INSTITUTE FOR SOCIAL RESEARCH

New Mexico Statistical Analysis Center

Substance Use among New Mexico Probationers and Parolees

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Introduction

Studies suggest that substance use is more prevalent among those under correctional supervision relative to the general population (DeLisi, Vaughn, Salas-Wright, and Jennings, 2015; Fearn et al., 2016). Substance use, including use of illegal substances and alcohol, can undermine supervision success. For example, a previous New Mexico Statistical Analysis Center (NMSAC) study of parole violators (Denman et al., 2010) found 84% of parolees had an identified substance abuse problem. Further, among parolees with one or more technical violations, the most common type of violation was drug-related. These violations include a failed drug test or law enforcement discovery of use, possession, or distribution of controlled substances.

Although we know many probationers and parolees in New Mexico use substances, we know little about the *types* of substances they use. In recent years, the New Mexico Corrections Department (NMCD) has reported a number of incidents involving smuggling and attempted smuggling of the prescription opioid Suboxone into facilities (see, e.g., Albuquerque Journal October 20, 2014; NMCD, January 26, 2015). This suggests that opioid use may be common among parolees. We expect that the probation population would be similar to parolees regarding substance use. However, we are unaware of any recently published reports that describe the types of substances used by those under community supervision or the characteristics of the individuals who use them.

This study addresses these gaps in our knowledge about substance use among probationers and parolees in New Mexico. Given the attention currently focused on the opioid crisis, the study places special emphasis on opioid use among probationers and parolees. However, while opioids are the leading cause of overdose death in New Mexico, other drugs also present cause for concern. For instance, the number of people who have overdosed on methamphetamines has recently increased. In 2008, there were 23 overdose deaths attributed to methamphetamines. By 2014, that number had increased nearly fivefold, to 111. Despite indications that methamphetamine use is a problem in New Mexico (see, e.g., USDOJ, National Department of Drug Intelligence, 2011), it has not garnered the same kind of attention as opioid abuse. Similarly, the percentage of New Mexico youth who report using cocaine is nearly twice that of youth in the United States (10.3% vs. 5.5%) (New Mexico Youth Risk and Resiliency Survey, 2013). It it is important, therefore, to assess other types of substance use.

NMCD substance testing policies

This study utilizes the results of urinalysis (UA) tests to explore substance use among probationers and parolees. Under NMCD policies CD-051800 and CD-051801, all Probation and Parole Department (PPD) clients must undergo testing for illicit substances. The purpose of this testing is to "identify offenders with drug abuse problems, confirm suspicion of drug use and provide an avenue for response and treatment referral" (CD-051800, p. 1, v. 3/6/15). The NMCD can test for 21 different illicit substances, which include illegal substances as well as alcohol. The test can differentiate between different substances within the same class. For example, it can distinguish heroin from other opioids. However, UA results do not always include that level of detail. Initially, the NMCD tests each individual for all substances included in the panel. Future tests may not include the full battery of tests. These testing decisions depend on the offender's drug history (CD-051800, v. 3/6/15).

All offenders are subject to random monthly testing. In addition, the PPD may test offenders if there is cause to suspect drug use. Special programs (e.g., Intensive Supervision) have their own testing schedules. Offenders who test positive are subject to increased drug testing: a re-test within one week followed by monthly tests for a minimum three months. These tests occur in addition to standard random monthly tests.

Why do we care about substance use among those under community supervision?

Substance use is associated with crime and recidivism. Therefore, it has implications for public safety and criminal justice resource usage for both new crimes and technical violations. Understanding drug use trends can inform policies and programs intended to reduce substance use and recidivism. Furthermore, examining drug trends using urinalysis (UA) data can help to identify changes in the popularity of different substances and help avert public health challenges like the current opioid crisis.

What we know about the characteristics of substance users

There is evidence that the characteristics (age, race/ethnicity, gender, socioeconomic status etc.) of those who use substances differ by the type of substance used, however these results are sometimes inconsistent. For example, Taxy, Samuels, & Adams (2015) found heroin users were most often Hispanic or Black/African American, while the Centers for Disease Control (2015) found non-Hispanic whites are at greater risk for heroin addiction. Other researchers have noted that place plays a role in substance choice. For example, Havens et al. (2007) found that probationers living in rural areas were more likely to use prescription opioids than those living in urban areas. Similarly, data from New Mexico's High Intensity Drug Trafficking Areas (HIDTA) and treatment admissions indicate that substance use varies geographically.

Many people who use substances use more than one. Between one third and one half or more of substance users report using multiple substances (Brecht, Huang, Evans, & Hser, 2008; Gossop, Marsden, Stewart, & Kidd, 2003; Grella, Anglin, & Wugalter, 1997; Leri et al., 2005). The use of multiple substances, either concurrently or consecutively, has the potential to complicate both treatment and supervision. Several studies have found that polysubstance use impairs brain functioning in a variety of ways, including impacting critical skills such as working memory, impulse control, and decision-making (see, e.g., Connor, Gullo, White, & Kelly, 2014; Moreno-

Lopez et al., 2012) as well as mental health (Connor et al., 2014; Hakansson, Schlyter, and Berglund, 2011; Smith, Farrell, Bunting, Houston, & Shevlin, 2011; Heffernan, Finn, Saunders, & Byrne, 2003; Morley, Lynskey, Moran, Borschmann, & Winstock, 2015). These factors could influence polysubstance users' performance on probation or parole, perhaps placing them at greater risk for engaging in technical violations or committing new offenses. Indeed, a study of Swedish prisoners uncovered a link between polysubstance use and increased odds of returning to the criminal justice system (Hakansson & Berglund, 2012). Consequently, it is important to explore the prevalence of multiple substance (polysubstance) use among New Mexico's supervised population.

