



Drug Testing Index™

A comprehensive analysis of workplace drug use trends

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The Quest Diagnostics Drug Testing Index (DTI) reveals insights into patterns of drug use among the American workforce. **Published annually for more than 25 years, the Drug Testing Index examines positivity rates for workplace drugs tested by the company on behalf of employers.** Quest Diagnostics publishes these findings as a public service for government, employers, policymakers and the general public.

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Drug Positivity in U.S. Workforce Rises to Nearly Highest Level in a Decade



The percentage of employees in the combined U.S. workforce testing positive for drugs has steadily increased over the last three years to a 10-year high.

Annual Drug Testing Index reveals fifth straight year of increases in detection rate of amphetamine and heroin; marijuana positivity increases 47 percent since 2013 in oral fluid testing

Following years of declines, the percentage of employees in the combined U.S. workforce testing positive for drugs has steadily increased over the last three years to a 10-year high, according to an analysis of nearly 11 million workforce drug test results.

The Quest Diagnostics Drug Testing Index™ examines illicit drug use by America's workforce based on an analysis of de-identified results of more than 9.5 million urine, 900,000 oral fluid, and 200,000 hair laboratory-based tests performed nationally by the company for employers in 2015.

Insights from the 2015 data show that the positivity rate for 9.5 million urine drug tests in the combined U.S. workforce increased to four percent, a relative change of 2.6 percent over the positivity rate in 2014 (4.0% versus 3.9%). The 2015 positivity rate reflects a relative increase of 14 percent over the 10-year low of 3.5 percent observed in both 2010 and 2011. The last year that the positivity rate for urine drug tests in the combined U.S. workforce was at or above four percent was 2005, when it reached 4.1 percent.

Another notable trend is the rising positivity rate for post-accident urine drug testing in both the general U.S. and federally-mandated, safety-sensitive workforces. Post-accident positivity increased 6.2 percent in 2015 when compared to 2014 (6.9% versus 6.5%) and increased 30 percent since 2011 (5.3%). In addition, post-accident positivity for the safety-sensitive workforce has risen 22 percent during a five-year time period (2.8% in 2015 versus 2.3% in 2011).

In oral fluid drug testing, the overall positivity rate increased 47 percent over the last three years in the general U.S. workforce to 9.1 percent in 2015 from 6.7 percent in 2013.

The increase was largely driven by double-digit increases in marijuana positivity during this time period. In 2015, there was a 25 percent relative increase in marijuana detection as compared to 2014 (7.5% versus 6.0%). Slightly more than nine percent of oral fluid test results were positive for one or more drugs, suggesting that nearly one in eleven job applicants were unable to pass an oral fluid drug screen.

Among drug testing methods, overall positivity in the general U.S. workforce was highest in hair drug tests, at 10.3 percent in 2015, a seven percent increase over 2014 (9.6%) Because hair testing shows repetitive drug use as far back as 90 days, it can give a more complete drug-use history. By comparison, urine detects recent or new drug use, typically in one to three days, and oral fluid detects recent drug use in the previous 24-48 hours. In the general U.S. workforce, the rate of amphetamine, marijuana, and heroin detection increased annually for the past five years in urine testing. Amphetamine positivity increased 44 percent and marijuana positivity increased 26 percent since 2011; almost half (45%) of individuals in the general U.S. workforce with a positive drug test for any substance in 2015 showed evidence of marijuana use. Heroin positivity in that period, indicated by the presence of the 6-acetylmorphine marker (6-AM), increased 146 percent. Oxycodone positivity rate has declined annually since 2011, confirming previous research showing that opioid prescriptions have declined in 49 states since 2012.

“Our nationally representative analysis clearly shows that drug use by the American workforce is on the rise, and this trend extends to several different classes of drugs and



categories of drug tests,” said Dr. Barry Sample, Ph.D., senior director, science and technology, Quest Diagnostics Employer Solutions. “The 2015 findings related to post-accident testing results should also be of concern to employers, especially those with safety-sensitive employees.”

“The DTI statistics for the last five years underscore the threat to employers – and employees – from drug abusers in our workplace. The numbers on hair testing – the methodology with the longest look-back and therefore a more telling measurement of regular use – show a 34-percent positive-rate increase for illegal drug use by the general workforce in the last five years,” said Mark de Bernardo, executive director, Institute for a Drug-Free Workplace. “However, all the numbers for various testing methodologies confirm this disturbing trend and should provide a wake-up call to employers to do more to combat workplace substance abuse and to do it more effectively.”

In 2015, there was a 25 percent relative increase in marijuana detection as compared to 2014.

Slightly more than nine percent of oral fluid test results were positive for one or more drugs, suggesting that nearly one in eleven job applicants were unable to pass an oral fluid drug screen.



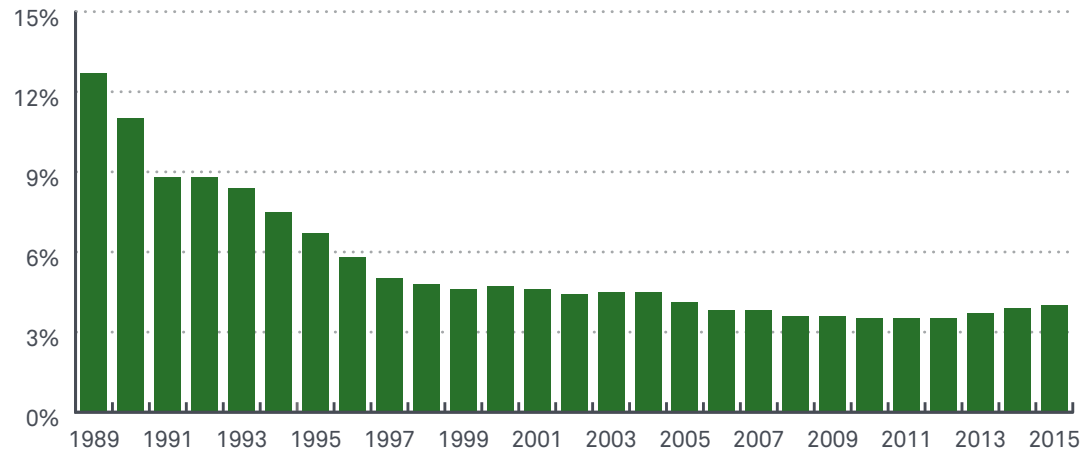
Among urine test results indicating drug use for federally-mandated, safety-sensitive employees, heroin positivity increased a relative 4.5 percent since 2014, and a relative 84 percent since 2011. In addition, positive test results for safety-sensitive workers showed a seven percent year-over-year increase in amphetamines (0.58 % in 2015 versus 0.54 % in 2014).

“This report shows a welcome decline in workplace drug test positives for certain prescription opiates but a disturbing increase in heroin positives. This rise in heroin should concern both policymakers and employers. Substance abuse is a safety risk for everyone. This new workplace evidence is an additional sign of the rising national heroin problem, this time in the workplace,” said Robert DuPont, M.D., former director of the National Institute on Drug Abuse (NIDA).

For more information about the Quest Diagnostics Drug Testing Index, visit QuestDiagnostics.com/DTI.

