increasing.

Survey results

Who gets tested? Worksites were more likely to test current employees than job applicants for alcohol misuse. (See table 1.) In 1995, 28.4 percent of all worksites conducted alcohol

Exhibit 1. National estimates of alcohol and drug testing among applicants, employees, and combinations of both groups in private nonagricultural worksites, 1995

[In percent]

		Worksite conducts drug testing on applicants		
		Yes	No	Total (alcohol testing)
Worksite conducts alcohol testing on applicants	Yes	20.6 (1.4)	1.1 (.3)	21.7 (1.4)
	No	25.2 (1.4)	53.0 (1.7)	78.3 (1.4)
	Total (drug testing)	45.9 (1.7)	54.1 (1.7)	100.0

More than twice as many worksites test applicants for drugs (45.9 percent) than for alcohol (21.7 percent).

		Worksite conducts drug testing on current employees		
		Yes	No	Total (alcohol testing)
Worksite conducts alcohol testing on current employees	Yes	22.7 (1.4)	5.7 (.8)	28.4 (1.5)
	No	11.0 (1.1)	60.6 (1.7)	71.6 (1.5)
	Total (drug testing)	33.7 (1.6)	66.3 (1.6)	100.0

Slightly more worksites test current employees for drugs (33.7 percent) than for alcohol (28.4 percent).

		Worksite conducts drug testing[1]		
		Yes	No	Total (alcohol testing)
Worksite conducts alcohol testing	Yes	33.5 (1.6)	2.6 (1.6)	36.0 (1.6)
	No	20.2 (1.4)	43.7 (1.7)	63.9 (1.6)
	Total (drug testing)	53.7 (1.7)	46.3 (1.7)	100.0

When a worksite tests for drugs, it usually also tests for alcohol. Only 2.6 percent of worksites test for alcohol and not drugs. Conversely, many worksites test for drugs and not alcohol (20.2 percent).

[1]Worksites that test applicants only, current employees only, and both applicants and current employees.

NOTE: Data in parentheses represent the standard error.

Data are based on private nonagricultural worksites with 50 or more employees.

testing on current employees, and 21.7 percent of all worksites tested applicants. Also, testing of current employees increased from 20.3 percent in 1993 to 28.4 percent in 1995 (which is statistically significant at the .05 level), representing a 39.9-percent increase in alcohol testing prevalence. (Note, the 1993 national survey did not inquire about alcohol testing for applicants.) Further, in 1995, 36 percent of worksites conducted alcohol testing for applicants, or current employees, or both.

Worksite size. Table 1 also shows the positive relationship between worksite size and the prevalence of an alcohol-testing program. In 1995, approximately 40.0 percent of the large worksites, those with more than 1,000 employees, conducted testing on current employees (33.3 percent tested applicants), compared with 25 percent of small worksites, those with 50 to 99 employees (19.2 percent tested applicants). However, among small worksites, the prevalence of alcohol-testing programs for current employees increased significantly from 15.8 percent to 25 percent from the 1993 survey period to the 1995 period. This compares with the 37.5-percent (1993) to 40.0-percent (1995) rate among large worksites. Thus, the prevalence of alcohol testing is increasing more rapidly in smaller worksites.

Type of industry. The prevalence of alcohol testing varies widely across industry groups both for applicants and current employees. (See table 1.) For example, in 1995, the communications, utilities, and transportation industries had a testing prevalence of 47.4 percent for current employees (30.3 percent for applicants), while the prevalence for the finance, insurance, and real estate industries was only 7.3 percent (5.8 percent for applicants). For all industry groups, the prevalence of testing usually increased from the 1993 to 1995 survey periods, and this increase was statistically significant in the manufacturing; communications, utilities, and transportation; and mining and construction industries.

Census region. Differences in the prevalence of alcohol testing by the regions defined by the Bureau of the Census show the South having the highest prevalence (37.9 percent) and the Northeast (20.1 percent), the lowest prevalence for current employees in 1995. All regions except the West had in-

creased testing prevalence for current employees from 1993 to 1995, with the Northeast and the South having relatively large increases that were statistically significant.

