



A Longitudinal and Statistical Assessment of Hair vs. Urine Testing Efficacy

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Congress passed the Omnibus Transportation Employee Testing Act of 1991, in which the U.S. Department of Transportation (DOT) was required to implement drug and alcohol testing of all regulated transportation employees deemed to be in safety sensitive occupations.

DOT adopted urinalysis as the required drug testing method. Unfortunately, evidence exists that urine testing may not effectively detect and deter illicit drug users who seek to operate commercial motor vehicles. In 2015, Congress directed DOT to recognize hair drug testing, in lieu of a urinalysis, as a second option for employers to utilize when drug testing commercial truck drivers.

Yet, eight years later, DOT has failed to implement the law. Carriers that currently utilize hair drug testing, in addition to the federally required urinalysis, cannot submit positive drug test results to DOT's Drug and Alcohol Clearinghouse. While these carriers disqualify those truck drivers for employment, they likely go elsewhere and are operating 80,000-pound trucks on the nation's highways, within six feet of our families.

Previous research from the University of Central Arkansas demonstrated that 276,500 truck drivers would be prohibited from driving if they undertook hair testing and results were submitted to the Drug and Alcohol Clearinghouse.¹ This constitutes a clear and present danger to the traveling public, other truck drivers, supply chain continuity, and potentially threatens the trucking industry given increasingly large legal verdicts resulting from truck crashes.

Drs. Doug Voss, Joe Cangelosi, and Ming Li have engaged in a multi-year research effort utilizing data from members of The Alliance for Driver Safety and Security, commonly known as the Trucking Alliance, to highlight hair testing's ability to identify drivers engaged in lifestyle drug use. This paper represents the latest installment in this effort and the most comprehensive compilation of urine v. hair data of which we are aware. The differences between urine and hair testing results are pronounced.

Drawing from 936,872 pre-employment urine and hair drug screens administered from 2017-2022, hair testing uncovers:

- 25x more opioid users,
- 23x more cocaine users, and
- 13x more amphetamine/methamphetamine users.

In 2022, hair testing uncovered 10x more drug positives. Crosstab statistical analysis indicates:

- Hair has a significantly higher positivity rate compared to urine.
- Hair detects significantly more cocaine, opioids, amphetamines/methamphetamines, marijuana, ecstasy, and PCP.

Further, hair testing uncovered more positive drug tests across every drug, for every examined age group, and every U.S. state.²

¹ Voss, M. Douglas, and Joseph D. Cangelosi (2020), "Drug Testing in the U.S. Trucking Industry: Hair vs. Urine Samples and the Implications for Policy and the Industry," *Journal of Transportation Management*, 30 (2), p. 9-24.

² With the exception of Minnesota, which had two more marijuana urine positives, and Massachusetts, which had one more amphetamine/methamphetamine positive.



Based on a sample of nearly 1 million drug tests, we conclude hair testing is superior to urine based on its demonstrated ability to detect significantly more drug users, across all drugs examined, across all ages, across all states.

To the extent federal agencies wish to improve roadway safety by disqualifying drivers who use drugs, it is our recommendation that carriers be allowed to submit pre-employment hair test results to the Drug and Alcohol Clearinghouse.

INTRODUCTION

Regulatory agencies required urine drug testing for safety sensitive transportation employees following the Omnibus Drug Testing Act of 1991. Unfortunately, evidence exists that urine testing may not be as effective as we would all hope. Urine screens are easily thwarted through dilution or masking agents and have a short look back period, generally only 48-72 hours. This enables drivers who fail a pre-employment urine screen to stop drug use for a short time before applying to another carrier, passing that pre-employment drug screen, and resuming their drug habit.

Considering urine testing's deficiencies, some trucking companies voluntarily employ hair testing. Hair testing uses a small amount of hair generally drawn from the driver's head to detect the presence of drug metabolites and ascertains whether a driver has used drugs in the past 2-3 months. Therefore, hair testing is better able to detect lifestyle drug users given these individuals are likely unable or unwilling to discontinue drug use for that amount of time. Hair testing is also difficult to adulterate given subjects are unable to dilute or otherwise mask the presence of metabolites.