Annual Positivity Rates

Urine Drug Tests - For Combined U.S. Workforce



More than 9.5 million tests from January to December 2015

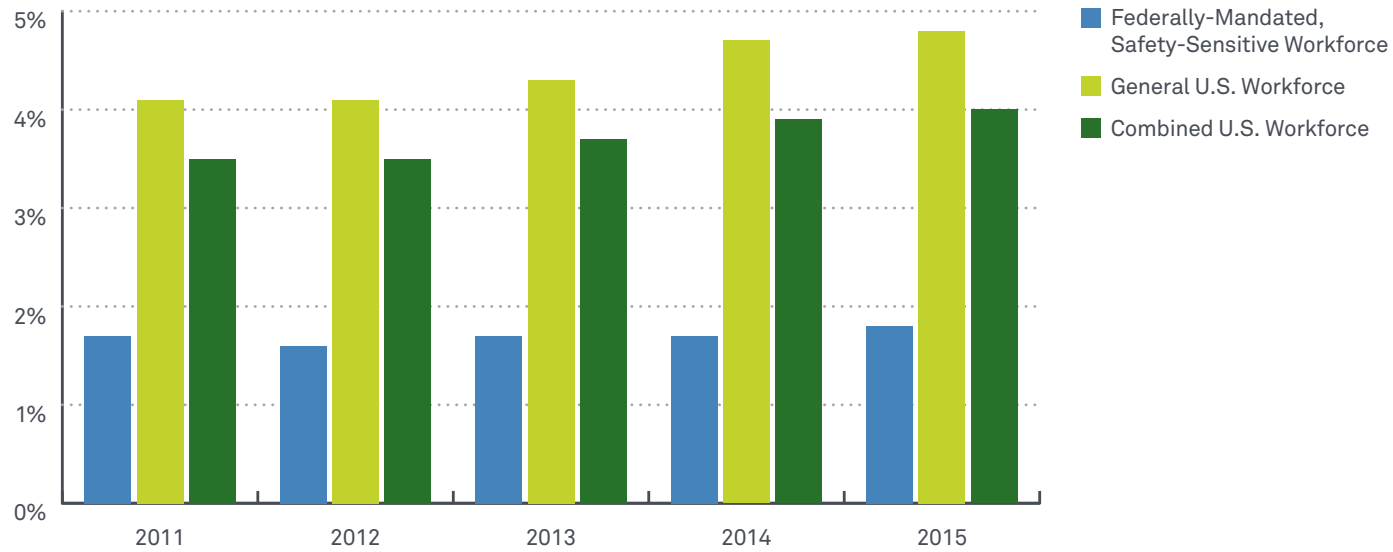
Year	Drug Positivity Rate
1989	12.7%
1990	11.0%
1991	8.8%
1992	8.8%
1993	8.4%
1994	7.5%
1995	6.7%
1996	5.8%
1997	5.0%

Year	Drug Positivity Rate
1998	4.8%
1999	4.6%
2000	4.7%
2001	4.6%
2002	4.4%
2003	4.5%
2004	4.5%
2005	4.1%
2006	3.8%

Year	Drug Positivity Rate
2007	3.8%
2008	3.6%
2009	3.6%
2010	3.5%
2011	3.5%
2012	3.5%
2013	3.7%
2014	3.9%
2015	4.0%

Positivity Rates by Testing Category

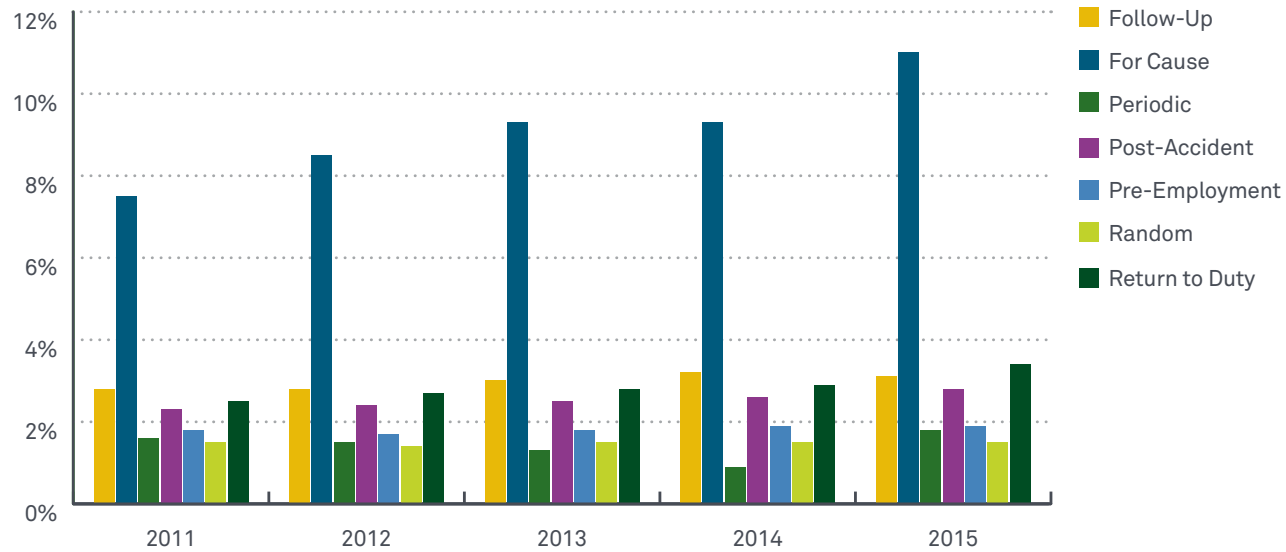
Urine Drug Tests



Testing Category	2011	2012	2013	2014	2015
Federally-Mandated, Safety-Sensitive Workforce	1.7%	1.6%	1.7%	1.7%	1.8%
General U.S. Workforce	4.1%	4.1%	4.3%	4.7%	4.8%
Combined U.S. Workforce	3.5%	3.5%	3.7%	3.9%	4.0%

Positivity Rates by Testing Reason

Urine Drug Tests – For Federally-Mandated, Safety-Sensitive Workforce

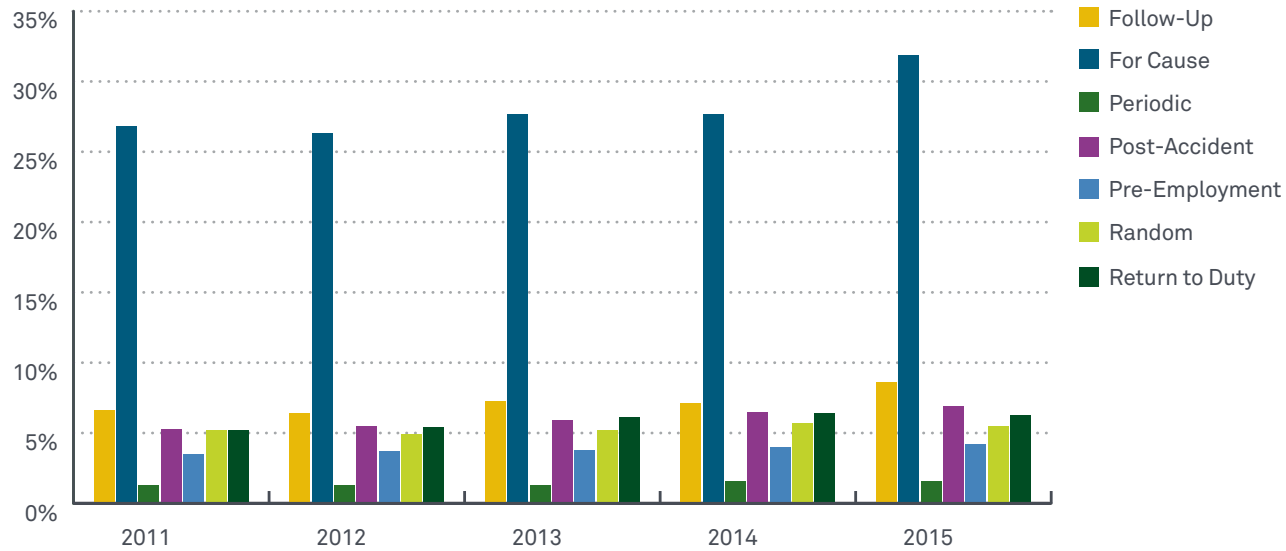


More than 2.5 million tests from January to December 2015

Testing Reason	2011	2012	2013	2014	2015
Follow-Up	2.8%	2.8%	3.0%	3.2%	3.1%
For Cause	7.5%	8.5%	9.3%	9.3%	11.0%
Periodic	1.6%	1.5%	1.3%	0.9%	1.8%
Post-Accident	2.3%	2.4%	2.5%	2.6%	2.8%
Pre-Employment	1.8%	1.7%	1.8%	1.9%	1.9%
Random	1.5%	1.4%	1.5%	1.5%	1.5%
Return to Duty	2.5%	2.7%	2.8%	2.9%	3.4%

