Results from the 2001 Drug and Alcohol Testing Survey
September 2002

Introduction

This report summarizes the results of the 2001 Federal Motor Carrier Safety Administration's (FMCSA) Drug and Alcohol Testing Survey. This annual survey measures the percentage of drivers with commercial drivers licenses (CDL) that test positive for controlled substances (referred to as drugs in this report) and/or alcohol, as a result of random and nonrandom (pre-employment, post crash, and reasonable suspicion) 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. These carriers must randomly test 10 percent of their CDL drivers for alcohol and 50 percent of their CDL drivers for drugs each year. In addition, FMCSA requires carriers to perform drug and alcohol testing (nonrandom) on CDL drivers when (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 (published annually by the FMCSA and used to evaluate required motor carrier testing rates) is based on this latter 0.04 cutoff level. For drugs (marijuana, cocaine, opiates, amphetamines, and PCP), the cutoff levels for identifying use are based on guidelines set by the Department of Health and Human Services.

The positive usage rates presented herein represent weighted statistical estimates. These estimates are generalizable to the entire population of CDL drivers in the national fleet and have been derived using standard statistical techniques applicable to stratified samples. It is important to keep in mind 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 both random and nonrandom testing are discussed separately below. All survey estimates are presented in Tables 1 (drugs) and 2 (alcohol) on the following pages, which also include estimates from the 1999 and 2000 surveys. Positive usage rates for specific drugs were also calculated using the 2001 data. Thus, in the case of random testing, Table 1 also presents

positive usage rates for each of the five drugs for which testing is required. Note that these drug-specific rates may not necessarily total to the overall positive rate for random testing because (1) a driver may test positive for more than one drug, and (2) the overall positive rate may also include refusals to test, which are treated as positives.

Random Testing

For the 2001 survey, survey forms were sent to 4,579 randomly selected motor carriers. 3,748 of these forms were completed and returned to FMCSA, resulting in usable data from 1,336 carriers (comprising 332,526 CDL drivers) for random controlled substance testing, as well as usable data from 1,164 carriers (comprising 86,160 CDL drivers) for random alcohol testing. Respondents providing nonusable data represent entities that are out-of-business, exempt, have no testing program in place, or belong to consortia that did not test any drivers for the carrier during 2001.

For random drug testing, the results are as follows:

- **Drugs:** The estimated positive usage rate for drugs, based on random testing in 2001, is 1.5%. The 95% confidence interval for this estimate ranges from 1.0% to 2.0%. If the survey were to be replicated, it would be expected that the confidence interval derived from each replication would contain the true usage rate in 95 out of 100 surveys. For 2000, this same rate was estimated to be 2.0%. Based on the levels of precision achieved for these two survey years, the change from 2000 to 2001 is not statistically significant. In other words, the measured difference in the two rates cannot be shown to be real and may be attributable to the randomness of the samples.

- **Alcohol:** Based on random alcohol testing in 2001, the estimated percentage of CDL drivers with a blood alcohol content of 0.02 or higher is 0.2% (two tenths of one percent). 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 2001, is 0.1% with a 95% confidence interval ranging from just over 0% to 0.2%. For 2000, the estimated violation rate was 0.2%. The change in violation rate from 2000 to 2001 is not statistically significant.

- **Part 382 Compliance:** Based on the 2001 survey results, the estimated percentage of motor carriers subject to Part 382 with random controlled substance and alcohol testing programs in place is 66%, and the estimated percentage of all CDL drivers participating in such programs is 95%.

Nonrandom Testing

Estimates of drug positive usage rates for the nonrandom testing categories are shown in Table 1, beneath the random testing rates. Estimated rates from nonrandom alcohol testing are shown in Table 2. 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 when interpreting these estimates. Given the achieved levels of precision in the 2000 and

2001 estimates, year-to-year differences in nonrandom testing rates between these 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 inadequate for producing a more precise estimate.

Table 1.
Estimates of Random and Nonrandom Drug Usage Rates
Among CDL Drivers for 1999, 2000, and 2001

	1999		2000		2001	
Category	Estimate	Standard Error	Estimate	Standard Error	Estimate	Standard Error
Random Testing Any Drug	1.3%	0.2%	2.0%	0.5%	1.5%	0.3%
Marijuana	0.6%	0.1%	1.5%	0.4%	0.9%	0.2%
Cocaine	0.3%	0.1%	0.6%	0.2%	0.5%	0.2%
Amphetamines	0.3%	0.1%	0.7%	0.3%	0.4%	0.1%
Opiates	0.03%*	0.03%	0.4%*	0.2%	0.2%*	0.1%
PCP	0.0%*	---	0.4%*	0.2%	0.1%*	0.1%
Nonrandom: Pre-employment	2.3%	0.2%	2.1%	0.3%	2.0	0.2%
Post Crash Nonfatal	2.6%	1.1%	2.8%	0.9%	2.2	0.8%
Post Crash Fatal	9.5%*	8.9%	13.7%*	21.7%	2.2*	2.1%
Reasonable Suspicion	16.1%*	8.5%	6.3%*	7.9%	10.7*	8.5%
Return to Duty	1.7%	0.7%	2.8%	2.2%	5.3*	3.5%
Follow-up	4.9%	1.7%	2.9%	1.2%	1.5*	0.6%

* indicates extremely low precision.

Table 2.
Estimates of Random and Nonrandom Alcohol Usage Rates
Among CDL Drivers for 1999, 2000, and 2001

Category	1999		2000		2001	
	Estimate	Standard Error	Estimate	Standard Error	Estimate	Standard Error
Random Testing 0.02 + BAC	0.5%	0.2%	0.4%*	0.2%	0.2%*	0.1%
0.04 + BAC	0.2%*	0.1%	0.2%*	0.1%	0.1%*	0.01%
Nonrandom: Pre-employment (0.04 +)	0.0%*	---	0.01%*	0.01%	0.02%*	0.02%
Post Crash Nonfatal (0.04 +)	0.8%*	0.7%	0.2%	0.1%	0.1%*	0.1%
Post Crash Fatal (0.04 +)	0.0%*	---	0.0%*	0.0*	0.1%	0.02%
Reasonable Suspicion (0.04 +)	6.7%	2.8%	2.5%*	4.5%	19.2%*	13.84%
Return to Duty (0.04+)	0.03%*	0.02%	0.0%*	0.0%*	0.2%*	0.1%
Follow-up (0.04 +)	0.2%*	0.3%	0.2%*	0.1%	0.1%	0.03%

* indicates extremely low precision.

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September 9, 2002

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