Quest Diagnostics™

Industry Insights

Quest Diagnostics Drug Testing Index™

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Understanding the North American Industry Classification System

The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies of Canada, Mexico, and the U.S., in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the economy. Defining an industry using a production-oriented concept means companies with the same NAICS code share production processes and technologies when producing goods and services. Simply put, a NAICS code identifies a company's primary business activity and allows a comparison of companies in like industries across the continent.

Using a hierarchical structure, NAICS is a six-digit coding system that classifies all economic activity into twenty industry sectors. Five sectors produce goods and fifteen provide some type of service. Each digit in a NAICS code gradually narrows the categories. The first two digits of the NAICS code indicate the industry sector — the largest business sector in which a company operates. The third digit is the subsector and the fourth digit is the industry group. The fifth digit designates the NAICS industry and the sixth and final digit designates a company's national industry.

In 1997, the Standard Industrial Classification (SIC) 4-digit system was replaced by NAICS to simplify and modernize the comparison of industries. NAICS undergoes a planned review every five years to ensure it remains relevant.

Our data was classified by the industry sector identifier of a company's headquarters location using the most recent system, *2017 NAICS Manual: United States,* detailing 1,057 industries. For more information, visit www.census.gov/eos/www/naics/.

Methodology

This report of drug use patterns by industry is based on a four-year analysis of American companies who drug test with Quest Diagnostics. Data from more than ten million urine drug tests includes overall positivity rates by industry and by drug category for marijuana, cocaine, opiates, amphetamines, amphetamine, and methamphetamine.

- Data includes laboratory-based urine drug tests submitted by the general U.S. workforce for routine testing. Rehabilitation, criminal justice, and federally-mandated, safety-sensitive testing data are excluded. Positive results are tabulated prior to Medical Review Officer (MRO) evaluation.

- Each company is categorized by a single NAICS code. If a company can be categorized by multiple NAICS codes, it is assigned one code based on its largest revenue-producing output.

- An industry must meet an average annual minimum volume of at least 50,000 urine drug tests to be included in our output. Three NAICS sectors are not included in our data due to insufficient volume. Those sectors are: Agriculture, Forestry, Fishing and Hunting (11); Management of Companies & Enterprises (55); and Arts, Entertainment & Recreation (71).

- Shifts in customers and testing volume may influence positivity rates over time.

- More than ninety percent of our general U.S. workforce urine testing volume has been categorized. Data is excluded if a company is unable to be reliably classified into a category.

21 | Mining

Activities of this sector are extracting naturally occurring mineral solids, such as coal and ore; liquid minerals, such as crude petroleum; and gases, such as natural gas; and beneficiating (e.g., crushing, screening, washing, and flotation) and other preparation at the mine site, or as part of mining activity.

22 | Utilities

Activities of this sector are generating, transmitting, and/or distributing electricity, gas, steam, and water and removing sewage through a permanent infrastructure of lines, mains, and pipe.

23 | Construction

Activities of this sector are erecting buildings and other structures (including additions); heavy construction other than buildings; and alterations, reconstruction, installation, and maintenance and repairs.

31-33 | Manufacturing

Activities of this sector are the mechanical, physical, or chemical transformation of materials, substances, or components into new products.

42 | Wholesale Trade

Activities of this sector are selling or arranging for the purchase or sale of goods for resale; capital or durable nonconsumer goods; and raw and intermediate materials and supplies used in production, and providing services incidental to the sale of the merchandise.

Source: United States Census Bureau, Office of Management and Budget

44-45 | Retail Trade

Activities of this sector are retailing merchandise generally in small quantities to the general public and providing services incidental to the sale of the merchandise.

48-49 | Transportation & Warehousing

Activities of this sector are providing transportation of passengers and cargo, warehousing and storing goods, scenic and sightseeing transportation, and supporting these activities.

51 | Information

Activities of this sector are distributing information and cultural products, providing the means to transmit or distribute these products as data or communications, and processing data.

52 | Finance & Insurance

Activities of this sector involve the creation, liquidation, or change in ownership of financial assets (financial transactions) and/or facilitating financial transactions.

53 | Real Estate, Rental & Leasing

Activities of this sector are renting, leasing, or otherwise allowing the use of tangible or intangible assets (except copyrighted works), and providing related services.

54 | Professional, Scientific & Technical Services

Activities of this sector are performing professional, scientific, and technical services for the operations of other organizations.

56 | Administrative Support, Waste Management & Remediation Services

Activities of this sector are performing routine support activities for the day-to-day operations of other organizations.

51 | Educational Services

Activities of this sector are providing instruction and training in a wide variety of subjects.

62 | Health Care & Social Assistance

Activities of this sector are providing health care and social assistance for individuals.

72 | Accommodation & Food Services

Activities of this sector are providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption.

81 | Other Services (except Public Administration)

Activities of this sector are providing services not elsewhere specified, including repairs, religious activities, grantmaking, advocacy, laundry, personal care, death care, and other personal services.

92 | Public Administration

Activities of this sector are administration, management, and oversight of public programs by Federal, State, and local governments.

Workforce drug positivity increases in more than one-third of U.S. industry sectors examined

One third of U.S. industry sectors experienced year-over-year double-digit increases in workforce drug positivity between 2015 and 2018, according to a new analysis of industry-specific data by Quest Diagnostics, the world's leading provider of diagnostic information services. The Quest Diagnostics Drug Testing Index™ industry analysis of general U.S. workforce urine drug test results shows year-over-year double-digit increases in workplace drug positivity in six of the 17 sectors reported.

The company's analysis of more than 14 million urine drug test results provides industry specific insights based on objective lab data identifying the presence of several drugs, including marijuana, amphetamines, cocaine and opiates across a nationally representative workforce population. Among these, the Retail Trade industry experienced the highest overall positivity rate (4.7% in 2015, 5.1% in 2016, 5.3% in 2017, and 5.4% in 2018) across all four years of the analysis. As compared to the national positivity rates, the positivity rates in Retail Trade exceeded the national positivity rate for the general U.S. workforce in the most recent three years (4.9% in 2016, 5.0% in 2017, and 5.1% in 2018), as reported earlier this year in the company's 2019 Drug Testing Index, which examines drug positivity generally across the U.S. workforce.

