Office of Research and Analysis

Drug and Alcohol Testing Survey: 2004 and 2005 Results

Federal Motor Carrier Safety Administration
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Introduction

This report summarizes the results of the 2005 Federal Motor Carrier Safety Administration (FMCSA) Drug and Alcohol Testing Survey. This annual survey measures the percentage of drivers with commercial driver's licenses (CDLs) who test positive for controlled substances (referred to as drugs in this report) and/or alcohol, in random and nonrandom (pre-employment, post-crash, and reasonable suspicion/follow-up) testing.

Background

Motor carriers with CDL drivers are required to have drug and alcohol testing programs, pursuant to Part 382 of the Federal Motor Carrier Safety Regulations. Currently, FMCSA requires such carriers to test 10 percent of their CDL drivers randomly for alcohol and 50 percent of their CDL drivers randomly for drugs each year. In addition, FMCSA requires carriers to perform drug and alcohol testing (nonrandom) on CDL drivers whenever (1) the driver is being considered for employment (only for drugs and only when the driver has not recently been in a drug and alcohol testing program); (2) the driver has been involved in a crash (only when the crash involves a fatality, or when the driver receives a citation in a towaway- or injury-related crash); or (3) the driver is suspected by a supervisor of using drugs or alcohol while at work.

In the case of alcohol, an on-duty CDL driver is in violation of FMCSA regulations when his or her blood alcohol content is equal to 0.02 grams per 210 liters of breath, or higher. If the driver tests at a concentration of 0.04 or higher, he or she also must undergo referral, evaluation, and treatment, pursuant to Part 382, Subpart F. The alcohol violation rate for the industry (determined annually by FMCSA and used to evaluate required motor carrier testing rates) is based on the cutoff level of 0.04 grams per 210 liters of breath or higher. For drugs (marijuana, cocaine, opiates, amphetamines, and PCP), the cutoff levels for identifying use are based on guidelines set by the U.S. Department of Health and Human Services.

Motor carriers must make their annual drug and alcohol summary data available to FMCSA upon request. This summary information includes the number of drivers tested and the number who tested positive for each testing category. Each year, FMCSA estimates drug and alcohol usage rates for CDL drivers, based on a statistical sample of summary information.

The positive usage rates presented in this report represent weighted statistical estimates. The estimates are generalizable to the entire population of CDL drivers in the national fleet. They have been derived using standard statistical techniques applicable to stratified samples. It is important to note that the rates obtained from these procedures do not represent true values but, rather, unbiased estimates of the true rates, with associated sampling errors.

Results

Estimates of positive usage rates from random and nonrandom testing are discussed separately below. All survey estimates are presented in Table 1 (drugs) and Table 2 (alcohol), which also include estimates from the 2003 and 2004 surveys. Unless specified otherwise, the term *positive*

usage rate refers to the use of any of the five drugs referenced above: marijuana, cocaine, opiates, amphetamines, or PCP.

Random Testing

For the 2005 survey, survey forms were sent to 3,255 randomly selected motor carriers. Of the forms sent, 2,637 were completed and returned to FMCSA, providing usable data from 1,403 carriers (comprising 420,852 CDL drivers) for random controlled substance testing, as well as usable data from 1,235 carriers (comprising 116,800 CDL drivers) for random alcohol testing. Respondents providing unusable data represent entities that were out of business or exempt from FMCSA's drug and alcohol testing requirements; had no testing program in place as required; or belonged to consortia that did not test any drivers for the carrier during 2005. The results, shown in Tables 1 and 2, are summarized below.

Drugs: The estimated *positive usage rate* for drugs, based on random testing of CDL drivers in 2005, was 1.7%, with a 95% confidence interval ranging from 1.1% to 2.3%. If the survey were replicated, the confidence interval derived from each replication would be expected to include the true usage rate in 95 out of 100 surveys. For the 2004 survey, the estimated positive usage rate for drugs was 1.6%. Based on the levels of precision achieved for the two survey years, the difference between the 2004 and 2005 rates is not statistically significant. In other words, the measured difference between the two rates cannot be shown to be real and may be attributable to the randomness of the samples.