Despite these advantages, U.S. regulatory bodies do not allow carriers to use hair testing in isolation. Recent regulatory changes allow carriers to submit positive hair test results to the federal Drug and Alcohol Clearinghouse but only if accompanied by a positive urine or saliva test. While carriers can deny employment based on hair test results, drivers who pass a urine test do not have to undergo the federally mandated rehabilitation process before driving for another carrier. Previous research from the University of Central Arkansas demonstrated that 276,500 current drivers would not be allowed to operate a commercial motor vehicle if they took a hair test and did not complete the federally mandated rehabilitation process.³ These drivers potentially continue to use drugs while operating 80,000 pound vehicles within six feet of our families. This constitutes a clear and present danger to the traveling public, other truck drivers, supply chain continuity, and potentially threatens the trucking industry given increasingly large legal verdicts resulting from truck crashes.

Considering these issues, Drs. Doug Voss, Joe Cangelosi, and Ming Li engaged in a multi-year research effort to highlight hair testing's ability to remove lifestyle drug users from the U.S. commercial driver workforce. In addition to finding that 276,500 drivers would be disqualified if forced to undergo hair testing, past findings indicate hair testing is not discriminatory⁴ and better able to detect cocaine and opioids.⁵

3 Ibid., Voss and Cangelosi (2020)

4 Ibid.

5 Gordon, Ron, M. Douglas Voss, Andrew Balthrop, and Joseph D. Cangelosi (2022), "Drug Testing Procedures in Trucking: An Overview," Available at <https://walton.uark.edu/initiatives/supply-chain-research/posts/drug-testing-procedures-trucking-overview.php>. Accessed May 11, 2023.



This report represents the latest installment in our research effort and compares pre-employment urine and hair drug test results gathered from trucking company members of The Alliance for Driver Safety and Security, commonly known as the Trucking Alliance). The purpose of this report is to examine:

- Hair v. urine positivity rate differences for drugs tested in a 5-panel drug screen
- Hair v. urine positivity rate differences by age group
- Hair v. urine positivity rate differences by U.S. state

The next section details the method used to address these goals followed by results and conclusions.

METHOD

US Express, Cargo Transporters, JB Hunt, KLLM, Knight/Swift, Maverick USA, and Schneider National⁶ independently provided Drs. Doug Voss, Joe Cangelosi, and Ming Li (Researchers) with driver-level data containing 2022 calendar year pre-employment hair and urine drug test results. In total, carriers provided 173,408 drug test results (nurine = 85,946; nhair = 87,462).

In addition to hair and urine drug test results, some carriers provided driver-level age and Commercial Driver's License (CDL) state data. Carriers provided age data corresponding to 121,735 drug tests (121,735/173,408 = 70.20%) and CDL state data corresponding to 160,706 tests (160,706/173,408 = 92.68%). State data include drivers from every state in the continental United States plus Washington, D.C.

This report specifically compares the efficacy of urine v. hair testing by examining:

- Hair v. urine positivity rate differences for drugs tested in a 5-panel drug screen
- Hair v. urine positivity rate differences by age group
- Hair v. urine positivity rate differences by state

Positivity rate differences by drug were assessed by comparing the number of positives for each test and drug type. Crosstab analysis was applied to 2022 data to assess significant differences in the number of positive v. negative outcomes.

Supplemental to 2022 data analysis, carriers provided data from 2017-2021. 2017-2021 data was generally aggregated by carrier but affords the ability to highlight longitudinal differences in hair v. urine positivity rates. In sum, 2017-2022 data encompasses 936,872 drug tests (nurine = 476,304; nhair = 460,568).

RESULTS

Overall Results

Table 1 details 2022 pre-employment drug screen results. Table 2 provides evidence of statistically significant differences among 2022 pre-employment drug screen results.

Results presented in Table 1 indicate hair has a 10x higher positivity rate compared to urine (5.40%/0.52% = 10.38x). Hair yielded more positive tests for every drug type. Specifically, hair detected more marijuana (1,831), cocaine (1,587), opioids (728), amphetamines/methamphetamines (622), ecstasy (18), and PCP (5)

⁶ Transport Topics 2022 Top 100 For-hire Carriers. Available at <https://www.ttnews.com/for-hire/rankings/2022>. Accessed May 11, 2023.



**TABLE 1
2022 PRE-EMPLOYMENT DRUG SCREEN RESULTS**

Drug Testing Results	Hair	Urine	Difference
Number of Tests	87,642	85,946	--
Number of Positive Tests	4,727	446	4,281
Percentage Positive	5.40%	0.52%	10x
Number of Positive Tests that Contained:	Hair	Urine	Difference
Marijuana	2,123	292	1,831
Cocaine	1,634	47	1,587
Amphetamines/Methamphetamines	651	29	622
Opioids	751	23	728
MDMA (Ecstasy)	18	0	18
Phencyclidine (PCP)	5	0	5

RED = Hair detected drug more frequently than urine

In 2022, Hair Testing Had a 10x Higher Postivity Rate and Detected More of Every Type of Drug

While the differences between hair and urine are substantial, crosstab analyses were conducted to determine whether the differences were statistically significant. Crosstab results are presented in Table 2.