> "Our longitudinal examination of drug positivity data suggests drug use by the nation's workforce is growing across a broad swath of industries."

Barry Sample, PhD
Senior director, science and technology
Quest Diagnostics Employer Solutions

Additionally, Retail Trade is one of six sectors that saw year-over-year double-digit increases in positivity between 2015 and 2018. Five of these experienced an overall four-year increase in general U.S. workforce positivity more than double that of the national increase (6.2%) over the same time period:

* Transportation & Warehousing (34.5%)
* Other Services (except Public Administration) (33.3%)
* Wholesale Trade (20.0%)
* Retail Trade (14.9%)
* Construction (13.2%)
* Administrative Support, Waste Management and Remediation Services (12.2%)

"Our longitudinal examination of drug positivity data suggests drug use by the nation's workforce is growing across a broad swath of industries," said Barry Sample, PhD, senior director, science and technology, Quest Diagnostics. "Of particular concern are sharp jumps in positivity rates seen in sectors like transportation and warehousing and construction that directly affect public safety. Staying vigilant and providing support for employees who test positive for drug use are key for employers seeking to maintain a safe, healthy workforce."

Classifications are based on the North American Industry Classification System (NAICS), used by the U.S. Office of Management and Budget, Canada, and Mexico to group organizations into industries based on the similarity of their production processes. Seventeen of the 20 industry sectors were included in the Quest analysis; three classifications were excluded due to insufficient testing volume.

Marijuana positivity increases in nearly half of industry sectors

Marijuana was the most commonly detected drug, with the highest positivity rates, in the majority of sectors. Educational Services, Mining, and Public Administration were the only sectors where marijuana was not the most commonly detected drug.

Positivity for marijuana increased by double digits in eight of the 17 sectors for each of the years between 2015 and 2018. In 12 of the sectors, the growth rate (9.1% to 25.0%) in marijuana positivity between 2017 and 2018 was higher than the overall growth rate (7.7%) observed in the general U.S. workforce during the same time period. In 10 of the sectors, the growth rate in marijuana positivity between 2015 and 2018 was greater than 25 percent:

- Other Services (except Public Administration) (61.9%)
- Transportation & Warehousing (53.3%)
- Mining (50.0%)
- Wholesale Trade (47.1%)
- Construction (46.7%)
- Manufacturing (38.5%)
- Accommodation and Food Services (37.9%)
- Administrative Support, Waste Management and Remediation Services (33.3%)
- Public Administration (30.0%)
- Retail Trade (29.6%)

The Accommodation and Food Services sector had the highest marijuana positivity rates each of the four years analyzed (2.9% in 2015, 3.2% in 2016, 3.5% in 2017, and 4.0% in 2018). The Information sector was the only industry grouping with year-over-year decreases in marijuana positivity all years of the analysis, with a 12.5% relative decrease between 2015 and 2018. It was also the only sector with a decrease in marijuana positivity between 2017 and 2018 (2.2% versus 2.1%).

Despite having the highest marijuana positivity rates for each of the four years analyzed, Accommodation and Food Services had the largest decline (-17.3%) in general U.S. workforce urine drug tests that included marijuana between 2015 and 2018.

"Marijuana use is a complex issue, and drug testing provides an objective view into its use in the workforce. Testing data reveals continual increases in positivity rates across several drug categories and industries. Our hope is that data-driven insights on drug use will inform better approaches to ensure the safety and health of the nation's workforce and the communities they serve," said Kim Samano, PhD, scientific director, Quest Diagnostics.

A 2016 Joint Guidance Statement of the American Association of Occupational Health Nurses and the American College of Occupational and Environmental Medicine noted the "potential consequences of marijuana use in the workplace include the risk and associated cost of adverse events and the loss of productivity."

In comparison to marijuana, positivity for opiates continued to decline. Eight of the 17 sectors showed year-over-year decreases at rates of 25 percent or more between 2015 and 2018. No sector experienced an increase in positivity from 2016 to 2017 or 2017 to 2018. Opiates are narcotic drugs that act as depressants on the central nervous system and refer specifically to morphine and codeine.

"Marijuana is a complex issue, and testing can provide an objective view into its use in the workforce by revealing dramatic increases in positivity rates across several drug categories and industries."

Kim Samano, PhD
Scientific director
Quest Diagnostics Employer Solutions

Other industry-specific findings

- The **Construction** sector showed the highest positivity rate for cocaine for all sectors in each year of the analysis and was more than 40 percent higher than the national rate in 2018 (0.40% vs. 0.28%). Construction was also the only sector with year-over-year increases in methamphetamine positivity (increasing 20 percent from 2015 to 2018) and was more than 30 percent higher than the national positivity in 2018 (0.24% vs. 0.18%).

- While cocaine positivity dipped nationally in 2018, one sector – **Public Administration** – continued to exhibit increases in 2018 as well as year-over-year increases between 2015 and 2018. The Public Administration sector increased 36.4% (0.11% to 0.15%) between 2015 and 2018 and was well above the national increase of 12 percent in that period.

- In each of the four years analyzed, the **Educational Services** sector had the highest positivity for amphetamines (1.46% in 2015, 1.61% in 2016, 1.64% in 2017, 1.66% in 2018). Between 2015 and 2018, four sectors saw year-over-year increases in amphetamines positivity:

Finance and Insurance (17.8%); **Utilities** (17.2%); **Educational Services** (13.7%); **Retail Trade** (12.1%). Amphetamines may also include methamphetamine, which is more typically used illicitly.

- Six sectors showed year-over-year double-digit increases in amphetamine positivity between 2015 and 2018: **Information** (22.5%); **Construction** (16.7%); **Finance and Insurance** (16.3%); **Educational Services** (14.5%); **Retail Trade** (13.5%); and **Utilities** (13.3%). Amphetamine is a central nervous system stimulant and includes drugs such as Adderall, which may be prescribed for certain conditions.

- The **Professional, Scientific and Technical Services** sector is the only classification with no change in overall positivity across the four years examined, holding at 3.4% every year.