Alcohol: The estimated *violation rate* for alcohol use (the percentage of drivers with a blood alcohol content of 0.04 or higher), based on random testing in 2005, was 0.2%, with a 95% confidence interval ranging from 0.0% to 0.4%. For 2004, the estimated violation rate was 0.1%. The difference between the 2004 and 2005 rates is not statistically significant.

Part 382 Compliance: Based on the 2005 survey results, the estimated percentage of subject motor carriers with random controlled substance and alcohol testing programs in place was 51%, and the estimated percentage of all CDL drivers participating in such programs was 79%. The disparity between the two percentages stems from the fact that small carriers, which constitute a majority of companies in the national fleet, tend to be less compliant with Part 382. Large companies, on the other hand, tend to be more compliant with Part 382, and they account for a majority of drivers (although they do not account for a majority of the carriers).

Nonrandom Testing

Estimates of *positive usage rates* for drugs from the nonrandom testing categories are shown in the second part of Table 1. Similar estimates for alcohol are shown in the second part of Table 2. Beginning in 2003, the survey stopped collecting information on drug involvement specific to fatal and nonfatal crashes. Those two estimation categories have been replaced with an overall post-crash drug testing category.

With the possible exception of pre-employment drug testing, the sample sizes achieved in the survey for the various nonrandom testing categories are much lower than those achieved for

random testing. As a result, the estimated precision levels for many of these estimates are low, and caution should be exercised in interpreting the estimates. Given the achieved levels of precision in the 2005 and 2004 estimates, differences between the nonrandom usage rates for the two years cannot be shown to be statistically significant.

Where the estimated rate in the table is zero and the standard error is missing, no drivers (or virtually no drivers) in the sample tested positive for the particular category. In such cases, the actual positive rate for the population is, in all likelihood, greater than zero, but the sample size was not adequate to produce a more precise estimate.

Table 1
Estimates of Positive Usage Rates for Drugs Among CDL Drivers from Random and Nonrandom Testing in 2003, 2004, and 2005

Category	2003		2004		2005	
	Estimate	Standard Error	Estimate	Standard Error	Estimate	Standard Error
Random Testing						
Any drug	2.0%	0.3%	1.6%	0.3%	1.7%	0.3%
Marijuana	0.6%	0.1%	0.8%	0.2%	0.6%	0.1%
Cocaine	0.3%	0.1%	0.5%	0.1%	0.5%	0.1%
Amphetamines	0.1%*	0.05%	0.1%*	0.1%	0.4%*	0.3%
Opiates	0.01%	0.001%	0.1%*	0.1%	0.04%*	0.02%
PCP	0.001%*	0.001%	0.1%*	0.1%	0.0%*	—
Nonrandom Testing						
Pre-employment	3.1%	0.3%	2.2%	0.2%	2.1%	0.1%
Post-crash	1.9%	0.8%	2.5%	0.6%	2.4%	0.5%
Reasonable Suspicion	19.4%*	10.7%	40.3%	14.8%	16.7%	4.1%
Return to Duty	3.6%*	2.3%	9.3%*	6.0%	2.6%	0.9%
Followup	3.1%	0.9%	3.8%	1.4%	2.4%	0.9%

*Indicates extremely low precision.
 — = No usage found among sample cases; standard error not calculated.
NA = Category not applicable for survey year.

Table 2

Estimates of Random and Nonrandom Alcohol Usage Rates Among CDL Drivers in 2003, 2004, and 2005

Category	2003		2004		2005	
	Estimate	Standard Error	Estimate	Standard Error	Estimate	Standard Error
Random Testing						
0.04+ BAC	2.0%	0.1%	0.1%	0.02%	0.2%*	0.1%
Nonrandom Testing						
Pre-employment	0.01%*	0.01%	0.01%*	0.003%	0.03%*	0.03%
Post-crash	0.1%*	0.03%	0.1%*	0.03%	0.1%*	0.02%
Reasonable Suspicion (0.04+)	24.2%	5.3%	11.0%	3.5%	6.4%	1.7%
Return to Duty (0.04+)	0.0%*	—	0.4%*	0.3%	0.05%*	0.02%
Followup (0.04+)	4.7%*	4.8%	0.2%*	0.1%	0.2%	0.06%

* Indicates extremely low precision.

   — = No usage found among sample cases; standard error not calculated.

NA = Category not applicable for survey year.

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