Positivity Rates by Testing Reason

Urine Drug Tests – For General U.S. Workforce

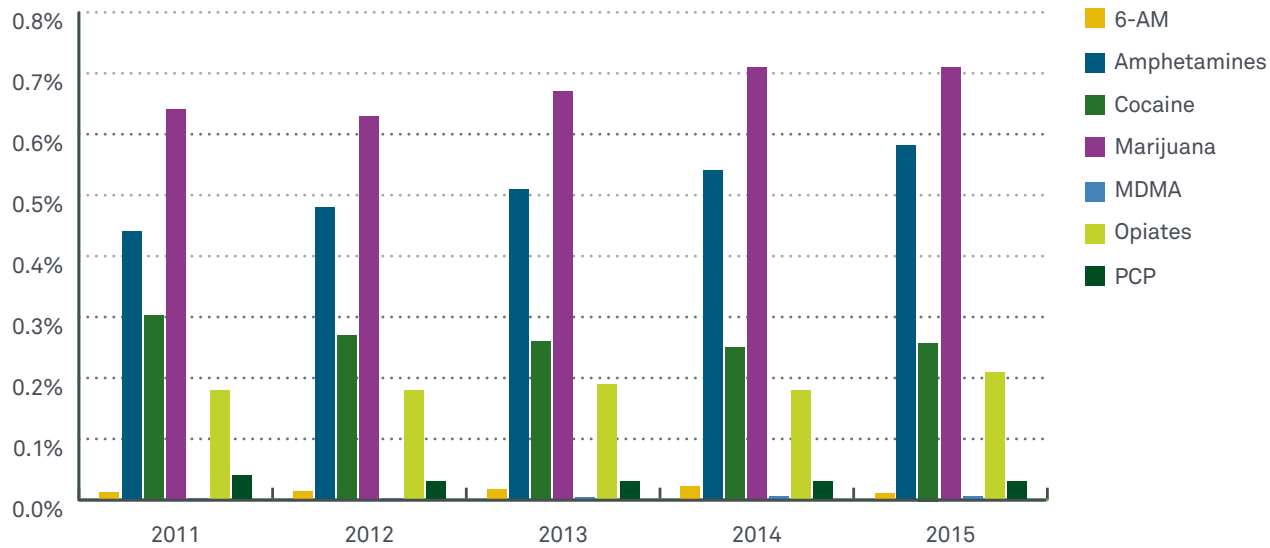


More than 7 million tests from January to December 2015

Testing Reason	2011	2012	2013	2014	2015
Follow-Up	6.6%	6.4%	7.3%	7.1%	8.6%
For Cause	26.8%	26.3%	27.7%	27.7%	31.9%
Periodic	1.3%	1.3%	1.3%	1.6%	1.6%
Post-Accident	5.3%	5.5%	5.9%	6.5%	6.9%
Pre-Employment	3.5%	3.7%	3.8%	4.0%	4.2%
Random	5.2%	4.9%	5.2%	5.7%	5.5%
Return to Duty	5.2%	5.4%	6.1%	6.4%	6.3%

Positivity Rates by Drug Category

Urine Drug Tests – For Federally-Mandated, Safety-Sensitive Workforce, as a Percentage of All Such Tests

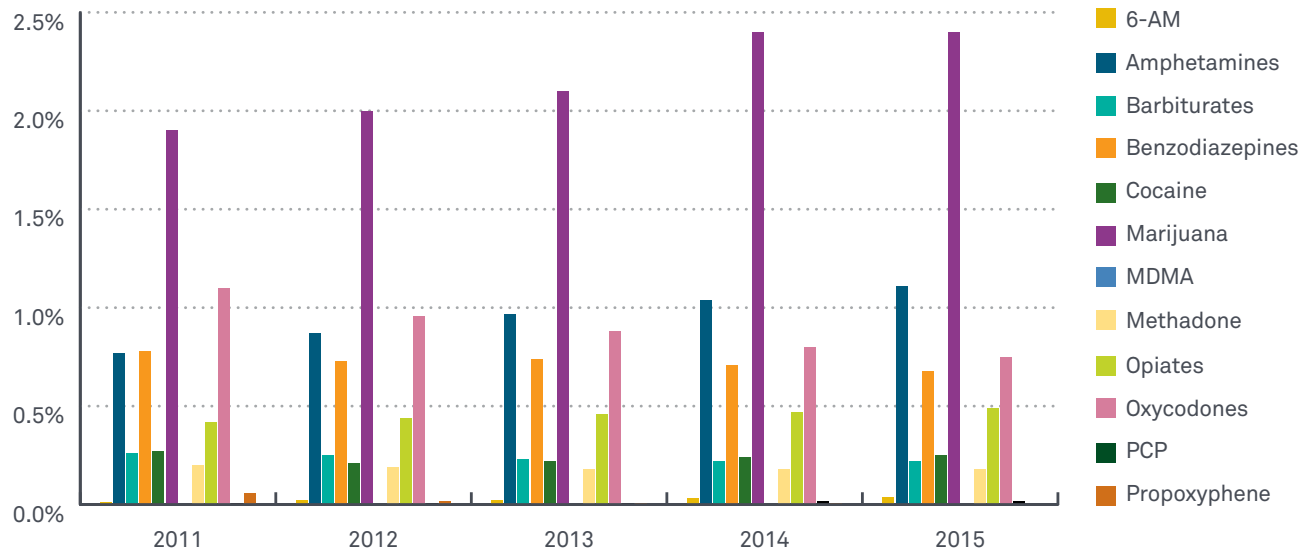


More than 2.5 million tests from January to December 2015

Drug Category	2011	2012	2013	2014	2015
6-AM	0.012%	0.014%	0.017%	0.022%	0.023%
Amphetamines	0.44%	0.48%	0.51%	0.54%	0.58%
Cocaine	0.32%	0.27%	0.26%	0.25%	0.26%
Marijuana	0.64%	0.63%	0.67%	0.71%	0.71%
MDMA	0.003%	0.003%	0.004%	0.005%	0.005%
Opiates	0.18%	0.18%	0.19%	0.18%	0.21%
PCP	0.04%	0.03%	0.03%	0.03%	0.03%