Government regulation. Of the worksites that test for alcohol, in 1995, 31.7 percent of them were required to do so by the Federal Government. (See table 1.) The association between testing and regulations is differentially manifested across types of industry, however. For example, required alcohol testing is most prevalent in communications, utilities, and transportation (67.7 percent), which is an industry group regulated by the Omnibus Transportation Act of 1991, while least prevalent in the unregulated finance, insurance, and real estate industries (11.6 percent). Thus, as expected, there is a positive, although variable, correlation between worksite prevalence of alcohol testing and Government regulation requiring testing. Table 1 also shows that the Northeast has a relatively high Government-required testing prevalence of 39.2 percent for worksites that test.

Alcohol versus drug testing

Clearly, drug testing is still more prevalent than alcohol testing.[17] For example, 36.0 percent of worksites with more than 50 employees conduct alcohol testing for applicants or current employees or both, while the corresponding prevalence for drug testing is 53.7 percent. (See exhibit 1.) In addition, when a worksite conducts alcohol testing, it almost always tests for drugs, while a worksite that tests for drugs does not always test for alcohol. For example, only 2.6 percent of worksites test for alcohol (on applicants or employees, or both) and do not test for drugs. By contrast, 20.2 percent of worksites test for drugs, but do not test for alcohol. Exhibit 1 also shows that the prevalence of drug testing for applicants is more than twice that of alcohol testing (45.9 percent, versus 21.7 percent).

Alcohol-testing details

Characteristics. The presence of alcohol testing varies by worksite and individual characteristics. For example, for worksites that conduct alcohol testing, 23.4 percent of employees have college degrees, while this percentage is 28.6 percent in worksites with no alcohol testing. (See table 2.) In general, table 2 indicates that worksites with testing programs have a significantly higher percentage of males, full-time employees, and unions, while they have a significantly lower percentage of employees with college degrees. Neither the percentage of younger employees (under age 30) at a worksite nor the percentage of employees with a high school diploma show statistically significant differences.

If a worksite conducts alcohol testing, it is more likely to test for drug use, (92.9 percent), have an employee assistance program (49.2 percent), and have a written alcohol and drug use policy (97.3 percent). (See table 2.)

Frequency and type of program. For worksites that conduct alcohol testing of current employees, we examined the frequency and type of program in place during 1995. Table 3 shows the prevalence of programs that test on an unconditional and on a conditional basis. Unconditional testing includes random and regular assessments to which any employee could be subjected regardless of conduct or job per-formance. Conditional testing consists of assessments that occur for selected employees, and is based on conditions, such as following an accident, after determining a reasonable cause, or following up as a completion to substance abuse treatment.

In general, worksites are more likely to conduct conditional than unconditional testing of employees. For worksites that conduct conditional alcohol testing of current employees, overall, the prevalence in 1995 is higher following an accident (73.9

Table 2. Employee and worksite characteristics by alcohol-testing status among private nonagricultural worksites, 1995

[In percent]

Characteristic	All worksites	Worksites that test for alcohol use		Statistically significant[1]
		Yes	No	
Employee characteristics:				
Male	52.0	60.2	47.4	Yes
Full-time job	84.4	88.1	82.4	Yes
Under 30 years of age	35.6	33.7	36.7	No
High school diploma	85.9	84.7	86.7	No
College degree	26.8	23.4	28.6	Yes
Union affiliation	10.8	17.0	7.4	Yes
Worksite characteristics:				
Tests for drug use	53.7	92.9	31.7	Yes
Implements employee assistance program	36.3	49.2	29.0	Yes
Maintains written policy regarding drug or alcohol use	91.3	97.3	87.9	Yes
Applies Drug Free Workplace Act	29.1	33.3	26.7	No

[1]Significant difference in percentages for worksites with or without alcohol testing at the .05 level.

NOTE: Data are based on private nonagricultural worksites with 50 or more employees.