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

Overall Positivity Rates

Urine Drug Tests - General U.S. Workforce
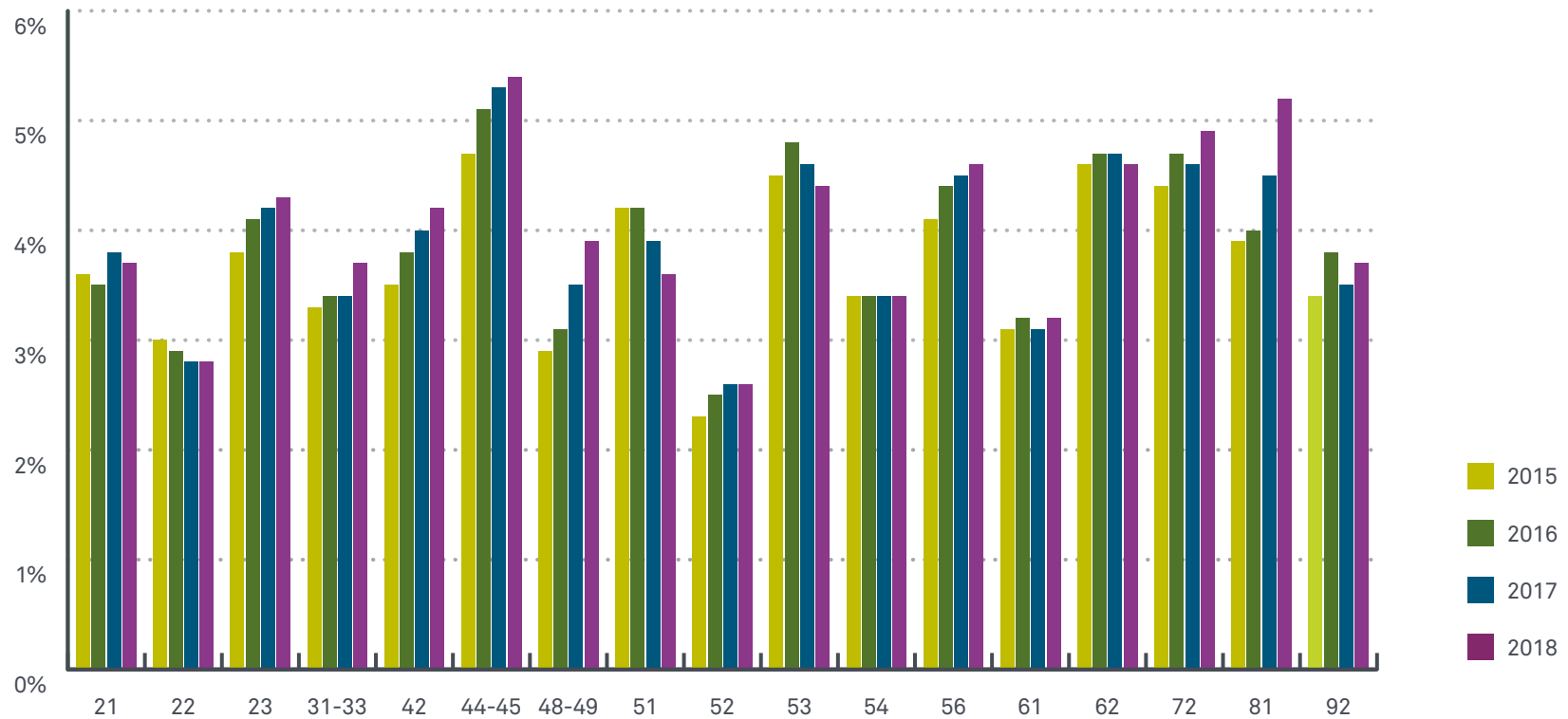
Industry	2015	2016	2017	2018
Accommodation & Food Services [72]	4.4%	4.7%	4.6%	4.9%
Administrative Support, Waste Management & Remediation Services [56]	4.1%	4.4%	4.5%	4.6%
Construction [23]	3.8%	4.1%	4.2%	4.3%
Educational Services [61]	3.1%	3.2%	3.1%	3.2%
Finance & Insurance [52]	2.3%	2.5%	2.6%	2.6%
Health Care & Social Assistance [62]	4.6%	4.7%	4.7%	4.6%
Information [51]	4.2%	4.2%	3.9%	3.6%
Manufacturing [31-33]	3.3%	3.4%	3.4%	3.7%

Industry	2015	2016	2017	2018
Mining [21]	3.6%	3.5%	3.8%	3.7%
Other Services (except Public Administration) [81]	3.9%	4.0%	4.5%	5.2%
Professional, Scientific & Technical Services [54]	3.4%	3.4%	3.4%	3.4%
Public Administration [92]	3.4%	3.8%	3.5%	3.7%
Real Estate, Rental & Leasing [53]	4.5%	4.8%	4.6%	4.4%
Retail Trade [44-45]	4.7%	5.1%	5.3%	5.4%
Transportation & Warehousing [48-49]	2.9%	3.1%	3.5%	3.9%
Utilities [22]	3.0%	2.9%	2.8%	2.8%
Wholesale Trade [42]	3.5%	3.8%	4.0%	4.2%