Positivity Rates by Drug Category

Urine Drug Tests – For General U.S. Workforce, as a Percentage of All Such Tests



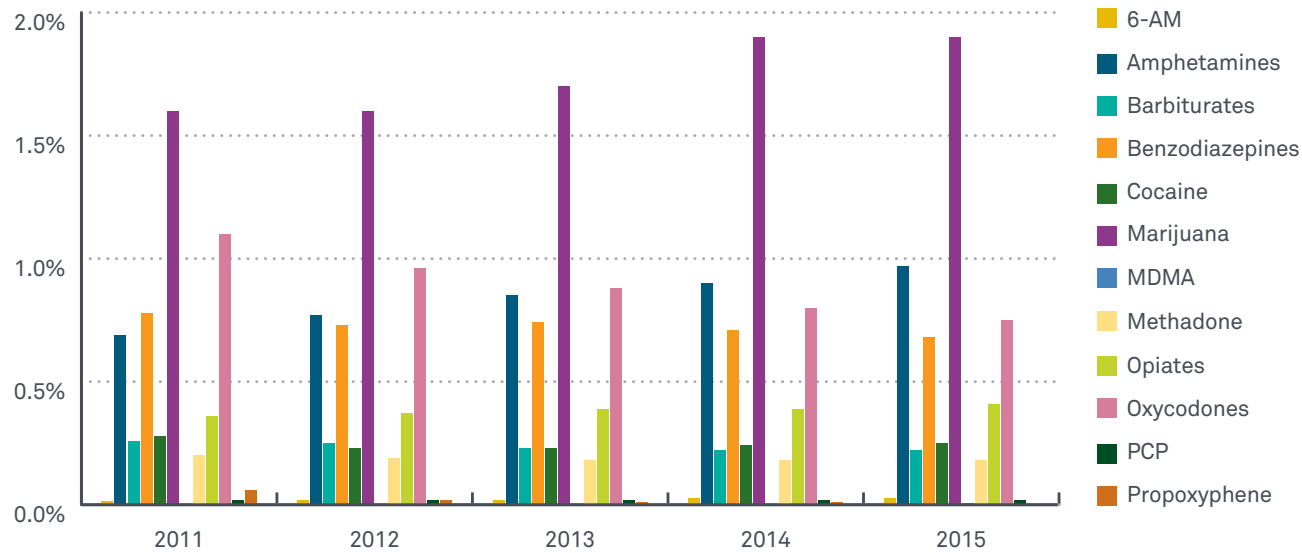
Nearly 7 million tests from January to December 2015

Drug Category	2011	2012	2013	2014	2015
6-AM	0.015%	0.022%	0.023%	0.031%	0.037%
Amphetamines	0.77%	0.87%	0.97%	1.04%	1.11%
Barbiturates	0.26%	0.25%	0.23%	0.22%	0.22%
Benzodiazepines	0.78%	0.73%	0.74%	0.71%	0.68%
Cocaine	0.27%	0.21%	0.22%	0.24%	0.25%
Marijuana	1.9%	2.0%	2.1%	2.4%	2.4%

Drug Category	2011	2012	2013	2014	2015
MDMA	0.003%	0.001%	0.002%	0.003%	0.005%
Methadone	0.2%	0.19%	0.18%	0.18%	0.18%
Opiates	0.42%	0.44%	0.46%	0.47%	0.49%
Oxycodones	1.1%	0.96%	0.88%	0.80%	0.75%
PCP	0.01%	0.01%	0.01%	0.02%	0.02%
Propoxyphene	0.06%	0.02%	0.01%	0.01%	0.03%

Positivity Rates by Drug Category

Urine Drug Tests – For Combined U.S. Workforce, as a Percentage of All Such Tests



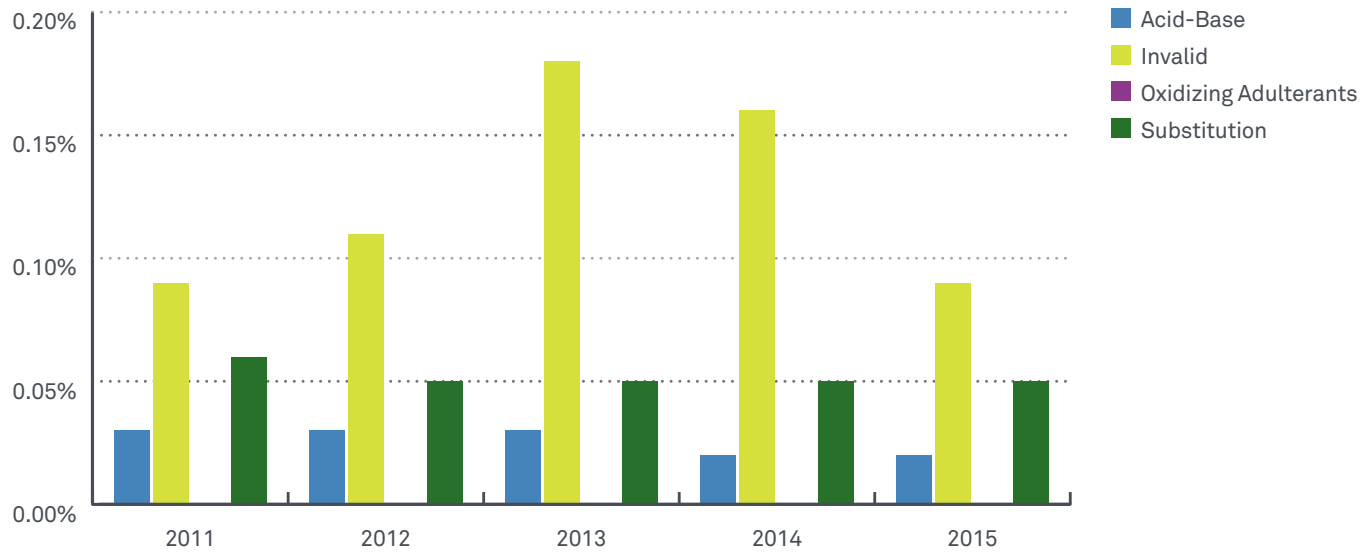
More than 9.5 million tests from January to December 2015

Drug Category	2011	2012	2013	2014	2015
6-AM	0.013%	0.017%	0.020%	0.025%	0.028%
Amphetamines	0.69%	0.77%	0.85%	0.90%	0.97%
Barbiturates	0.26%	0.25%	0.23%	0.22%	0.22%
Benzodiazepines	0.78%	0.73%	0.74%	0.71%	0.68%
Cocaine	0.28%	0.23%	0.23%	0.24%	0.25%
Marijuana	1.6%	1.6%	1.7%	1.9%	1.9%

Drug Category	2011	2012	2013	2014	2015
MDMA	0.003%	0.002%	0.003%	0.004%	0.005%
Methadone	0.20%	0.19%	0.18%	0.18%	0.18%
Opiates	0.36%	0.37%	0.39%	0.39%	0.41%
Oxycodones	1.1%	0.96%	0.88%	0.80%	0.75%
PCP	0.02%	0.02%	0.02%	0.02%	0.02%
Propoxyphene	0.06%	0.02%	0.01%	0.01%	0.03%

Non-Negative Rates by Specimen Validity Test (SVT)² Category

Urine Drug Tests – For Federally-Mandated, Safety-Sensitive Workforce, as a Percentage of All Such Tests



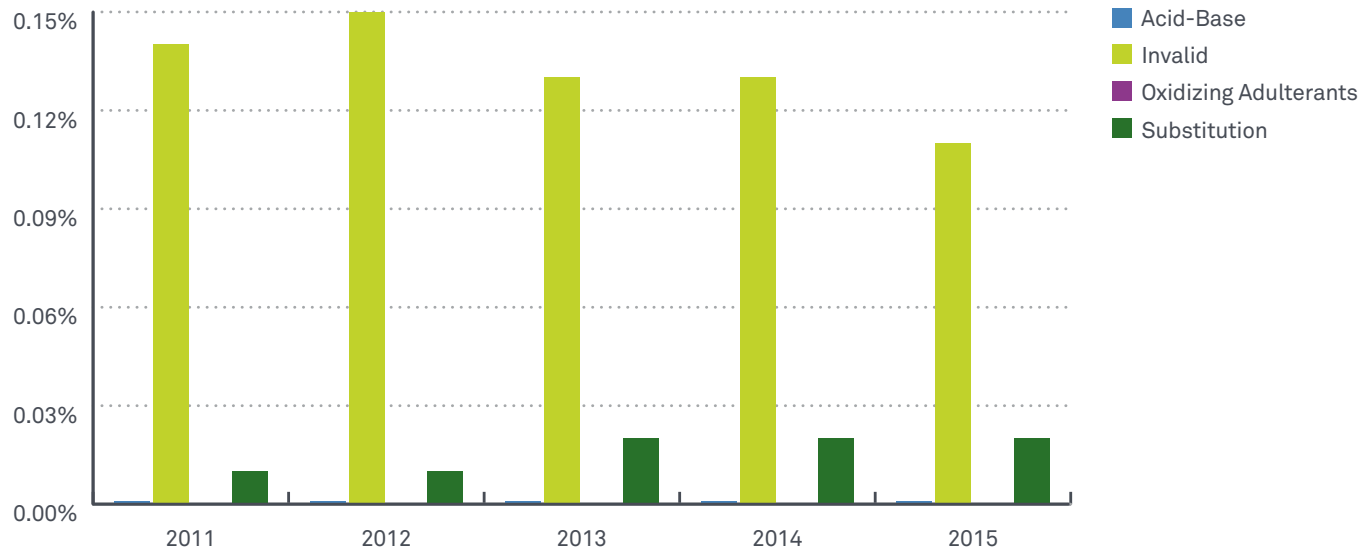
More than 2.5 million tests from January to December 2015