Current study

This study examines substance use among individuals under Probation and Parole Department (PPD) supervision. In Part I, we investigate prevalence of use overall and by substance type, as well as substance use trends. We also explore variations by demographic and spatial characteristics overall and over time. This study also seeks to remedy deficits in our understanding of polysubstance use among probationers and parolees. Thus, we present analyses on polysubstance use.

In Part II, we focus on opioid use. We present analyses on the demographic characteristics of opioids users, geographic variation in opioid use, and the types of substances (if any) used in conjunction with opioids. We also explore trends over time. The results provide an informative picture of substance use among a particularly vulnerable subset of New Mexicans.

Methods

The NMCD provided the NMSAC with urinalyses (UA) test result data in multiple comma-separated values (CSV) files. Each spreadsheet includes one or more years of data, beginning in 2001 and ending in 2016. Each line of data includes location of testing, date of the test, type of substances tested, the results of the tests (negative or positive), and notes about the tests. We transferred each file to SPSS and merged them to create a single dataset. Although the data began in 2001, the number of tests recorded and individuals tested between 2001 and 2003 was relatively small. We are unsure whether these data accurately represent drug use among the supervised population for those years, and chose to remove those years from the current analyses.

We then created a series of dichotomous variables, which indicate whether a specific substance was tested and whether the person was positive for that substance. Next, we aggregated the data to the date of the test. This gave us one line of data for each person on each test date. Finally, we merged demographic characteristics from other NMCD datasets to the UA data.

This exploratory study describes substance use among the PPD population and changes over time. In order to assess substance use trends over time, we aggregated the data to person per year. This unit of analysis captures whether an individual ever tested positive for a given substance in a given year.

For some analyses, we aggregated the data to the person. This unit of analysis indicates whether a given individual tested positive for a given substance at any point during the study window. This is useful when assessing differences for the overall population by certain characteristics that remained static in these data, such as gender or race. We do not use this unit of analysis for assessing trend data, nor do we use it for age, which varies over time.

The following analyses are descriptive in nature. When appropriate, we assessed the data for statistically significant differences. When examining variables that are categorical (e.g., gender or race/ethnicity), we use either Pearson's chi-squared test or Fisher's exact test to examine significance. The test we used depended on the expected number of cases in each cell (if fewer than five, we used Fisher's exact test). We utilize t-tests to assess differences for variables that are continuous, such as age. All measures of significance are reported using p-values. The lower the p-value, the more confident one can be that the observed difference is not due to chance. We use a threshold of .05 and consider anything at or below that level statistically significant. Statistically significant findings are noted.

Results

Part I: Overall UA results

Between 2004 and 2016, PPD supervisors administered 689,767 tests to 67,565 individuals. On average, individuals were tested 4.28 times per year (6.53 sd, median 3). Most (74.5%) individuals submitted at least two tests per year. The number of tests individuals provided varied depending on whether they were in a specialized supervision program (see Appendix A for a description of these programs). This ranged from a low of 3.4 times per year for those under regular supervision to a high of 30.3 tests per year form those in drug court. The maximum number of tests per person was 239 times in a single year; this person was a drug court participant. Details are available in Appendix B.

This section describes UA results in the PPD population. When describing trends, the unit of analysis is person per year. This captures whether the person ever tested positive for a given substance, whether once or multiple times. Generally, when describing characteristics of the population overall, the unit of analysis is the person. The one exception is when we describe age, since this varies by year. For these analyses, we use the age at the first test in a give year.

Prevalence of substance use

As shown in Figure 1, over 50% of the individuals in our sample tested positive at some point during the study window. Fewer than 14% (n=95,270) of tests came back positive for any substance. On average, 34% of individuals tested positive at least once per year. These discrepancies highlight the importance of understanding which unit of analysis is being used. Rates of positive UAs are relatively high among the population overall, but most UA test results are negative.