Positivity Rates by Drug: Marijuana

Urine Drug Tests - General U.S. Workforce
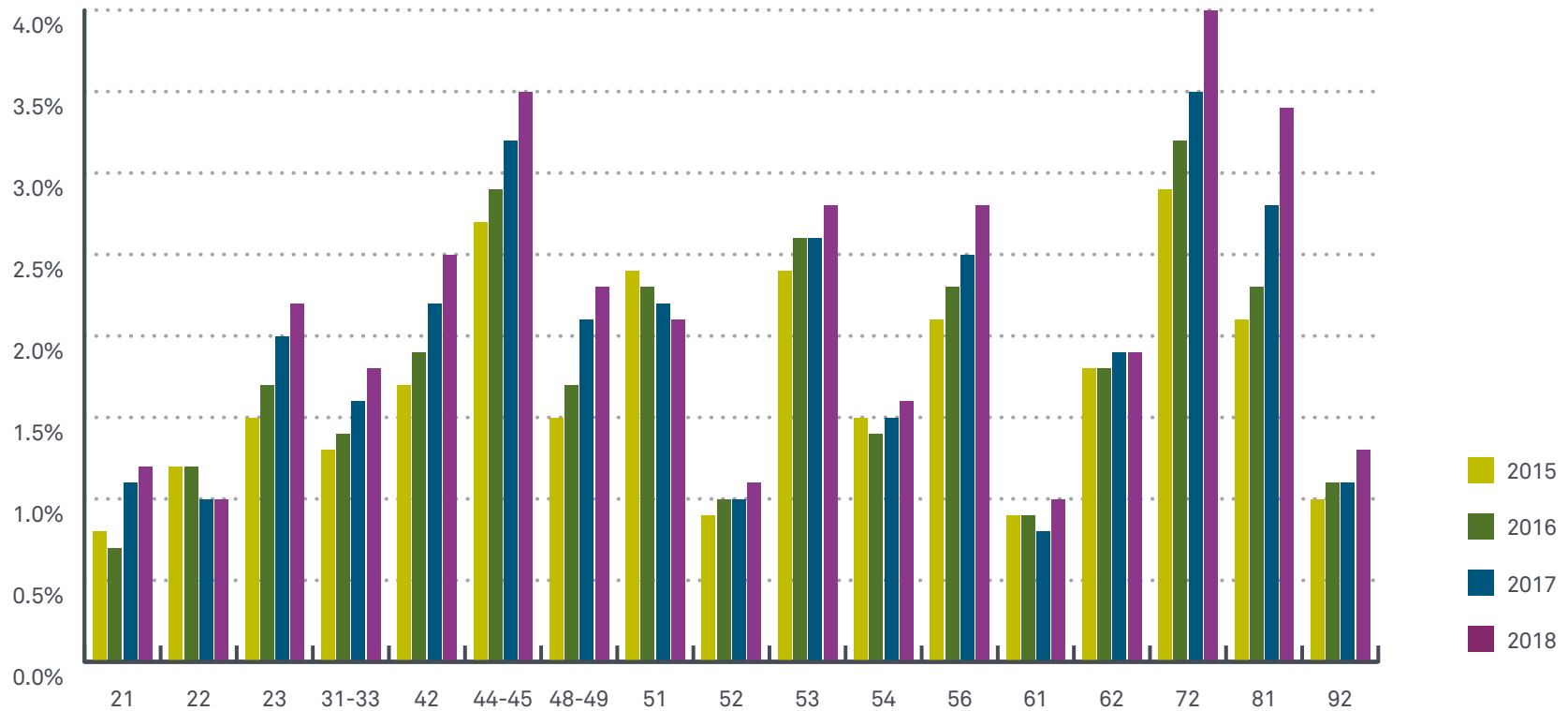
Industry	2015	2016	2017	2018
Accommodation & Food Services [72]	2.9%	3.2%	3.5%	4.0%
Administrative Support, Waste Management & Remediation Services [56]	2.1%	2.3%	2.5%	2.8%
Construction [23]	1.5%	1.7%	2.0%	2.2%
Educational Services [61]	0.9%	0.9%	0.8%	1.0%
Finance & Insurance [52]	0.9%	1.0%	1.0%	1.1%
Health Care & Social Assistance [62]	1.8%	1.8%	1.9%	1.9%
Information [51]	2.4%	2.3%	2.2%	2.1%
Manufacturing [31-33]	1.3%	1.4%	1.6%	1.8%

Industry	2015	2016	2017	2018
Mining [21]	0.8%	0.7%	1.1%	1.2%
Other Services (except Public Administration) [81]	2.1%	2.3%	2.8%	3.4%
Professional, Scientific & Technical Services [54]	1.5%	1.4%	1.5%	1.6%
Public Administration [92]	1.0%	1.1%	1.1%	1.3%
Real Estate, Rental & Leasing [53]	2.4%	2.6%	2.6%	2.8%
Retail Trade [44-45]	2.7%	2.9%	3.2%	3.5%
Transportation & Warehousing [48-49]	1.5%	1.7%	2.1%	2.3%
Utilities [22]	1.2%	1.2%	1.0%	1.0%
Wholesale Trade [42]	1.7%	1.9%	2.2%	2.5%