SVT Category	2011	2012	2013	2014	2015
Acid-Base	0.03%	0.03%	0.03%	0.02%	0.02%
Invalid	0.09%	0.11%	0.18%	0.16%	0.09%
Oxidizing Adulterants	0.000%	0.000%	0.000%	0.000%	0.000%
Substitution	0.06%	0.05%	0.05%	0.05%	0.05%

²Specimen validity testing is the evaluation of a specimen to determine if it is consistent with a normal human specimen. Tests for specimen validity include tests to determine whether a specimen is adulterated or substituted.

Non-Negative Rates by Drug/SVT Category

Urine Drug Tests – For General U.S. Workforce, as a Percentage of All Non-Negatives

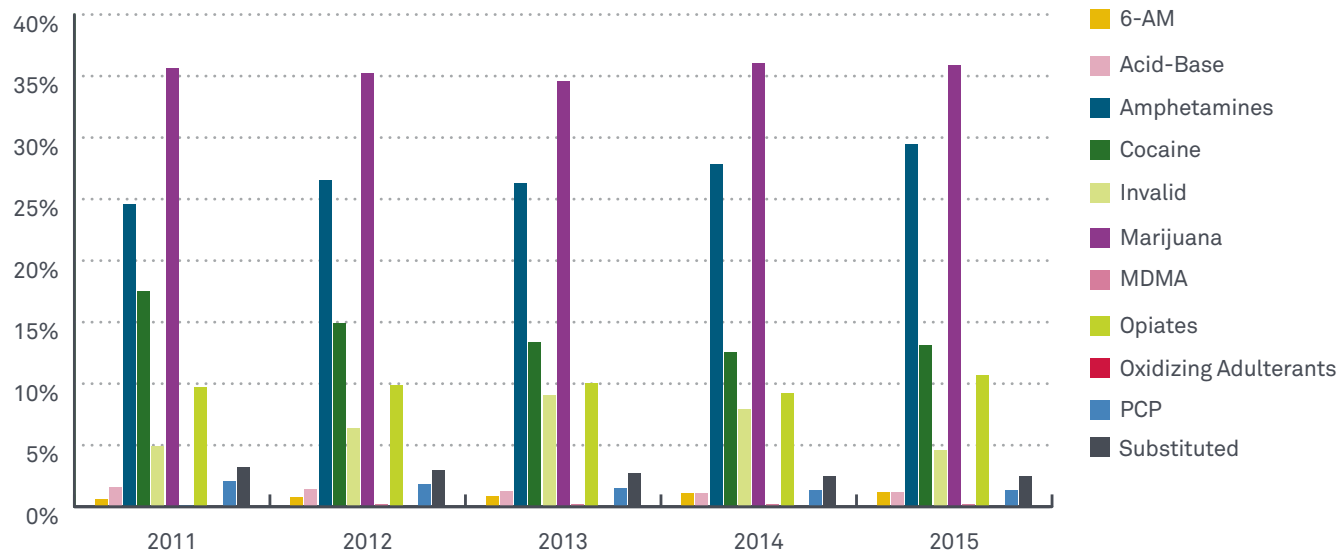


Nearly 7 million tests from January to December 2015

SVT Category	2011	2012	2013	2014	2015
Acid-Base	0.001%	0.001%	0.001%	0.001%	0.001%
Invalid	0.14%	0.15%	0.13%	0.13%	0.11%
Oxidizing Adulterants	0.000%	0.000%	0.000%	0.000%	0.000%
Substitution	0.01%	0.01%	0.02%	0.02%	0.02%

Non-Negative Rates by Drug/SVT Category

Urine Drug Tests – For Federally-Mandated, Safety-Sensitive Workforce, as a Percentage of All Non-Negatives



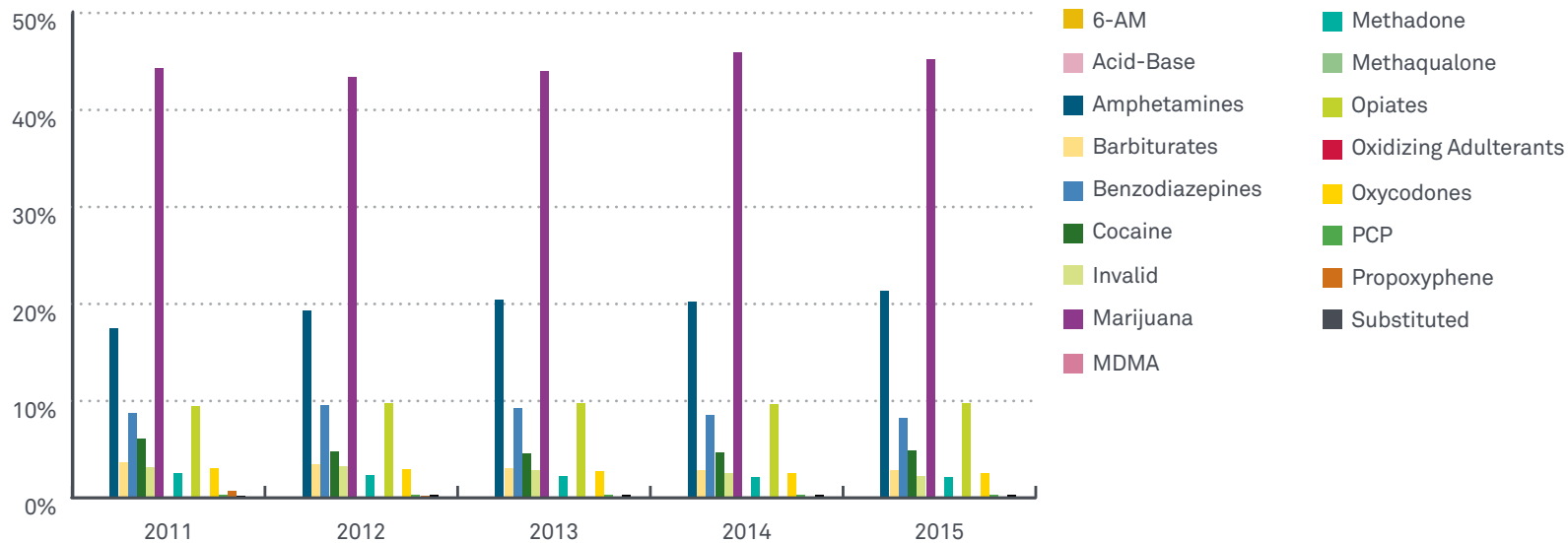
More than 50 thousand non-negative test results from January to December 2015

Drug Category	2011	2012	2013	2014	2015
6-AM	0.62%	0.75%	0.87%	1.12%	1.14%
Acid-Base	1.60%	1.40%	1.30%	1.08%	1.14%
Amphetamines	24.60%	26.50%	26.30%	27.87%	29.45%
Cocaine	17.50%	14.90%	13.40%	12.58%	13.11%
Invalid	4.90%	6.36%	9.10%	7.95%	4.59%
Marijuana	35.60%	35.24%	34.60%	36.08%	35.91%