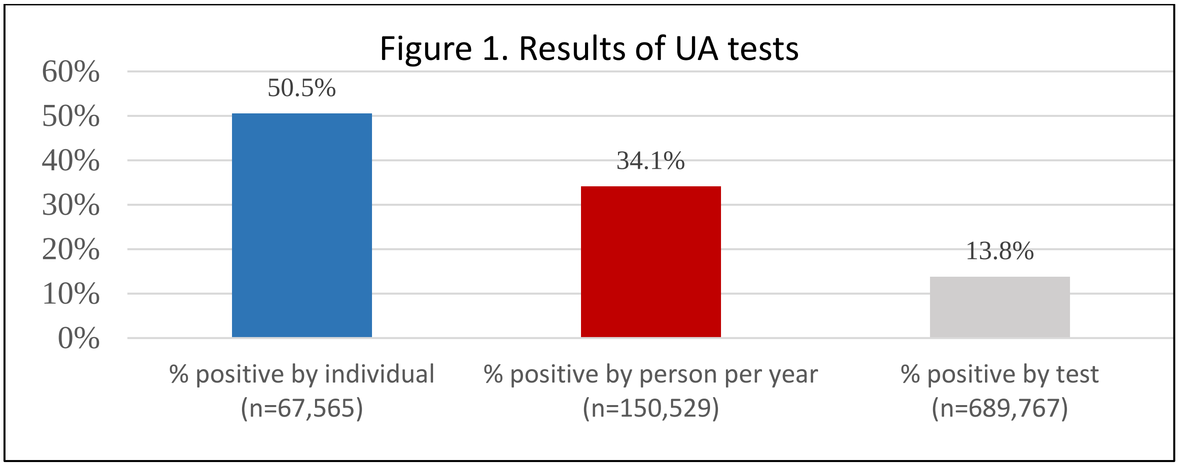


FIGURE 1. OVERALL TESTING RESULTS BY INDIVIDUAL, PERSON PER YEAR, AND PER TEST.

Positive UA results by substance type per person

Cannabinoids (both natural and synthetic) were the most commonly used substance (22.1%) followed by alcohol (19.5%). Over 17% of the sample tested positive for a stimulant at least once. While the category stimulants includes both methamphetamines and amphetamines, methamphetamines comprise the vast majority (91%) of stimulants. Opioids were the fourth most commonly used substance (16%). Those in our sample rarely tested positive for hallucinogens (0.4%) or inhalants (1.9%). These results are summarized in Table 1.

TABLE 1. SUMMARY OF MOST COMMONLY USED SUBSTANCE PER PERSON, 2004-2016.

Substance	Number of people tested	% Positive by person
Alcohol	40,119	19.5%
Cannabinoids	67,272	22.1%
Any Opioids	66,660	16.3%
Any Stimulants	67,327	17.5%
Prescription Drugs	7,903	9.7%
Crack/Cocaine	67,283	12.9%
Depressants	54,287	6.9%
Inhalants	1,422	1.9%
Hallucinogens	35,310	0.4%
Positive for any substance	**67,565**	**50.5%**

UA results over time

Figure 2 presents the proportion of individuals who had at least one positive UA per year over time. Although detection rates generally increased, there was a decline between 2005 and 2008. The rates peak at 44% in 2016, the last year for which we have data. As illustrated in Figure 1 above, the overall rate of positive UAs was just over 34% when examining the data per person per year. That is, each year, an average of 34% of those tested in the study period returned a positive UA result.

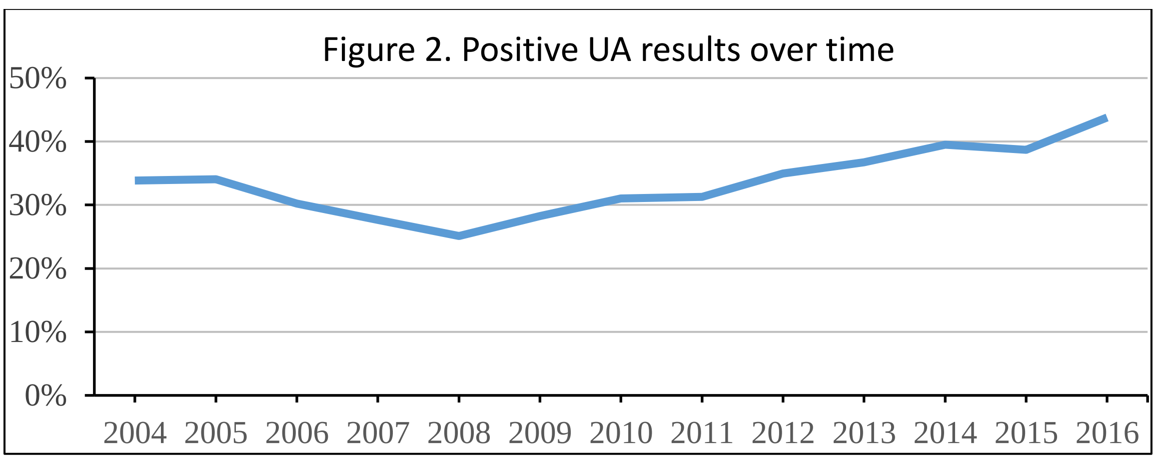


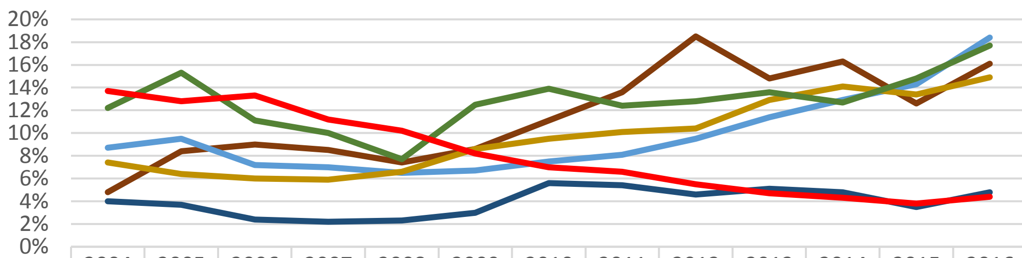
FIGURE 2. PROPORTION OF INDIVIDUALS TESTED WITH AT LEAST ONE POSITIVE UA PER YEAR OVER TIME.