Results indicate hair testing yields a significantly higher overall positivity rate ($x^2 = 3575.274$; $p < 0.000$) and:

- detects significantly more *cocaine* ($x^2 = 1485.146$; $p < 0.000$)
- detects significantly more *marijuana* ($x^2 = 1375.656$; $p < 0.000$),
- detects significantly more *opioids* ($x^2 = 675.129$; $p < 0.000$)
- detects significantly more *amphetamines/methamphetamines* ($x^2 = 560.364$; $p < 0.000$),
- detects significantly more *ecstasy* ($x^2 = 17.690$; $p < 0.000$)
- detects significantly more and *PCP* ($x^2 = 4.913$; $p < 0.05$)



Hair Testing Positivity Rate is Statistically Greater Than Urine Testing for Every Type of Drug

**TABLE 2
ASSESSING SIGNIFICANT DIFFERENCES IN
2022 PRE-EMPLOYMENT DRUG SCREENING RESULTS**

		Urine	Hair	Pearson	p-value	Conclusion
Overall				3,575.274	0.000*	Hair has a significantly higher positivity than urine.
	Negative	85,500	82,735			
	Positive	446	4,727			
Marijuana				1,375.656	0.000*	Hair detects significantly more marijuana than urine.
	Negative	85,654	85,339			
	Positive	47	1,634			
Cocaine				1,485.146	0.000*	Hair detects significantly more cocaine than urine.
	Negative	85,899	85,828			
	Positive	47	1,634			
Opioids				675.129	0.000*	Hair detects significantly more opioids than urine.
	Negative	85,923	86,711			
	Positive	23	751			
Amphetamines/ Methamphetamines				560.364	0.000*	Hair detects significantly more amphetamines/ methamphetamines than urine.
	Negative	85,917	86,811			
	Positive	29	651			
MDMA (ecstasy)				17.690	0.000*	Hair detects significantly more ecstasy than urine.
	Negative	85,946	87,444			
	Positive	0	18			
PCP				4.913	0.027**	Hair detects significantly more PCP than urine.
	Negative	85,946	87,457			
	Positive	0	5			

*Significant at p<0.000

** Significant at p<0.05



Results presented in tables 1 and 2 are further supported by a longitudinal assessment of drug test results presented in Table 3.

Data presented in Table 3 encompass 936,872 hair and urine drug tests from 2017-2022. Results indicate hair testing had a 9x higher positivity rate and detected more of every drug type.

Specifically, hair testing detected:

- 25x more opioids
- 23x more cocaine
- 13x more amphetamines/methamphetamines
- 5x more marijuana
- 65x more ecstasy
- 3x more PCP

Based on Nearly 1 Million Drug Tests, Hair Testing Detects 25x More Opioids and 23x More Cocaine