Drug Category	2011	2012	2013	2014	2015
MDMA	0.14%	0.17%	0.21%	0.24%	0.24%
Opiates	9.70%	9.90%	10.0%	9.24%	10.66%
Oxidizing Adulterants	0.000%	0.000%	0.000%	0.000%	0.000%
PCP	2.10%	1.80%	1.50%	1.31%	1.31%
Substituted	3.20%	3.00%	2.70%	2.51%	2.45%

Non-Negative Rates by Drug/SVT Category

Urine Drug Tests – For General U.S. Workforce, as a Percentage of All Non-Negatives



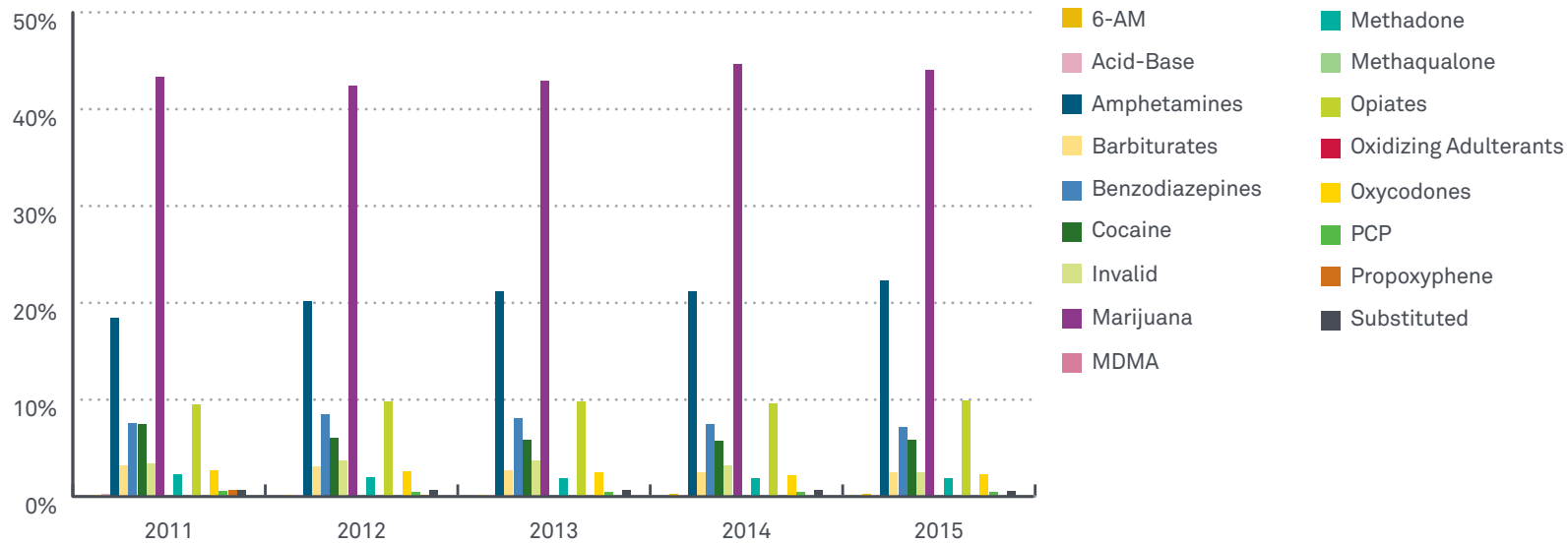
More than 350 thousand non-negative test results from January to December 2015

Drug Category	2011	2012	2013	2014	2015
6-AM	0.06%	0.09%	0.11%	0.14%	0.16%
Acid-Base	0.03%	0.03%	0.03%	0.03%	0.03%
Amphetamines	17.50%	19.30%	20.40%	20.20%	21.34%
Barbiturates	3.70%	3.50%	3.10%	2.84%	2.83%
Benzodiazepines	8.70%	9.60%	9.30%	8.56%	8.21%
Cocaine	6.10%	4.80%	4.60%	4.70%	4.85%
Invalid	3.20%	3.30%	2.90%	2.53%	2.22%
Marijuana	44.30%	43.40%	44.00%	45.91%	45.19%
MDMA	0.01%	0.01%	0.01%	0.02%	0.03%

Drug Category	2011	2012	2013	2014	2015
Methadone	2.60%	2.30%	2.20%	2.13%	2.12%
Methaqualone	0.000%	0.000%	0.000%	0.000%	0.000%
Opiates	9.50%	9.80%	9.80%	9.63%	9.80%
Oxidizing Adulterants	0.000%	0.000%	0.000%	0.000%	0.000%
Oxycodones	3.10%	3.00%	2.80%	2.55%	2.57%
PCP	0.32%	0.30%	0.30%	0.36%	0.31%
Propoxyphene	0.71%	0.23%	0.11%	0.06%	0.03%
Substituted	0.26%	0.31%	0.32%	0.35%	0.32%

Non-Negative Rates by Drug/SVT Category

Urine Drug Tests – For Combined U.S. Workforce, as a Percentage of All Non-Negatives



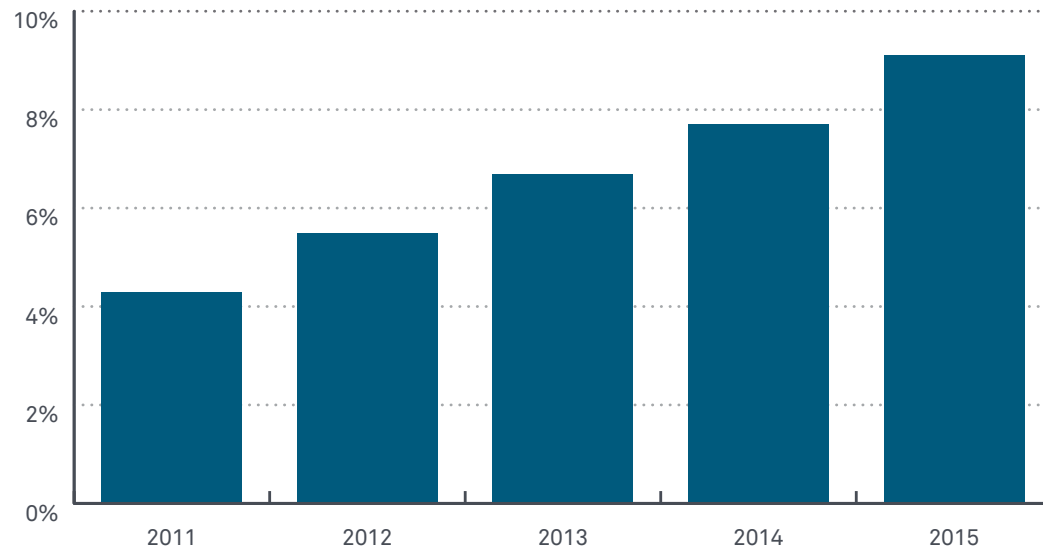
More than 400 thousand non-negative test results from January to December 2015

Drug Category	2011	2012	2013	2014	2015
6-AM	0.12%	0.17%	0.20%	0.26%	0.28%
Acid-Base	0.23%	0.20%	0.19%	0.16%	0.16%
Amphetamines	18.40%	20.20%	21.20%	21.16%	22.34%
Barbiturates	3.20%	3.10%	2.70%	2.48%	2.48%
Benzodiazepines	7.60%	8.50%	8.10%	7.48%	7.19%
Cocaine	7.50%	6.00%	5.80%	5.69%	5.87%
Invalid	3.40%	3.70%	3.70%	3.21%	2.51%
Marijuana	43.30%	42.40%	42.90%	44.67%	44.05%
MDMA	0.03%	0.03%	0.04%	0.05%	0.06%