Substance type over time

For most substances, detection rates have increased over time with simlar trajectories. The most significant increase in use has been for alcohol. In 2004, 4.8% (n=184) of those tested for alcohol (n=3,794) returned a positive UA result. In 2016, that rate over three times higher at 16.1% (n=1,159 out of 7,191 tested). Note, though, that this is lower than the peak (18.5%, n=6,645) in 2012.

Among illicit substances, the most striking increases have been among opioids and stimulants. Opioid use has doubled, from 7.4% (n=340) in 2004 to just under 15% (n=1,905) in 2016. Similarly, stimulant use (primarily methamphetamines) has more than doubled (8.7%, n=402 in 2004; 18.4%, n=2,357 in 2016). Rates of cannabinoid detection have also increased, though less drastically. Depressant use fluctuated over time, but has remained low at between 2% and 5%. Crack/cocaine use among the PPD population is notably different from the other trends. Its use has declined steadily since 2006, though there was a slight uptick in detection in 2016.

Figure 3. Positive UA results by substance type, 2004-2016



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Alcohol	5%	8%	9%	9%	7%	9%	11%	14%	19%	15%	16%	13%	16%
Stimulants	9%	10%	7%	7%	7%	7%	8%	8%	10%	11%	13%	14%	18%
Opioids	7%	6%	6%	6%	7%	9%	10%	10%	10%	13%	14%	13%	15%
Depressants	4%	4%	2%	2%	2%	3%	6%	5%	5%	5%	5%	4%	5%
Cannabis	12%	15%	11%	10%	8%	13%	14%	12%	13%	14%	13%	15%	18%
Crack/Cocaine	14%	13%	13%	11%	10%	8%	7%	7%	6%	5%	4%	4%	4%

FIGURE 3. DETECTION RATES FOR SPECIFIC SUBSTANCE OVER TIME. ANNUAL RATE PER PERSON.

Demographic, Geographic, and Supervision Differences

Detection rates varied by demographic and other characteristics. In this section, we explore UA results by person over time by gender, race, and age. Next, we present UA results by county. Finally, we explore results by supervision characteristics.

Gender

Overall substance use rates differed significantly ($p<.001$) for males and females. Over half (53%, n=8,586) of the females tested positive at least once over the study period compared to 50% (n=25,465) of males. The annual average for positive tests per year among females was 36.5% compared to 33.3% of males. Females tested positive more frequently than males each year except 2009. However in 2009 as well as 2007, the differences between males and females was not statistically significant. Note that while females typically tested positive more frequently than males, they comprised only about a quarter (24%, n=16,226) of the total supervised population between 2004 and 2016. The remaining 76% (n=51,241) of those whose gender was identified were male.

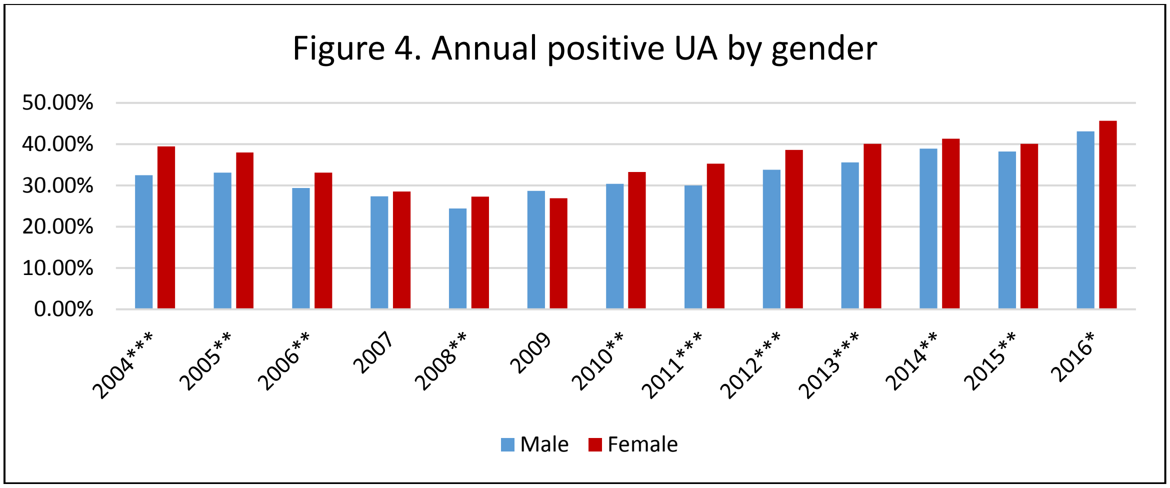


FIGURE 4. ANNUAL RATE OF POSITIVE UA PER PERSON BY GENDER. ***P<.001, **P<.01, *P<.05.

Detection rates among males and females by individual substance type varied as well. Females tested positive at significantly higher rates than males for stimulants, depressants, prescription drugs, and opioids (p<.001). However, for cannabinoids, alcohol, and crack/cocaine, males tested positive at significantly higher rates than females. For crack/cocaine, the rate for males was just 1% higher than for females. Thus, while we found a statistically significant difference in the use of crack/cocaine (likely due to the relatively large sample size), the differences are not substantively significant. Figure 5 displays these results. Additional information regarding substance use trends by gender and substance type are available in Appendix C.