Percentages for employee characteristics are means of percentages of employees at worksites with that characteristic; the statistical test was the *t*-test. Percentages under worksite characteristics are percentages of worksites with that characteristic; the statistical test was the chi-square test.

percent) and for reasonable cause (77.9 percent) than it is after substance abuse treatment (50.9 percent). In general, testing for alcohol after an accident decreases as worksite size increases (77.0 percent for small worksites, versus 62.3 percent for large worksites), whereas testing increases after substance abuse treatment as worksite size increases (47.8 percent for small worksites, versus 64.4 percent for large worksites). The finance, insurance, and real estate industries have a relatively low testing prevalence following an accident (36.3 percent) and a relatively high testing prevalence for reasonable cause (92.0 percent) and following substance abuse treatment (67.6 percent). Compared with the other three regions, the Northeast had the highest prevalence of testing after substance abuse treatment (61.5 percent).

Among unconditional testing types, the results indicate that random testing (48.4 percent) is more prevalent than regular testing (12.4 percent). In 1995, the prevalence of random testing was highest in small worksites (59.9 percent), in the communications, utilities, and transportation industries (82.4 percent), and in the West region (59.1 percent). Regular testing was highest in the mining and construction industries (22.1 percent) and in the northeast region (19.5 percent). In 1995, for those worksites that conduct random tests, we asked whether the employees selected for testing were told before the day of the test or only after reporting to work on the day of the test. Our estimates indicate that 14 percent of worksites that conduct random testing tell their employees about their selection before the day of the test.

Table 3. National estimates of unconditional alcohol-testing prevalence, among worksites that test current employees, by type of testing program and by worksite characteristics, 1995

[In percent]

Characteristic	Unconditional testing		Conditional testing		
	Random testing	Regular testing	Following an accident	Reasonable cause	Follow-up to substance abuse treatment
All worksites	48.4	12.4	73.9	77.9	50.9
	(3.1)	(1.9)	(2.9)	(2.8)	(3.2)
Worksite size					
50–99 employees	59.9	10.7	77.0	75.3	47.8
	(6.1)	(3.4)	(5.4)	(5.4)	(6.5)
100–249 employees	40.3	14.9	76.2	75.3	51.2
	(5.2)	(3.5)	(4.8)	(5.2)	(5.4)
250–999 employees	44.6	10.1	70.6	84.9	49.4
	(5.7)	(3.3)	(5.5)	(3.8)	(5.8)
1,000 employees or more	45.5	15.7	62.3	78.5	64.4
	(7.7)	(4.5)	(8.8)	(7.8)	(8.2)
Industry					
Manufacturing	34.1	12.6	77.0	80.3	49.3
	(4.5)	(3.1)	(4.1)	(3.9)	(4.8)
Wholesale and retail	64.4	16.0	79.7	61.6	50.3
	(8.1)	(6.3)	(7.5)	(8.7)	(9.0)
Communications, utilities, and transportation	82.4	18.6	77.9	84.3	60.4
	(4.2)	(4.0)	(6.5)	(5.8)	(6.6)
Finance, insurance, and real estate	26.0	6.7	36.3	92.0	67.6
	(11.6)	(5.1)	(14.2)	(5.7)	(14.2)
Mining and construction	70.5	22.1	79.1	82.6	61.9
	(6.0)	(5.6)	(5.8)	(5.6)	(7.0)
Services	38.7	4.3	63.8	81.5	45.4
	(7.2)	(1.6)	(7.3)	(5.8)	(7.5)
Region					
Northeast	48.9	19.5	77.9	70.8	61.5
	(8.1)	(6.6)	(6.4)	(7.7)	(7.7)
Midwest	39.3	9.9	73.4	84.3	47.3
	(5.7)	(2.7)	(5.8)	(4.1)	(5.9)
South	49.7	13.7	75.1	76.9	52.6
	(4.9)	(3.1)	(4.4)	(4.5)	(5.1)
West	59.1	6.7	67.6	76.3	43.2
	(7.5)	(2.6)	(7.7)	(7.4)	(7.7)

NOTE: Data are based on private nonagricultural worksites with 50 or more employees. Worksites that test only job applicants are not included in this table. Figures do not add up to 100 because they are not mutually exclusive.