Drug Category	2011	2012	2013	2014	2015
Methadone	2.30%	2.00%	1.90%	1.86%	1.86%
Methaqualone	0.000%	0.000%	0.000%	0.000%	0.000%
Opiates	9.50%	9.80%	9.80%	9.59%	9.91%
Oxidizing Adulterants	0.000%	0.000%	0.000%	0.000%	0.000%
Oxycodones	2.70%	2.60%	2.50%	2.23%	2.25%
PCP	0.54%	0.48%	0.44%	0.48%	0.43%
Propoxyphene	0.62%	0.20%	0.10%	0.06%	0.03%
Substituted	0.62%	0.63%	0.62%	0.62%	0.58%

Positivity Rates by Testing Category

Oral Fluid Drug Tests – For General U.S. Workforce

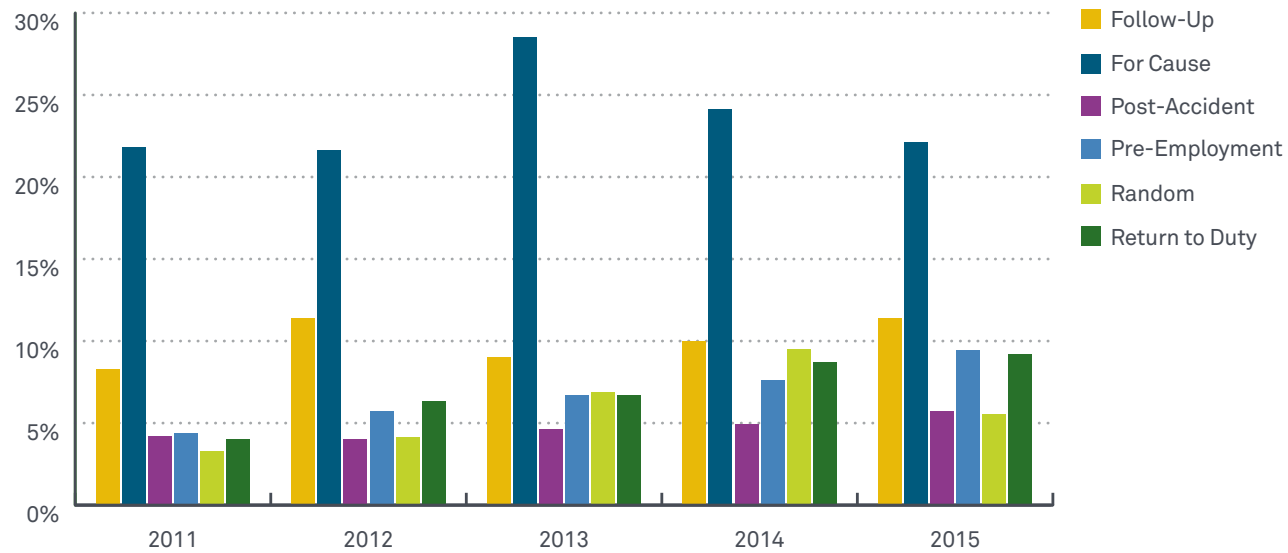


More than 900 thousand tests from January to December 2015

Testing Category	2011	2012	2013	2014	2015
General U.S. Workforce	4.3%	5.5%	6.7%	7.7%	9.1%

Positivity Rates by Testing Reason

Oral Fluid Drug Tests – For General U.S. Workforce

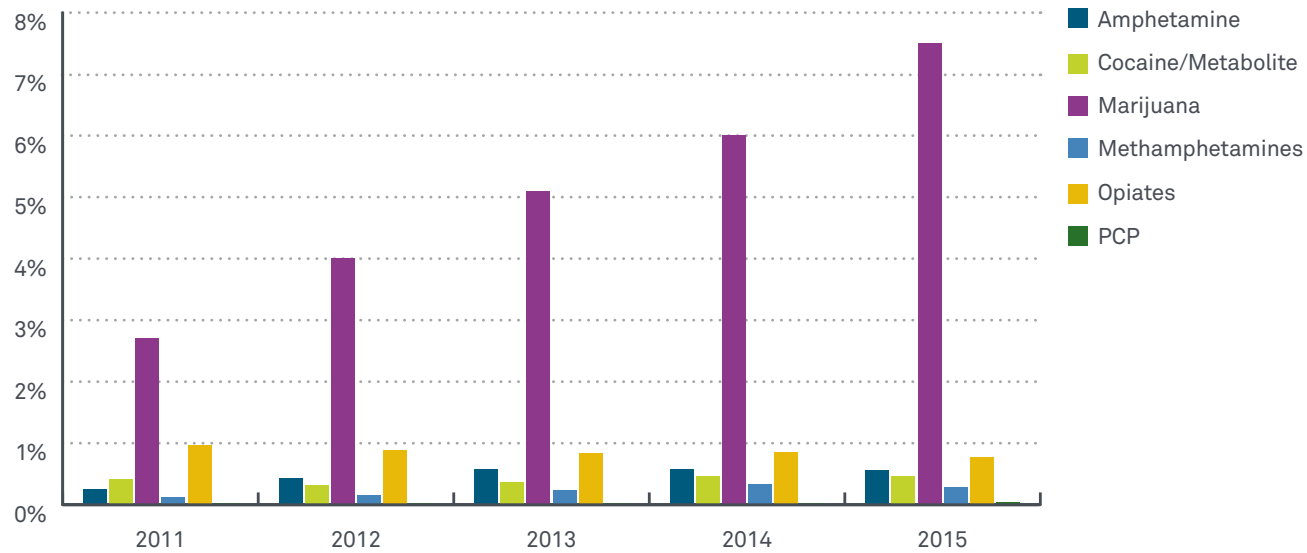


More than 900 thousand tests from January to December 2015

Testing Reason	2011	2012	2013	2014	2015
Follow-Up	8.3%	11.4%	9.0%	10.0%	11.4%
For Cause	21.8%	21.6%	28.5%	24.1%	22.1%
Post-Accident	4.2%	4.0%	4.6%	4.9%	5.7%
Pre-Employment	4.4%	5.7%	6.7%	7.6%	9.4%
Random	3.3%	4.1%	6.9%	9.5%	5.5%
Return to Duty	4.0%	6.3%	6.7%	8.7%	9.2%

Positivity Rates by Drug Category

Oral Fluid Drug Tests – For General U.S. Workforce

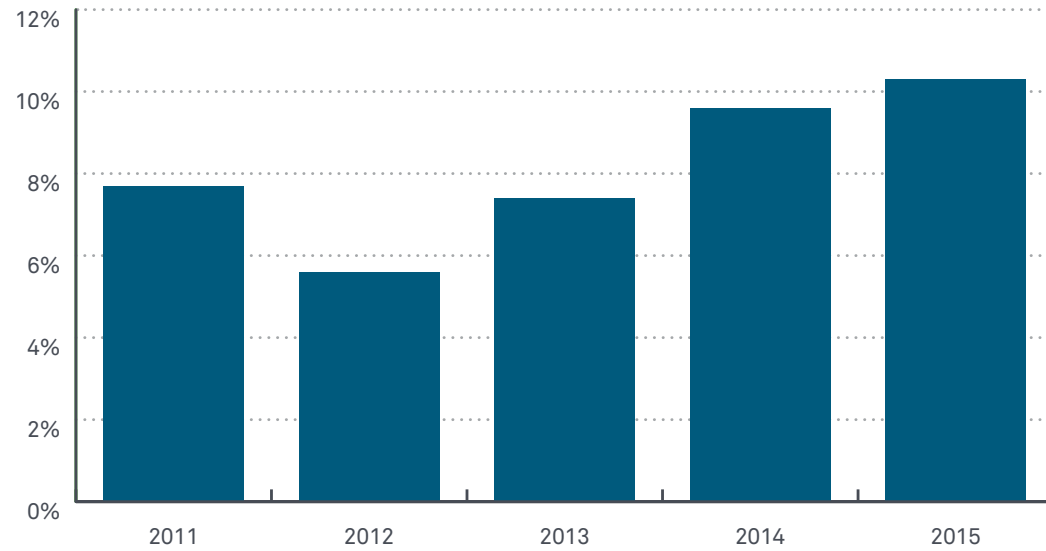


More than 900 thousand tests from January to December 2015

Drug Category	2011	2012	2013	2014	2015
Amphetamine	0.25%	0.43%	0.57%	0.57%	0.56%
Cocaine/Metabolite	0.41%	0.31%	0.36%	0.47%	0.46%
Marijuana	2.7%	4.0%	5.1%	6.0%	7.5%
Methamphetamine	0.12%	0.16%	0.24%	0.33%	0.29%
Opiates	0.97%	0.88%	0.83%	0.85%	0.78%
PCP	0.02%	0.02%	0.02%	0.02%	0.04%