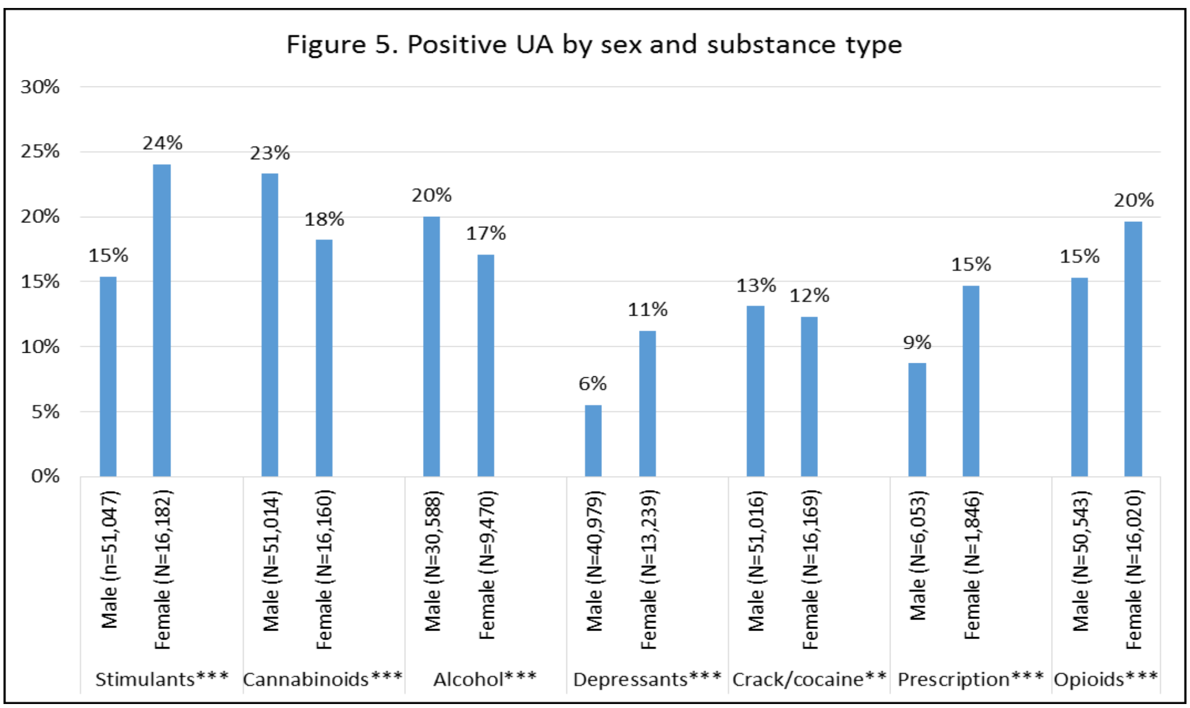


FIGURE 5. POSITIVE UA PER PERSON BY SUBSTANCE TYPE AND GENDER. **P<.01 ***P<.001.

Ethnicity

Detection rates differed significantly (p<.001) by race/ethnic groups as well (Figure 6). Those identified as Black/African American tested positive most frequently (57%, n=2,136), followed by Hispanic individuals (54%, 19,786), and Non-Hispanic Whites (48%, 9,213). Native American/Alaska Native individuals tested positive at the lowest rates (36%, 2,156), relative to individuals from other racial/ethnic groups. Regardless of race/ethnicity, substance use has increased over time (See Appendix D, Figure D.1).

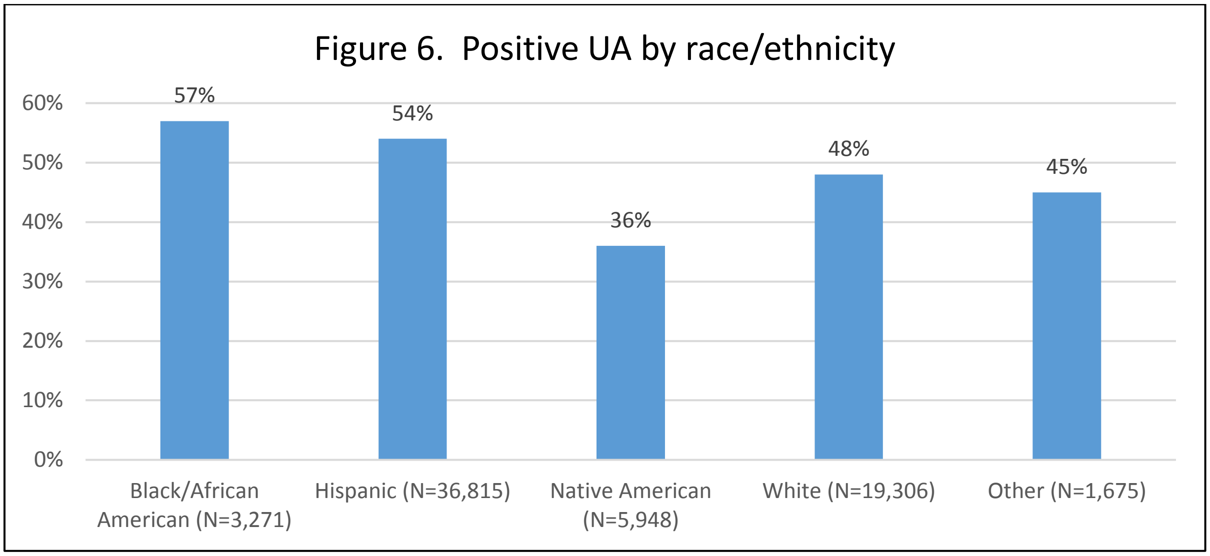


FIGURE 6. POSITIVE UA PER PERSON BY RACE/ETHNICITY. P<.001.