Positivity Rates by Drug: Cocaine

Urine Drug Tests - General U.S. Workforce
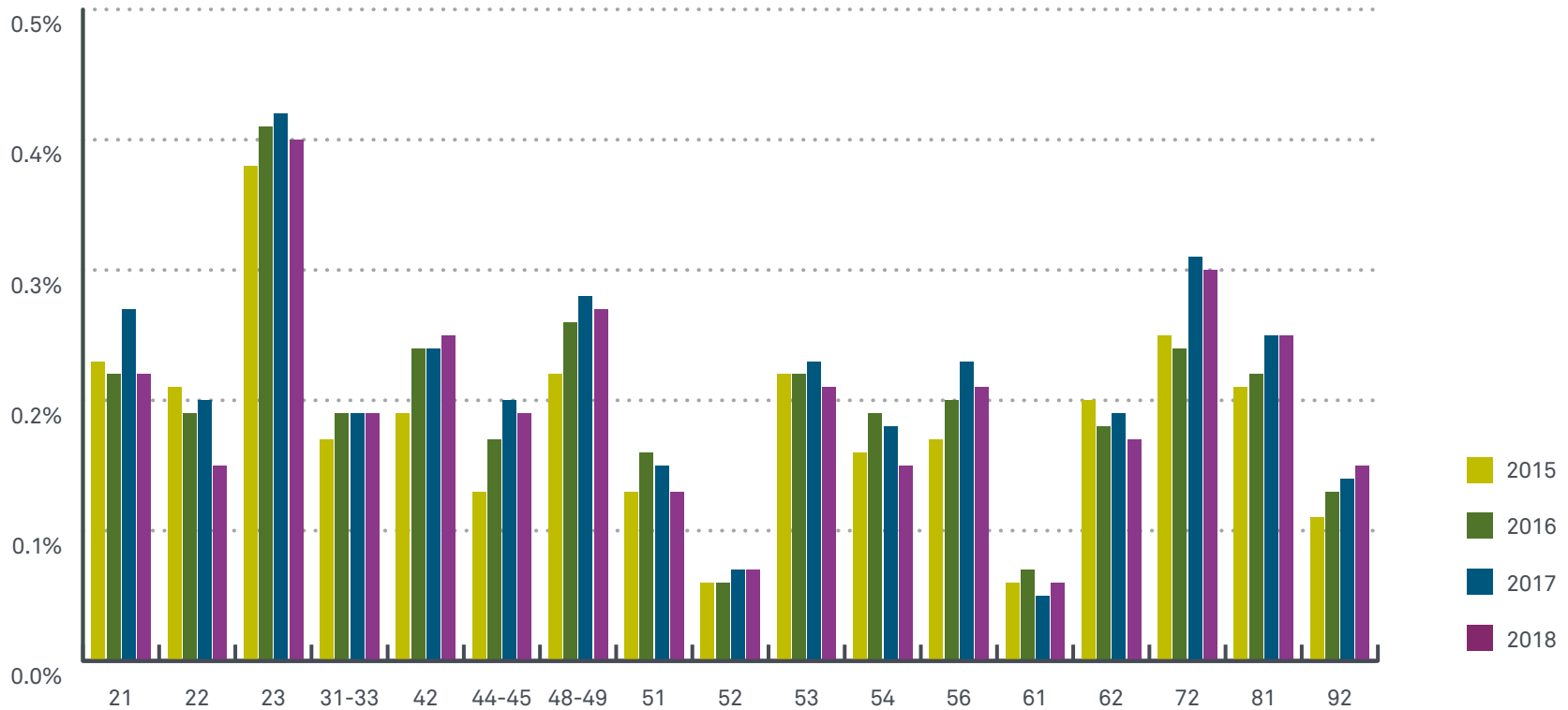
Industry	2015	2016	2017	2018
Accommodation & Food Services [72]	0.25%	0.24%	0.31%	0.30%
Administrative Support, Waste Management & Remediation Services [56]	0.17%	0.20%	0.23%	0.21%
Construction [23]	0.38%	0.41%	0.42%	0.40%
Educational Services [61]	0.06%	0.07%	0.05%	0.06%
Finance & Insurance [52]	0.06%	0.06%	0.07%	0.07%
Health Care & Social Assistance [62]	0.20%	0.18%	0.19%	0.17%
Information [51]	0.13%	0.16%	0.15%	0.13%
Manufacturing [31-33]	0.17%	0.19%	0.19%	0.19%

Industry	2015	2016	2017	2018
Mining [21]	0.23%	0.22%	0.27%	0.22%
Other Services (except Public Administration) [81]	0.21%	0.22%	0.25%	0.25%
Professional, Scientific & Technical Services [54]	0.16%	0.19%	0.18%	0.15%
Public Administration [92]	0.11%	0.13%	0.14%	0.15%
Real Estate, Rental & Leasing [53]	0.22%	0.22%	0.23%	0.21%
Retail Trade [44-45]	0.13%	0.17%	0.20%	0.19%
Transportation & Warehousing [48-49]	0.22%	0.26%	0.28%	0.27%
Utilities [22]	0.21%	0.19%	0.20%	0.15%
Wholesale Trade [42]	0.19%	0.24%	0.24%	0.25%