Positivity Rates by Testing Category

Hair Drug Tests – For General U.S. Workforce

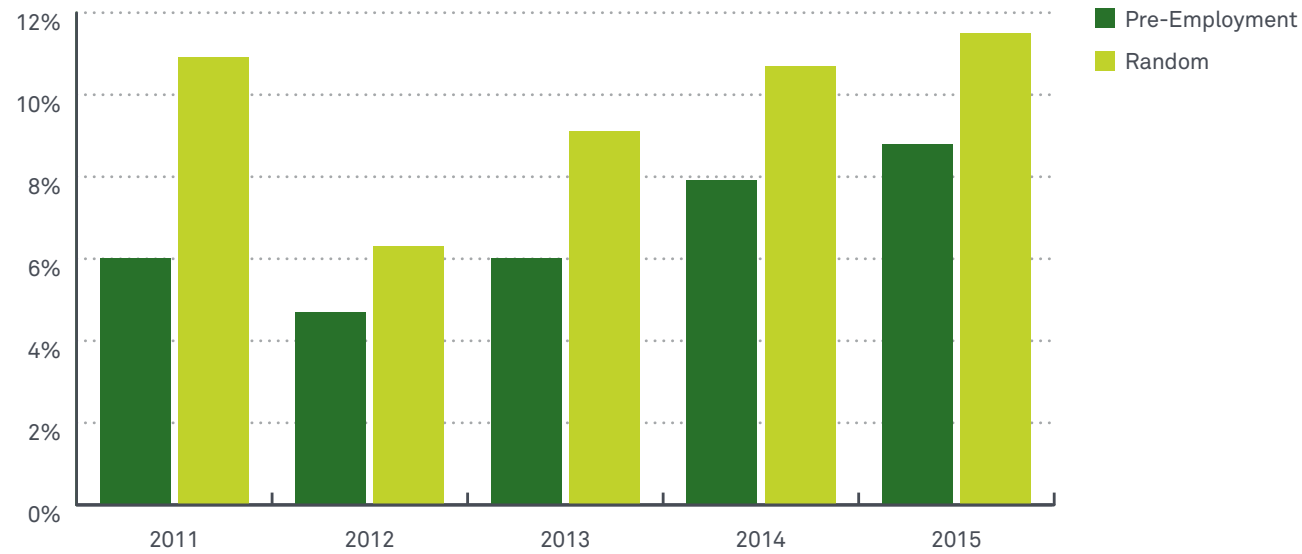


More than 200 thousand tests from January to December 2015

Testing Category	2011	2012	2013	2014	2015
General U.S. Workforce	7.7%	5.6%	7.4%	9.6%	10.3%

Positivity Rates by Testing Reason

Hair Drug Tests – For General U.S. Workforce

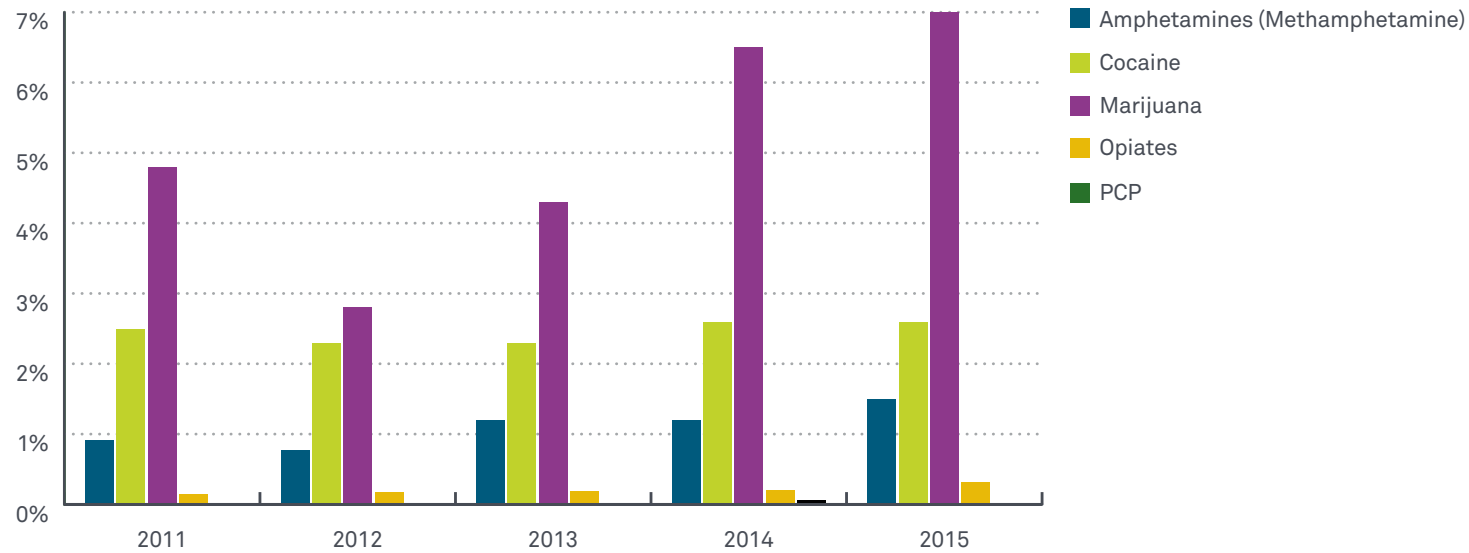


More than 200 thousand tests from January to December 2015

Testing Reason	2011	2012	2013	2014	2015
Pre-Employment	6.0%	4.7%	6.0%	7.9%	8.8%
Random	10.9%	6.3%	9.1%	10.7%	11.5%

Positivity Rates by Drug Category

Hair Drug Tests – For General U.S. Workforce



More than 200 thousand tests from January to December 2015

Drug Category	2011	2012	2013	2014	2015
Amphetamines (Methamphetamine)	0.91%	0.77%	1.2%	1.2%	1.5%
Cocaine	2.5%	2.3%	2.3%	2.6%	2.6%
Marijuana	4.8%	2.8%	4.3%	6.5%	7.0%
Opiates	0.15%	0.18%	0.19%	0.21%	0.32%
PCP	0.01%	0.01%	0.02%	0.06%	0.01%



About Quest Diagnostics

Quest Diagnostics empowers people to take action to improve health outcomes. Derived from the world's largest database of clinical lab results, our diagnostic insights reveal new avenues to identify and treat disease, inspire healthy behaviors and improve health care management. Quest Diagnostics annually serves one in three adult Americans and half the physicians and hospitals in the United States, and our 44,000 employees understand that, in the right hands and with the right context, our diagnostic insights can inspire actions that transform lives. QuestDiagnostics.com

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