We examined detection rates for specific substances by categories of race/ethnicity. These rates indicate whether a person ever tested positive for the substance during the study period. Among those tested for alcohol, Native Americans tested positive at the highest rates (27%) followed by those identified as Black/African American (23%). Non-Hispanic Whites tested positive for stimulants most often (22%). Among those tested for opioids, Hispanics tested positive most frequently (19.5%). Approximately 7% of individuals identified as Hispanic, Non-Hispanic White or "Other" tested positive for depressants; these groups tested positive for depressants most often. The greatest proportion of positive tests for cannabinoids (32%) and crack/cocaine (24%) were among Black/African American individuals. Finally, prescription drug use was most prevalent among Hispanics, Non-Hispanic Whites, and "Other " race/ethnicity (approximately 11% for each). Overall, the differences in positive results for each substance differed significantly by race/ethnicity (p<.001). We summarize these results in Table 2. Trends by substance type and race/ethnicity are available in Appendix D.

TABLE 2. DETECTION RATES FOR SPECIFIC SUBSTANCE TYPES BY RACE/ETHNICITY PER PERSON

Substance	Black/ African American	Hispanic	Native American	White	Other
Alcohol (40,056)***	23.2%	19.3%	26.6%	17.3%	15.8%
Stimulants (67,227)***	12.5%	17.8%	6.4%	21.6%	14.1%
Opioids (66,561)***	11.1%	19.5%	6.8%	14.4%	13.1%
Depressants (54,216)***	4.6%	7.4%	3.8%	7.3%	7.0%
Cannabinoids (67,172)***	32.1%	23.0%	17.4%	19.9%	22.1%
Crack/cocaine (67,183)***	24.0%	16.0%	3.4%	8.0%	10.8%
Prescription (7,903)***	7.4%	10.5%	5.2%	11.1%	11.5%

***p<.001

Age

Overall, those who tested positive for one or more substances was younger than those who never tested positive (34 years old versus 35 years old on average per year). These differences have held over time. While the average age of the supervised population has been increasing over time (from 33.6 in 2004 to 35.4 in 2016), those who test positive for one or more substances are consistently younger on average than those who test negative. In 2007, the difference in age by UA test results was the smallest. The age difference became increasingly discrepant, as the average age of those who tested positive for one or more substances declined in 2008 and 2009. This was followed by an increase in average age among those who tested positive. This pattern differs from those who test negative. Figure 7 summarizes these findings.

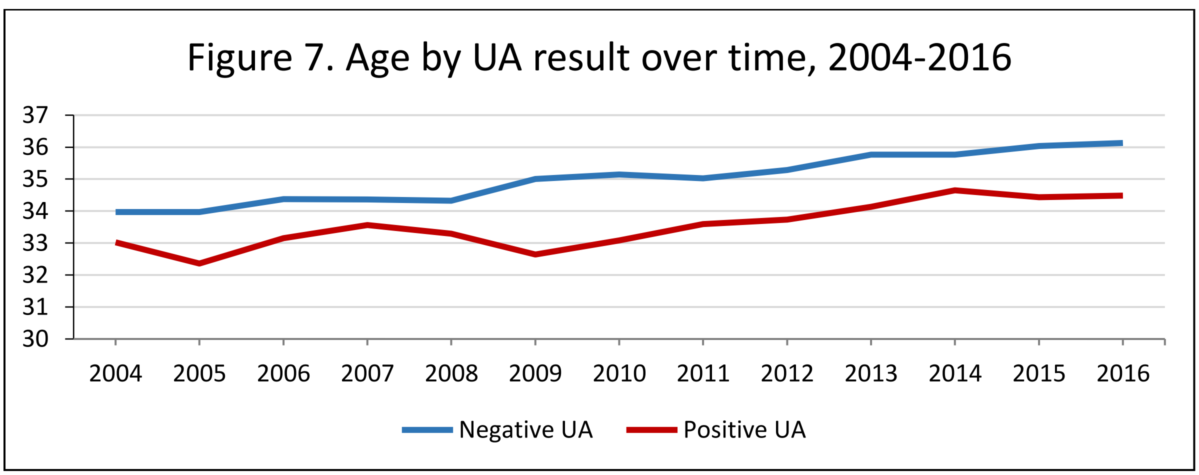


FIGURE 7. POSITIVE AND NEGATIVE UA PER PERSON PER YEAR BY AGE.

Those who used depressants were, on average, older than other substance users (36.4 years old compared to 33.8 on average). The average age of cannabinoid users (30.5), on the other hand, was the youngest. These results are displayed in Figure 8 below.