How Much More Effective Was Hair Testing at Detecting Drugs Than Urine Testing?*

65x

More effective in testing for MDMA
196 vs. 3

25x

More effective in testing for opioids
6,720 vs. 273

23x

More effective in testing for cocaine
9,850 vs. 425

13x

More effective in testing for amphetamines/methamphetamines
4,743 vs. 364

5x

More effective in testing for marijuana
10,063 vs. 2,052

3x

More effective in testing for PCP
46 vs. 16

*2017-2022 Pre-Employment Drug Screening Results

Positive Hair Results in Red

Positive Urine Results in Green



TABLE 3 2017-2022 PRE-EMPLOYMENT DRUG SCREEN RESULTS

Drug Test Results	2017	2018	2019	2020	2021	2022	Total
Number of Urine Tests	56,469	92,193	85,650	68,025	88,021	85,946	476,304
Number of Hair Tests	56,160	91,556	73,904	66,875	84,611	87,462	460,568
Number of Positive Urine Tests	298	651	845	478	403	446	3,121
Number of Positive Hair Tests	2,921	5,957	4,746	4,009	4,362	4,727	26,722
Difference (Hair-Urine)	4.70% 10x	5.80% 9x	5.43% 7x	5.29% 9x	4.70% 11x	4.88% 10x	5.15% 9x
Number of Positive Urine Tests that Contained:							
Marijuana	201	435	495	310	319	292	2,052
Cocaine	66	94	127	53	38	47	425
Amphetamines/Methamphetamines	67	112	86	40	30	29	364
Opioids	6	128	56	38	22	23	273
MDMA (Ecstasy)	1	1	0	0	1	0	3
Phencyclidine (PCP)	2	9	2	2	1	0	16
Number of Positive Hair Tests that Contained:							
Marijuana	1,015	1,932	1,378	1,621	1,994	2,123	10,063 5x
Cocaine	1,323	2,210	1,784	1,419	1,480	1,634	9,850 23x
Amphetamines/Methamphetamines	638	1,140	851	771	692	651	4,743 13x
Opioids	841	2,157	1,414	1,008	549	751	6,720 25x
MDMA (Ecstasy)	41	75	18	25	19	18	196 65x
Phencyclidine (PCP)	7	11	8	9	6	5	46 3x
Difference in Number of Positive Urine and Hair Tests that Contained:							
Marijuana	814	1,497	883	1,311	1,675	1,831	8,011
Cocaine	1,257	2,116	1,657	1,366	1,442	1,587	9,425
Amphetamines/Methamphetamines	571	1,028	765	731	662	622	4,379
Opioids	835	2,029	1,358	970	527	728	6,447
MDMA (Ecstasy)	40	74	18	25	18	18	193
Phencyclidine (PCP)	5	2	6	7	5	5	30

RED = Hair detected drug more frequently than urine



Researchers utilized 2022 data to determine differences in positivity rates between age demographics. Results are presented in Table 4:

**TABLE 4
2022 DRUG USE BY AGE GROUP**

Hair Testing Detects More Drugs for Every Age Group

Age Group	Type of Test	n	Marijuana	Cocaine	Amphetamines/ Methamphetamines	Opioids	MDMA	PCP	Total
18-24	Hair	5,518	92	26	5	12	1	0	136
	Urine	5,495	5	1	1	0	0	0	7
			87	25	4	12	1	0	129
25-34	Hair	1,907	337	181	78	88	11	1	696
	Urine	1,900	45	5	1	3	0	0	54
			292	176	77	85	11	1	642
35-44	Hair	1,540	179	209	114	93	6	2	603
	Urine	1,538	36	10	8	8	0	0	62
			143	199	106	85	6	2	541
45-54	Hair	1,207	118	169	86	81	0	1	455
	Urine	1,210	20	8	5	3	0	0	36
			98	161	81	78	0	1	419
55-64	Hair	7,053	41	147	60	48	0	0	296
	Urine	7,109	13	7	3	4	0	0	27
			28	140	57	44	0	0	269
65+	Hair	1,746	1,075	758	278	427	0	1	2,539
	Urine	1,763	169	14	8	5	0	0	196
			906	744	270	422	0	1	136

RED = Hair detected drug more frequently than urine

Table 4 indicates hair detected more marijuana, cocaine, amphetamines/methamphetamines, and opioids across every age group. Hair also detected more ecstasy and PCP in age groups where those drugs were found.



Table 5 provides hair and urine drug test results across states. Table 5 indicates that hair detected more drugs than urine wherever a difference existed, for every state and every substance with minor exceptions for Minnesota, which had two more marijuana urine positives, and Massachusetts, which had one more amphetamine/methamphetamine urine positive.

TABLE 5 RESULTS BY STATE

State	Type of Test	Marijuana	Cocaine	Amphetamine/ Methamphetamine	Opioids	MDMA	PCP
Alabama	Hair	42	32	25	28	1	0
	Urine	10	0	2	0	0	0
	Difference	32	32	23	28	1	0
Arkansas	Hair	29	16	13	6	0	0
	Urine	2	0	1	1	0	0
	Difference	27	16	12	5	0	0
Arizona	Hair	48	24	34	11	1	0
	Urine	6	0	2	0	0	0
	Difference	42	24	32	11	1	0
California	Hair	103	92	90	42	4	0
	Urine	21	7	3	3	0	0
	Difference	82	85	87	39	4	0
Colorado	Hair	8	16	4	2	0	0
	Urine	7	0	0	1	0	0
	Difference	1	16	4	1	0	0
Connecticut	Hair	17	21	0	4	0	0
	Urine	3	0	0	0	0	0
	Difference	14	21	0	4	0	0
District of Columbia	Hair	0	2	1	0	0	0
	Urine	0	0	0	0	0	0
	Difference	0	2	1	0	0	0
Delaware	Hair	7	3	0	4	0	0
	Urine	0	0	0	0	0	0
	Difference	7	3	0	4	0	0
Florida	Hair	110	98	21	20	0	0
	Urine	24	2	2	1	0	0
	Difference	86	96	19	19	0	0