Data in parentheses represent the standard error.

Testing methods and who conducts testing. The prevalence of alcohol-testing methods and the group responsible for conducting the tests can be examined by workplace size, type of industry, and region of current employees. Urinalysis is by far the most popular testing method (72.2 percent overall), with blood analysis and breathalyzers used in only about one-fourth of the worksites that do testing.[18] (See table 4.) The breathalyzer is used more by large worksites than small ones (35.2 percent for large worksites, versus 18.4 percent for small worksites). By industry, there are large differences in the testing methods used. For example, the finance, insurance, and real estate industries use urinalysis 95.4 percent of the time and the breathalyzer only 6.9 percent of the time, whereas the communications, utilities, and transportation industries use the breathalyzer 51.4 percent of the time. By region, the West has the highest prevalence of urinalysis testing (78.7 percent) and the lowest use of both blood analysis (14.1 percent) and the breathalyzer (14.9 percent). The Northeast has the highest prevalence of performance testing.

Overall, outside contractors do most of the alcohol testing (72.9 percent), but as worksite size increases, a much larger percentage of testing is done at the worksite by worksite employees. For example, 62.4 percent of the testing is done by employees of the worksite for large worksites, but only 21.3 percent for small worksites. Most industry types have 60

to 70 percent of their testing done by outside contractors. One exception is the wholesale/retail trade industry which has 87.9 percent of its testing done outside. Thus, testing by an outside contractor is by far the most popular model overall and across industry types, but larger worksites tend to have more alcohol testing conducted by employees of the worksite.

What the results show

The results of our study show that alcohol testing, while less prevalent than testing for illicit drug use, is widely implemented in worksites and is increasing in prevalence. Testing for alcohol misuse is conducted most likely in worksites that have the resources to implement such a program, and such testing is significantly more likely to occur in larger worksites than in smaller ones throughout the Nation. However, smaller worksites have experienced the fastest growth in adopting testing programs between 1993 and 1995.

Testing programs are more likely to occur in worksites where job turnover tends to be low (and in industries such as communications, utilities, and transportation; mining and construction; and manufacturing, which have more full-time workers) and where employees are perceived to be at greater risk (males, unionized, and fewer years of education) due to job stress or the presence of workplace drinking cultures, or both.[19] Accordingly, testing programs are more likely to be conditional in nature; following an accident, finding a reasonable cause, or following an employee's completion of substance abuse treatment. Consistent with other studies of illicit drug testing, we found that random testing is the most prevalent method of unconditional testing.[20]

Growth in the prevalence of alcohol testing in the workplace is somewhat surprising. From the objective standpoint, positive results for the presence of alcohol do not necessarily indicate intoxication or a psychological or behavioral inability to perform job tasks. These problems arise when alcohol

Table 4. Prevalence of alcohol-testing methods and conductors of tests among private nonagricultural worksites that test current employees, by worksite characteristics, 1995

[In percent]