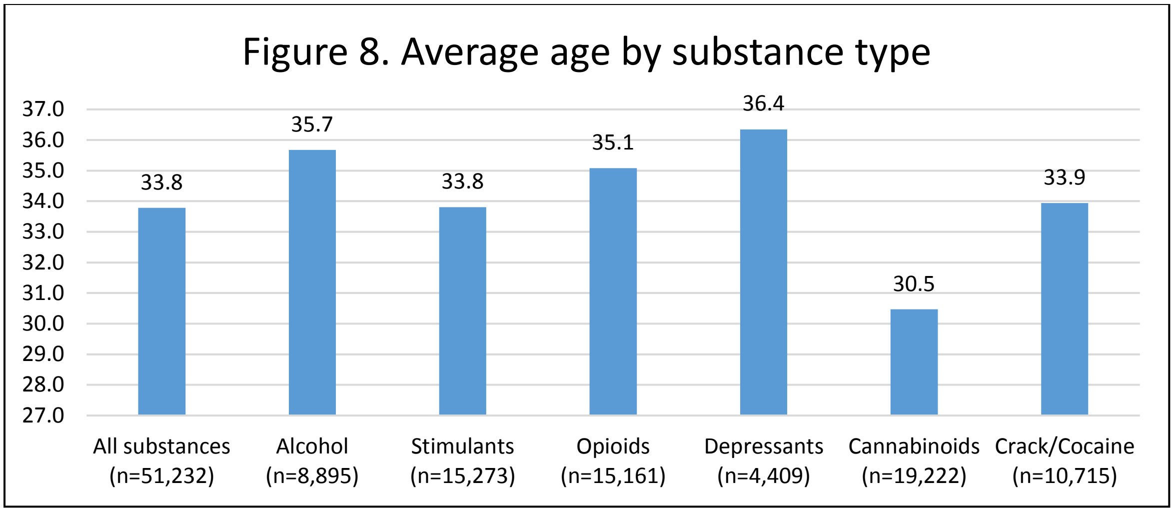
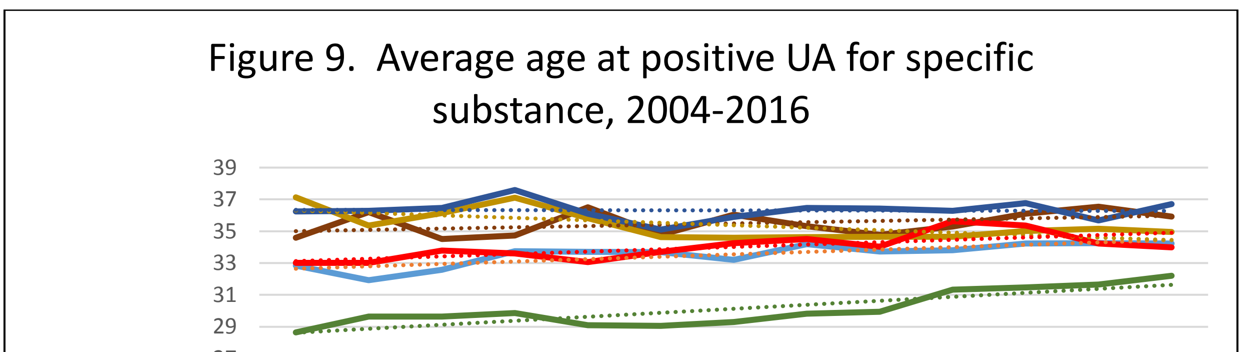


FIGURE 8. POSITIVE UA PER PERSON BY SUBSTANCE TYPE AND AGE AT TEST.

There have been some shifts in average age at detection by substance type. Figure 9 tracks these trends. The solid lines show the average age of subjects who tested positive for a specific substance in a given year. The dashed lines depict general trends in the age of users. The average age of opioid users has declined over time (from an average age of 37 years old in 2004 to 35 in 2016). The average age of those who tested positive for almost all other substances increased. While for most substances the average age increase is slight, the most notable increase is for those who tested positive for cannabinoids. In 2004, the average age of those who tested positive for cannabinoids was 29; this increased to 32 in 2016.



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Alcohol	35	36	35	35	37	35	36	35	35	35	36	37	36
Stimulants	33	32	33	34	34	34	33	34	34	34	34	34	34
Opiods	37	35	36	37	36	35	35	35	35	35	35	35	35
Depressants	36	36	36	38	36	35	36	36	36	36	37	36	37
Cannabinoids	29	30	30	30	29	29	29	30	30	31	31	32	32
Crack/cocaine	33	33	34	34	33	34	34	35	34	36	35	34	34

FIGURE 9. POSITIVE UA PER PERSON PER YEAR BY SUBSTANCE TYPE AND AGE AT TEST.

Geographic Variation

Not all counties have a probation/parole office. In some locations, individuals must report to a probation/parole office in a county outside of their residence. Individuals living in Catron, De Baca, Guadalupe, Harding, Los Alamos, Mora, and Union fall under the jurisdiction of probation/parole offices located in other counties. Thus, the UA results of probationer and parolees residing in these counties are included in the reporting county. That is, in these data, the county reflects the location of the probation/parole office ordering the UA test, and therefore there is no data for the seven counties that do not have a probation/parole office.

Substance use noticeably varied across counties (Figure 10). Between 2004 and 2016, opioid use was most prevalent in the band of counties running from Rio Arriba in the north to Torrance in the center of the state. While this includes only four counties, it is notable that 42% of New Mexico's population reside in these counties. In terms of geographic distribution, stimulant usage was more widespread than any other substance. This is particularly true in counties in the southern half of New Mexico. Cannabinoid use was most prevalent in four counties (Curry, Lincoln, Otero, and Sandoval). While alcohol use was the leading substance detected in the remaining counties for which there is data, the most prevalent illegal substance in these counties was cannabinoids. There were two exceptions. In Sierra County, stimulants were the most prevalent illegal substance, and in Taos County crack/cocaine was the most prevalent illegal substance. Details are available in Appendix E.