RED = Hair detected drug more frequently than urine
 GREEN = Urine detected drug more frequently than hair



State	Type of Test	Marijuana	Cocaine	Amphetamine/ Methamphetamine	Opioids	MDMA	PCP
Georgia	Hair	140	137	46	47	1	0
	Urine	25	5	1	3	0	0
	Difference	115	132	45	44	1	0
Iowa	Hair	5	6	7	0	0	0
	Urine	1	0	0	0	0	0
	Difference	4	6	7	0	0	0
Idaho	Hair	0	2	1	1	0	0
	Urine	0	0	0	0	0	0
	Difference	0	2	1	1	0	0
Illinois	Hair	110	89	16	26	8	0
	Urine	19	2	3	0	0	0
	Difference	91	87	13	26	8	0
Indiana	Hair	39	31	11	16	0	1
	Urine	5	1	0	0	0	0
	Difference	34	30	11	16	0	1
Kansas	Hair	8	11	5	4	0	0
	Urine	3	0	0	0	0	0
	Difference	5	11	5	4	0	0
Kentucky	Hair	12	6	9	6	0	0
	Urine	2	0	0	0	0	0
	Difference	10	6	9	6	0	0
Louisiana	Hair	50	34	19	34	0	0
	Urine	16	2	0	0	0	0
	Difference	34	32	19	34	0	0
Massachusetts	Hair	7	10	0	1	0	0
	Urine	1	0	1	0	0	0
	Difference	6	10	-1	1	0	0
Maryland	Hair	27	27	5	12	1	0
	Urine	4	1	0	0	0	0
	Difference	23	26	5	12	1	0

RED = Hair detected drug more frequently than urine
 GREEN = Urine detected drug more frequently than hair



State	Type of Test	Marijuana	Cocaine	Amphetamine/ Methamphetamine	Opioids	MDMA	PCP
Maine	Hair	1	0	0	0	0	0
	Urine	0	0	0	0	0	0
	Difference	1	0	0	0	0	0
Michigan	Hair	48	18	6	12	0	0
	Urine	4	0	1	0	0	0
	Difference	44	18	5	12	0	0
Minnesota	Hair	2	3	1	6	0	0
	Urine	4	1	0	0	0	0
	Difference	-2	2	1	6	0	0
Missouri	Hair	28	16	17	10	0	0
	Urine	7	0	0	0	0	0
	Difference	21	16	17	10	0	0
Mississippi	Hair	43	32	19	22	0	0
	Urine	4	0	1	0	0	0
	Difference	39	32	18	22	0	0
Montana	Hair	1	0	1	0	0	0
	Urine	0	0	1	0	0	0
	Difference	1	0	0	0	0	0
North Carolina	Hair	87	84	16	18	0	0
	Urine	7	2	1	2	0	0
	Difference	80	82	15	16	0	0
North Dakota	Hair	0	0	0	0	0	0
	Urine	0	0	0	0	0	0
	Difference	0	0	0	0	0	0
Nebraska	Hair	5	4	0	1	0	0
	Urine	1	0	0	0	0	0
	Difference	4	4	0	1	0	0
New Hampshire	Hair	3	3	0	0	0	0
	Urine	1	0	0	0	0	0
	Difference	2	3	0	0	0	0

RED = Hair detected drug more frequently than urine
 GREEN = Urine detected drug more frequently than hair



RESULTS

State	Type of Test	Marijuana	Cocaine	Amphetamine/ Methamphetamine	Opioids	MDMA	PCP
New Jersey	Hair	16	33	4	15	0	1
	Urine	1	5	0	1	0	0
	Difference	15	28	4	14	0	1
New Mexico	Hair	5	4	1	1	0	0
	Urine	0	0	0	0	0	0
	Difference	5	4	1	1	0	0
Nevada	Hair	11	31	12	4	0	0
	Urine	6	2	0	1	0	0
	Difference	5	29	12	3	0	0
New York	Hair	34	24	6	11	0	0
	Urine	12	2	0	1	0	0
	Difference	22	22	6	10	0	0
Ohio	Hair	55	56	8	15	0	0
	Urine	3	3	0	0	0	0
	Difference	52	53	8	15	0	0
Oklahoma	Hair	19	6	9	16	0	0
	Urine	0	0	0	0	0	0
	Difference	19	6	9	16	0	0
Oregon	Hair	6	8	5	0	0	0
	Urine	4	1	0	0	0	0
	Difference	2	7	5	0	0	0
Pennsylvania	Hair	47	55	14	21	0	1
	Urine	12	5	0	0	0	0
	Difference	35	50	14	21	0	1
Rhode Island	Hair	1	3	1	0	0	0
	Urine	0	0	0	0	0	0
	Difference	1	3	1	0	0	0
South Carolina	Hair	53	37	10	10	0	0
	Urine	1	0	1	0	0	0
	Difference	52	37	9	10	0	0