Characteristic	Alcohol testing methods				Conductors of alcohol tests	
	Urinalysis	Blood analysis	Breathalyzer	Performance testing	Outside contractor	By company employees
All worksites	72.2	27.7	23.6	7.3	72.9	27.1
	(2.5)	(2.6)	(2.2)	(1.4)	(2.4)	(2.4)
Worksite size						
50–99 employees	70.1	26.9	18.4	4.7	78.7	21.3
	(5.0)	(4.9)	(3.8)	(2.4)	(4.5)	(4.5)
100–249 employees	74.2	28.4	22.5	6.2	76.3	23.7
	(4.2)	(4.6)	(3.6)	(2.5)	(4.1)	
250–999 employees	73.2	27.3	27.7	11.3	74.4	25.6
	(4.6)	(4.6)	(4.5)	(3.4)	(4.0)	(4.0)
1,000 employees or more	70.8	29.2	35.2	10.3	37.6	62.4
	(6.6)	(6.5)	(6.4)	(2.7)	(6.7)	(6.7)
Industry						
Manufacturing	77.5	28.2	19.5	7.6	73.2	26.8
	(3.4)	(3.7)	(3.1)	(2.0)	(3.5)	(3.5)
Wholesale and retail	68.5	19.7	20.4	4.3	87.9	12.1
	(7.0)	(6.1)	(5.8)	(3.5)	(4.9)	(4.9)
Communications, utilities, and transportation	62.5	19.4	51.4	4.9	67.6	32.4
	(5.3)	(3.7)	(5.9)	(1.8)	(5.0)	(5.0)
Finance, insurance, and real estate	95.4	20.3	6.9	2.4	64.7	35.3
	(3.4)	(7.7)	(4.8)	(1.7)	(13.9)	(13.9)
Mining and construction	80.4	34.4	26.5	8.2	65.4	34.6
	(4.7)	(6.1)	(5.4)	(3.2)	(6.1)	(6.1)
Services	67.6	37.2	20.5	10.6	64.4	35.6
	(6.4)	(6.7)	(5.1)	(3.9)	(6.3)	(6.3)
Region						
Northeast	74.9	23.2	24.3	13.6	69.0	31.0
	(6.3)	(5.9)	(6.3)	(6.0)	(6.5)	(6.5)
Midwest	70.6	32.6	27.1	8.5	78.3	21.7
	(4.7)	(4.8)	(4.2)	(2.6)	(3.8)	(3.8)
South	69.0	33.0	25.3	5.6	71.2	28.8
	(4.2)	(4.5)	(3.6)	(1.8)	(3.9)	(3.9)
West	78.7	14.1	14.9	3.9	71.9	28.1
	(5.6)	(4.5)	(3.9)	(1.7)	(6.1)	(6.1)

NOTE: Data in parentheses represent the standard error.

is used in relatively large quantities over a short period of time. Moreover, the effect of alcohol on job performance is mediated by a number of influences, including, physiological, psychological, and metabolic differences; work conditions; and performance requirements.[21]

From another viewpoint, it is ironic that alcohol-testing programs in the workplace are only one-half as prevalent as programs that test for illicit drugs, given consistent epidemiological research estimating a much greater occurrence of employee alcohol misuse. The growth in alcohol testing has paralleled that of drug-testing programs, and very few alcohol-testing programs exist in worksites that do not also test for illicit drugs.[22] On the whole, alcohol testing rarely occurs as a single strategy to combat substance abuse in the workplace, and is highly likely to occur in worksites that engage in a wide range of strategies, including the use of formal policies and employee assistance programs.

An independent influence that cuts through general patterns of alcohol testing is that of Federal Government regulations. Legislation has a targeted effect on certain worksites and industries, and it can mandate particular testing strategies. In the case of the Omnibus Transportation Act of 1991, transportation industries are mandated to implement random alcohol testing (as opposed to more common conditional testing), a method that has proven to be relatively cost ineffective for detecting substance abusers.[23] Another influence on alcohol testing is the Americans with Disabilities Act which defines alcoholic workers as a medically protected group. With these workers, alcohol-related job performance impairment must be confirmed before the worker may be sanctioned; something that testing programs per se cannot demonstrate. In contrast, unprotected illicit drug users merely have to be confirmed as having consumed drugs at some point either on or off the job to be subject to sanctioning. □

Footnotes

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[16] Normand and others, eds., *Under the Influence*, p. 191.