Positivity Rates by Drug: Opiates
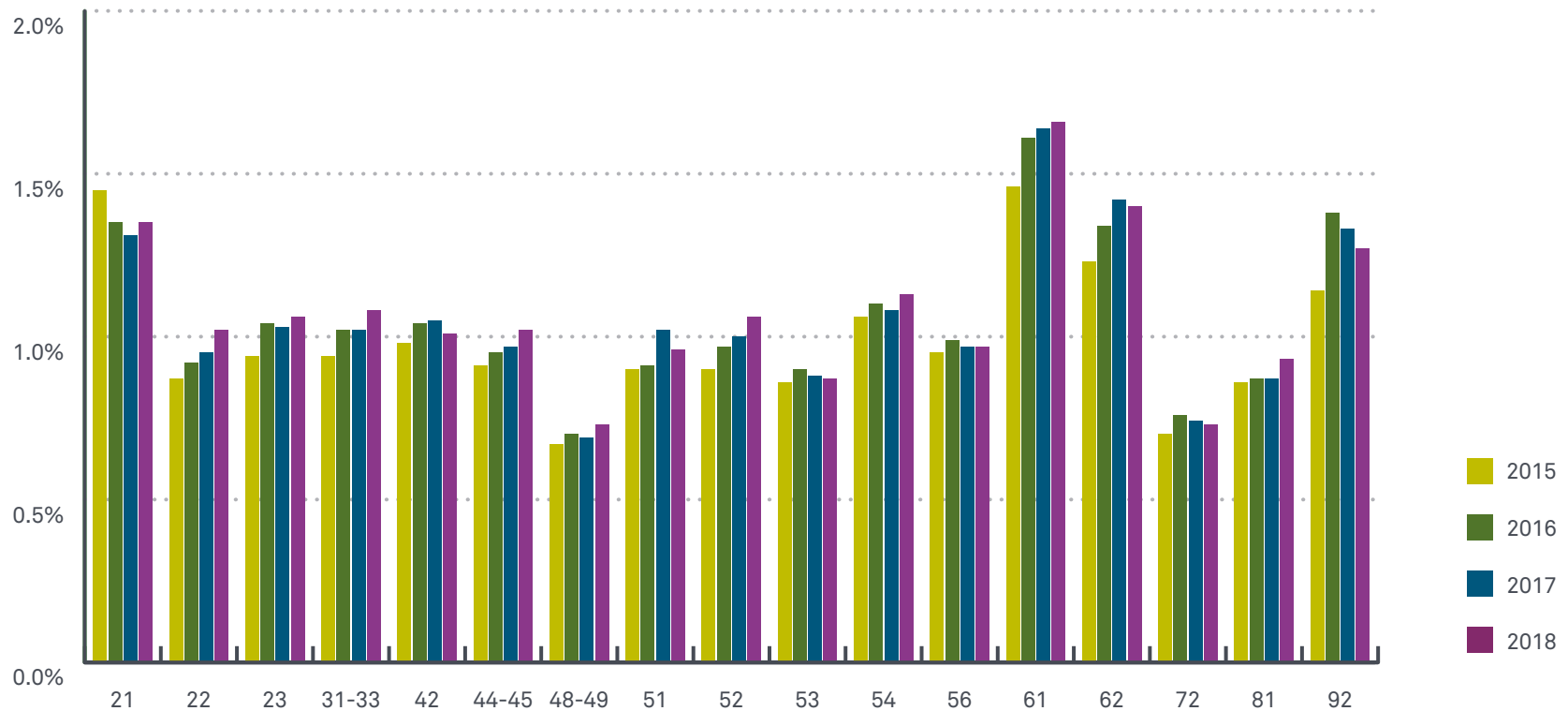
Urine Drug Tests - General U.S. Workforce
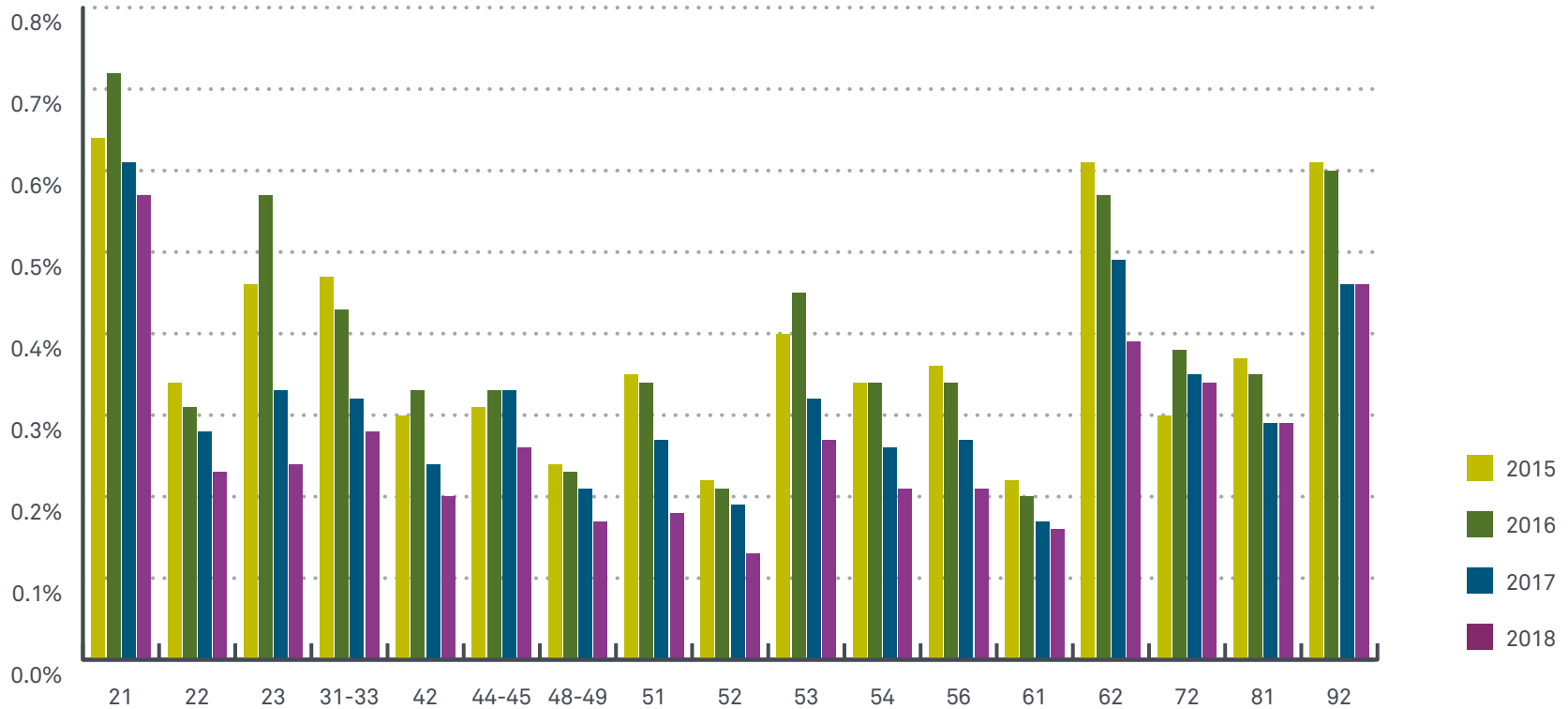
Industry	2015	2016	2017	2018
Accommodation & Food Services [72]	0.30%	0.38%	0.35%	0.34%
Administrative Support, Waste Management & Remediation Services [56]	0.36%	0.34%	0.27%	0.21%
Construction [23]	0.46%	0.57%	0.33%	0.24%
Educational Services [61]	0.22%	0.20%	0.17%	0.16%
Finance & Insurance [52]	0.22%	0.21%	0.19%	0.13%
Health Care & Social Assistance [62]	0.61%	0.57%	0.49%	0.39%
Information [51]	0.35%	0.34%	0.27%	0.18%
Manufacturing [31-33]	0.47%	0.43%	0.32%	0.28%

Industry	2015	2016	2017	2018
Mining [21]	0.64%	0.72%	0.61%	0.57%
Other Services (except Public Administration) [81]	0.37%	0.35%	0.29%	0.29%
Professional, Scientific & Technical Services [54]	0.34%	0.34%	0.26%	0.21%
Public Administration [92]	0.61%	0.60%	0.46%	0.46%
Real Estate, Rental & Leasing [53]	0.40%	0.45%	0.32%	0.27%
Retail Trade [44-45]	0.31%	0.33%	0.33%	0.26%
Transportation & Warehousing [48-49]	0.24%	0.23%	0.21%	0.17%
Utilities [22]	0.34%	0.31%	0.28%	0.23%
Wholesale Trade [42]	0.30%	0.33%	0.24%	0.20%