RED = Hair detected drug more frequently than urine
 GREEN = Urine detected drug more frequently than hair



RESULTS

State	Type of Test	Marijuana	Cocaine	Amphetamine/ Methamphetamine	Opioids	MDMA	PCP
South Dakota	Hair	1	1	0	0	0	0
	Urine	0	0	0	0	0	0
	Difference	1	1	0	0	0	0
Tennessee	Hair	48	47	8	16	0	0
	Urine	2	0	0	2	0	0
	Difference	46	47	8	14	0	0
Texas	Hair	187	149	71	75	0	1
	Urine	22	0	2	1	0	0
	Difference	165	149	69	74	0	1
Utah	Hair	7	6	7	3	0	0
	Urine	2	0	0	0	0	0
	Difference	5	6	7	3	0	0
Virginia	Hair	37	38	3	5	0	0
	Urine	2	1	0	0	0	0
	Difference	35	37	3	5	0	0
Vermont	Hair	1	1	0	0	0	0
	Urine	0	0	0	0	0	0
	Difference	1	1	0	0	0	0
Washington	Hair	18	9	14	12	1	0
	Urine	2	0	0	1	0	0
	Difference	16	9	14	11	1	0
Wisconsin	Hair	10	15	4	8	1	0
	Urine	4	1	0	0	0	0
	Difference	6	14	4	8	1	0
West Virginia	Hair	5	4	6	2	0	0
	Urine	0	0	0	0	0	0
	Difference	5	4	6	2	0	0
Wyoming	Hair	2	1	0	0	0	0
	Urine	0	0	0	0	0	0
	Difference	2	1	0	0	0	0

RED = Hair detected drug more frequently than urine
GREEN = Urine detected drug more frequently than hair



Conclusion

The vast and overwhelming majority of America's 3.5 million truck drivers are professional, drug free, and simply desire to deliver their load then return home safely. However, previous research indicates 276,500 of these drivers would not be able to operate a commercial motor vehicle if subjected to hair testing. Removing these drivers from the road using hair testing would help protect the traveling public, other commercial motor vehicle operators, and improve U.S. supply chain continuity.

The federal government does not currently allow carriers to submit hair test results to the Drug and Alcohol Clearinghouse without a corresponding positive urine or saliva test. Carriers who voluntarily administer hair tests must bear duplicative drug testing expenses. Further, drivers who fail a hair test can go to work for a carrier that only employs urine testing without completing the federally mandated rehabilitation process.

Results contained in this report utilize 936,872 pre-employment urine and hair drug screens administered from 2017-2022 and indicate hair testing uncovers 9x more drug users compared to urine testing. This includes 25x more opioid users, 23x more cocaine users, and 13x more amphetamine/methamphetamine users, which underscores the prevalence of "hard" drug use among drivers.

Hair testing uncovered 10x more drug positives in 2022 alone. Crosstab analysis revealed a statistically significant difference between hair and urine positivity rates. Further analyses indicates hair detected significantly more cocaine, opioids, amphetamine/methamphetamine, marijuana, ecstasy, and PCP.

Further, hair testing uncovered more positive drug tests across every drug for every examined age group and every U.S. state.

This dataset represents the most comprehensive compilation of urine v. hair results of which we are aware and the differences are pronounced.

Based on a sample of nearly 1 million drug tests, we conclude hair testing is superior to urine based on its demonstrated ability to detect significantly more drug users, across all drugs examined, across all ages, across all states.

To the extent federal agencies wish to improve roadway safety by disqualifying drivers who use drugs, it is our recommendation that carriers be allowed to submit pre-employment hair test results to the Drug and Alcohol Clearinghouse.





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The Alliance for Driver Safety & Security

Cargo Transporters
Dupre' Logistics
J.B. Hunt
KLLM Transport Services
Knight Transportation
Maverick Transportation
May Trucking Company
Schneider
Swift
U.S. Express