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[18] While we do not have definitive information to explain why urinalysis is the preferred method of detecting excessive alcohol consumption, two explanations are possible. First, because alcohol testing is most likely to occur in worksites that also test for illicit drugs, it could be that alcohol ingestion is merely added to the urinalysis drug-test battery. The implementation of breathalyzer testing that would provide immediate estimates of blood alcohol content would be a cost added to those of current testing procedures in these worksites. Second, some employers could feel that much of the deterrent effect of breathalyzer testing (that is, causing fewer workers to arrive at work with excessive blood alcohol content levels, and allowing for the immediate removal of impaired employees from the workplace when detected with high levels) can be achieved by urinalysis. Specifically, if employees are aware that they are being tested for alcohol impairment, and that coming to work with excessively high blood alcohol content levels is likely to be negatively sanctioned (regardless of the relative time delay in management detecting the employee's impairment caused by the urinalysis testing procedure), employers might believe that workers would be deterred from arriving at work under the influence of alcohol.

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Appendix: Methodology

The National Survey of Worksites and Employee Assistance Programs conducted two national probability sample surveys, one in the spring of 1993 and the other in the spring of 1995. Both national surveys were conducted by telephone. The target population was private nonagricultural worksites in the United States with 50 or more employees. For this study, a worksite is defined as any business location with a unique, separate, and distinct operation, including the headquarters unit within an enterprise. The sampling frames were constructed from the Dun's Market Identifiers database from Dun's Marketing Service, a subsidiary of Dun and Bradstreet.

Each sample was stratified by industry (manufacturing; wholesale and retail trade; utilities, transportation, and communication; finance, insurance, and real estate; services; and mining and construction) and worksite size grouping (by number of employees: 40 to- 49, 50 to 99, 100 to 249, 250 to 999, and 1,000 or more). The 40 to 49 stratum was added to the survey to improve coverage of the target population because the number of employees at a worksite may vary from the number in the database. However, only worksites reporting 50 or more employees during data collection were included in the analysis.

Geographic location (four census regions) was used as a secondary stratification factor to allocate the sample proportionally across geographic regions within industry and worksite size. The 6 industry classifications, 5 size categories, and four census regions combine to give 120 strata. The final sample was selected with equal probability within each stratum. The sampling frames included approximately 421,000 worksites in 1993 and 431,000 in 1995. The final stratified sample contained 6,488 worksites in 1993 and 5,471 in 1995, of which 3,204 and 2,098 were eligible and responding worksites for 1993 and 1995, respectively.

During data collection, the response and eligibility rates were monitored and the sample size in each stratum was supplemented to accommodate differences between projected and actual response and eligibility rates. The final probability sample ensured adequate sample sizes for national estimates broken down by industry and worksite size.

The 1993 survey instrument contained about 130 questions on drug and alcohol testing, worksite demographics, characteristics and costs of employee assistance programs, employee benefits, and worksite programs. These areas were expanded for the 1995 survey instrument, which contained about 160 questions. Approximately 2 weeks prior to administering the surveys, a lead letter was mailed to the director of human resources or the personnel department. This letter introduced the study, ensuring confidentiality, and prepared the recipient for the telephone interview. The interview was conducted using computer-assisted telephone interviewing (CATI). The introductory section of the survey instruments confirmed that the correct worksite had been contacted, that the worksite was eligible to participate, and that the interviewer was speaking with the person most knowledgeable about the employee benefits. After collecting this preliminary information, interviewers determined whether the worksite had an employee assistance program. The full questionnaire was administered to those worksites with such a program, and a shortened version was used for those without one.

A worksite's sampling weight was initially computed as the inverse of its selection probability. A nonresponse adjustment was applied to compensate for nonresponding worksites. Finally, sampling weights were further adjusted for each sampling stratum by poststratifying to the worksite count in the February 1993 Dun's Market Identifiers database for the 1993 survey, and the average of the worksite counts from the February and September 1995 databases for the 1995 survey.

Because of stratification and the difference in the weights across the strata, computing valid national estimates and variances required taking into account the complex survey design. Weighted total, means, frequencies, and their standard errors were computed using the Research Triangle Institute's Survey Data Analysis software.[1]

Footnote to the appendix

[1] SUDAAN software was used in this analysis. See B. V. Shah, B. G. Barnwell, and G. S. Bieler, *SUDAAN User's Manual: Software for Analysis of Correlated Data*, Release 6.40 (Research Triangle Institute, Research Triangle Park, NC, 1995).