Positivity Rates by Drug: Amphetamines (Amphetamine and Methamphetamine)
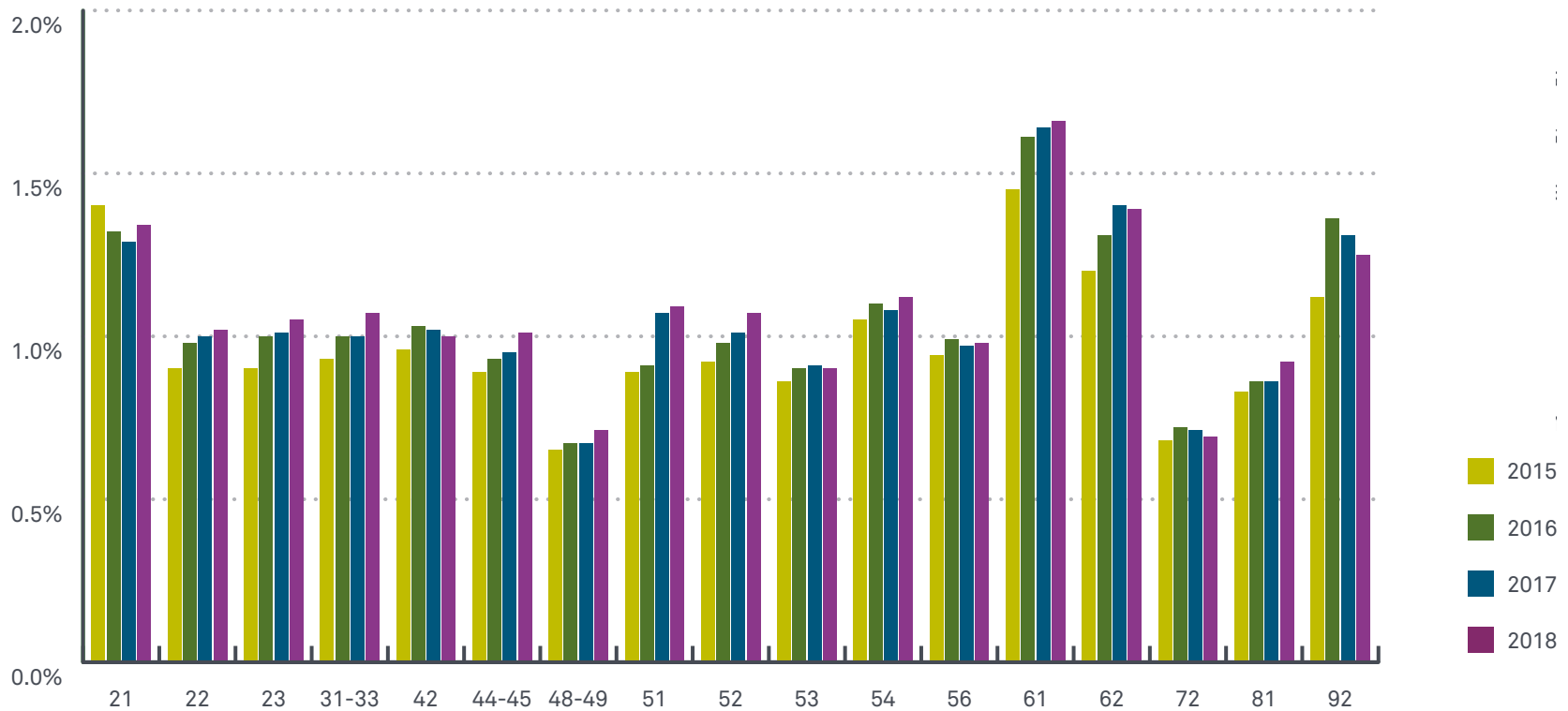
Urine Drug Tests - General U.S. Workforce

Industry	2015	2016	2017	2018
Accommodation & Food Services [72]	0.70%	0.76%	0.74%	0.73%
Administrative Support, Waste Management & Remediation Services [56]	0.95%	0.99%	0.97%	0.97%
Construction [23]	0.94%	1.04%	1.03%	1.06%
Educational Services [61]	1.46%	1.61%	1.64%	1.66%
Finance & Insurance [52]	0.90%	0.97%	1.00%	1.06%
Health Care & Social Assistance [62]	1.23%	1.34%	1.42%	1.40%
Information [51]	0.90%	0.91%	1.02%	0.96%
Manufacturing [31-33]	0.94%	1.02%	1.02%	1.08%

Industry	2015	2016	2017	2018
Mining [21]	1.45%	1.35%	1.31%	1.35%
Other Services (except Public Administration) [81]	0.86%	0.87%	0.87%	0.93%
Professional, Scientific & Technical Services [54]	1.06%	1.10%	1.08%	1.13%
Public Administration [92]	1.14%	1.38%	1.33%	1.27%
Real Estate, Rental & Leasing [53]	0.86%	0.90%	0.88%	0.87%
Retail Trade [44-45]	0.91%	0.95%	0.97%	1.02%
Transportation & Warehousing [48-49]	0.67%	0.70%	0.69%	0.73%
Utilities [22]	0.87%	0.92%	0.95%	1.02%
Wholesale Trade [42]	0.98%	1.04%	1.05%	1.01%

Positivity Rates by Drug: Amphetamine
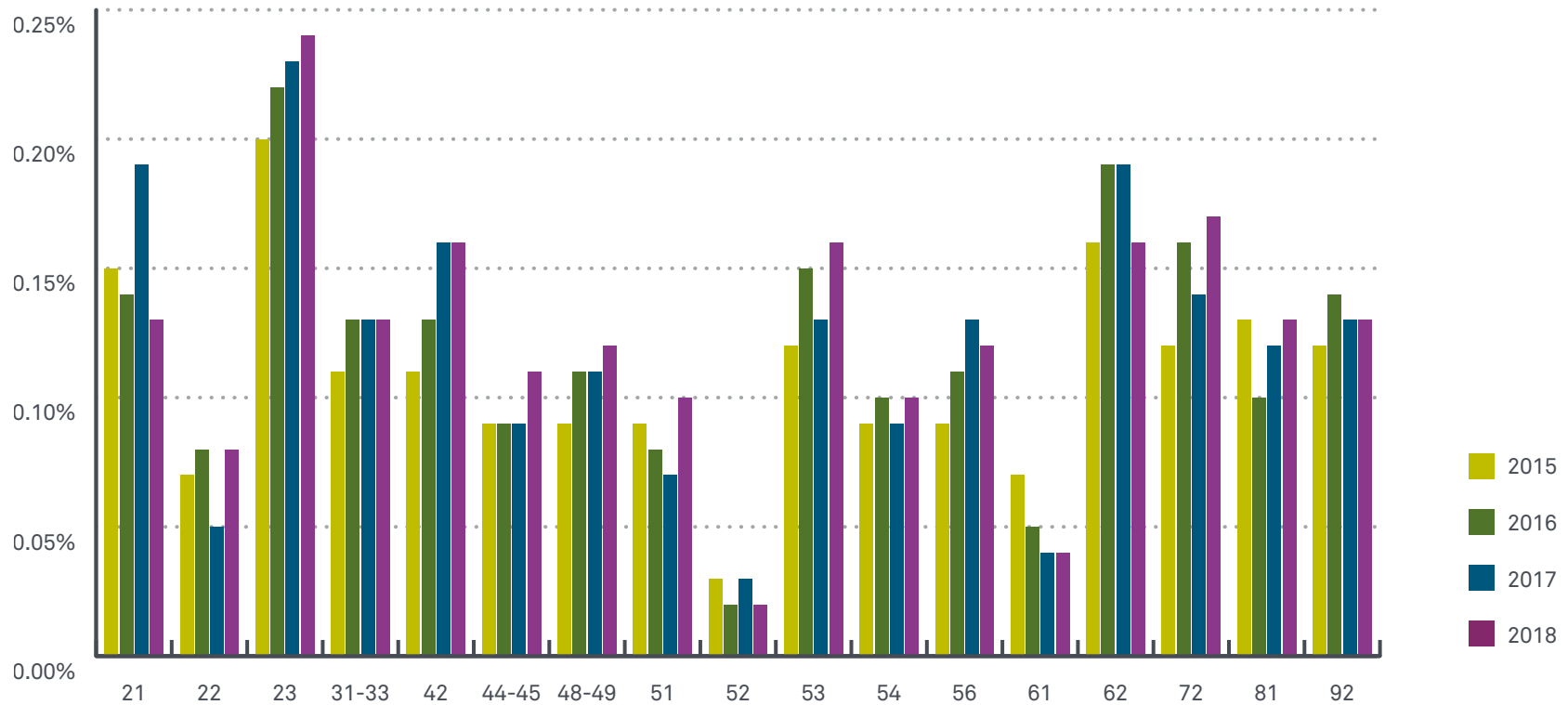
Urine Drug Tests - General U.S. Workforce

Industry	2015	2016	2017	2018
Accommodation & Food Services [72]	0.68%	0.72%	0.71%	0.69%
Administrative Support, Waste Management & Remediation Services [56]	0.94%	0.99%	0.97%	0.98%
Construction [23]	0.90%	1.00%	1.01%	1.05%
Educational Services [61]	1.45%	1.61%	1.64%	1.66%
Finance & Insurance [52]	0.92%	0.98%	1.01%	1.07%
Health Care & Social Assistance [62]	1.20%	1.31%	1.40%	1.39%
Information [51]	0.89%	0.91%	1.07%	1.09%
Manufacturing [31-33]	0.93%	1.00%	1.00%	1.07%

Industry	2015	2016	2017	2018
Mining [21]	1.40%	1.32%	1.29%	1.34%
Other Services (except Public Administration) [81]	0.83%	0.86%	0.86%	0.92%
Professional, Scientific & Technical Services [54]	1.05%	1.10%	1.08%	1.12%
Public Administration [92]	1.12%	1.36%	1.31%	1.25%
Real Estate, Rental & Leasing [53]	0.86%	0.90%	0.91%	0.90%
Retail Trade [44-45]	0.89%	0.93%	0.95%	1.01%
Transportation & Warehousing [48-49]	0.65%	0.67%	0.67%	0.71%
Utilities [22]	0.90%	0.98%	1.00%	1.02%
Wholesale Trade [42]	0.96%	1.03%	1.02%	1.00%

Positivity Rates by Drug: Methamphetamine

Urine Drug Tests - General U.S. Workforce

Industry	2015	2016	2017	2018
Accommodation & Food Services [72]	0.12%	0.16%	0.14%	0.17%
Administrative Support, Waste Management & Remediation Services [56]	0.09%	0.11%	0.13%	0.12%
Construction [23]	0.20%	0.22%	0.23%	0.24%
Educational Services [61]	0.07%	0.05%	0.04%	0.04%
Finance & Insurance [52]	0.03%	0.02%	0.03%	0.02%
Health Care & Social Assistance [62]	0.16%	0.19%	0.19%	0.16%
Information [51]	0.09%	0.08%	0.07%	0.10%
Manufacturing [31-33]	0.11%	0.13%	0.13%	0.13%

Industry	2015	2016	2017	2018
Mining [21]	0.15%	0.14%	0.19%	0.13%
Other Services (except Public Administration) [81]	0.13%	0.10%	0.12%	0.13%
Professional, Scientific & Technical Services [54]	0.09%	0.10%	0.09%	0.10%
Public Administration [92]	0.12%	0.14%	0.13%	0.13%
Real Estate, Rental & Leasing [53]	0.12%	0.15%	0.13%	0.16%
Retail Trade [44-45]	0.09%	0.09%	0.09%	0.11%
Transportation & Warehousing [48-49]	0.09%	0.11%	0.11%	0.12%
Utilities [22]	0.07%	0.08%	0.05%	0.08%
Wholesale Trade [42]	0.11%	0.13%	0.16%	0.16%

About Quest Diagnostics

Quest Diagnostics helps empower 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 healthcare management. Quest annually serves one in three adult Americans and half the physicians and hospitals in the United States, and our 45,000 employees understand that, in the right hands and with the right context, our diagnostic insights can inspire actions that transform lives.

About The Drug Testing Index

The Quest Diagnostics Drug Testing Index™ (DTI) provides insights into trends in workforce drug use, based on positivity results for de-identified laboratory testing performed by Quest Diagnostics for a range of drugs. It examines test results according to three categories of workers: federally-mandated, safety-sensitive workers; the general workforce; and the combined U.S. workforce. In 2018, the DTI introduced an industry analysis based on distinct industry sectors using NAICS codes. This analysis reflects laboratory urine drug test results for the U.S. general workforce and does not include the federally-mandated safety-sensitive workforce.