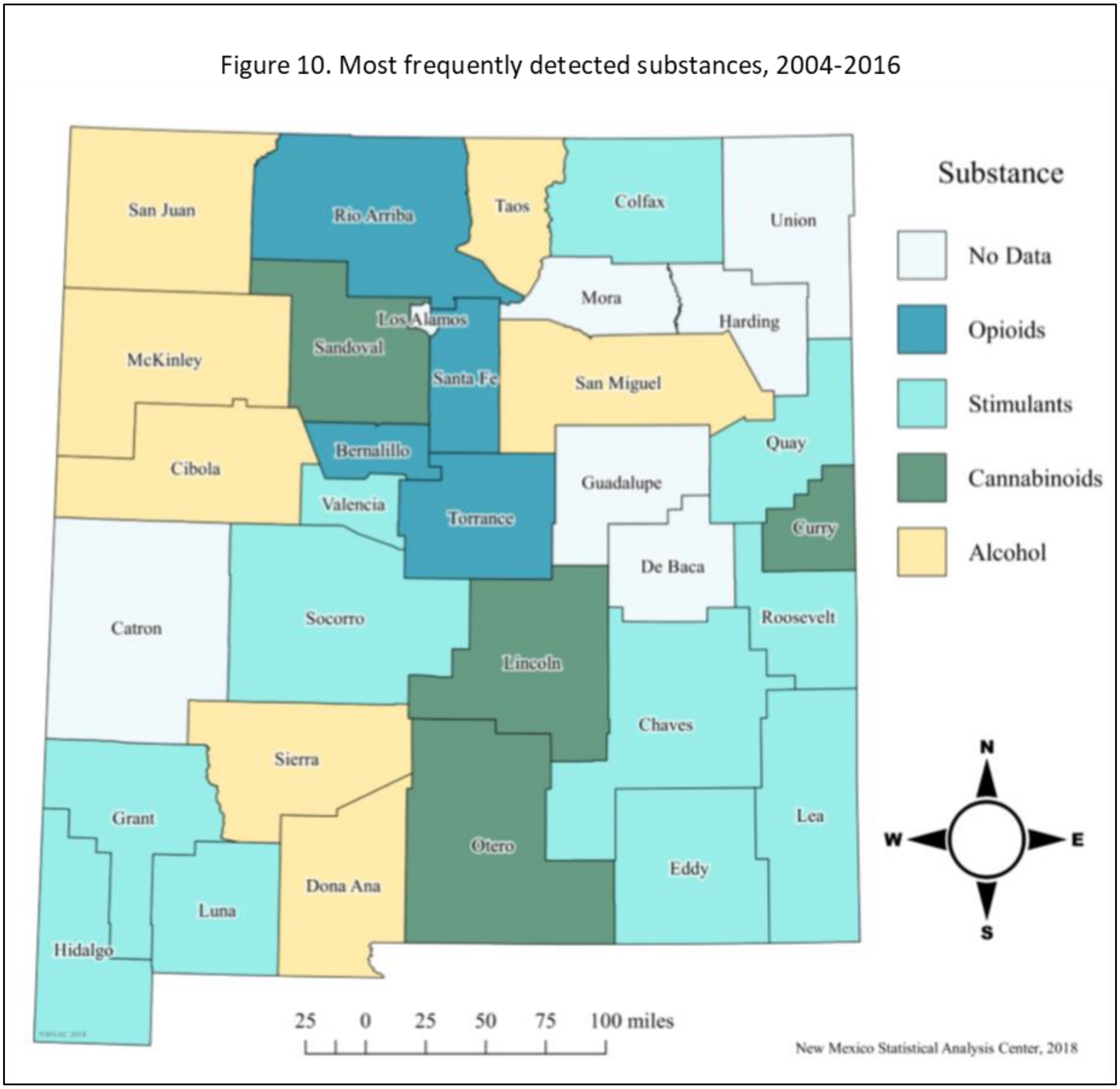


FIGURE 10. POSITIVE UA PER PERSON BY COUNTY AND SUBSTANCE TYPE.

Substance use patterns by county have changed over time. The map in Figure 10 illustrates the most prevalent substance within each county between 2004 and 2016. The maps in Figure 11, below, display substance use between 2004 and 2007, 2008 to 2012, and 2013 to 2016. This allows us to compare changes over time without overemphasizing the annual variations that may occur.

Between 2004 and 2007, cannabinoids were the most commonly detected substance in eleven counties. Opioids, on the other hand, were the most commonly detected substance type in Rio Arriba County only. In six counties, the most commonly detected substances were crack or cocaine, and in seven, stimulants were most common. Positive UA tests for alcohol were most common only in McKinley County during this time.

These trends shift between 2008 and 2012. Alcohol was the most commonly detected substance in the majority of counties (n=13), and crack/cocaine was no longer the most prevalent substance in any of the counties. Cannabinoids remained prevalent in Sandoval, Bernalillo, Quay, Curry, Roosevelt, and Otero Counties. The popularity of opioids began to spread outside of Rio Arriba County. Probationers and parolees reporting in Santa Fe and Colfax Counties most frequently tested positive for opioids during this period. Stimulants (primarily methamphetamines) continued to be most prevalent in three southern, largely rural counties (Chaves, Eddy and Luna Counties) as well as Valencia County near the center of the state.

Between 2013 and 2016, substance use patterns continued to change. Opioid use was most prevalent from Rio Arriba in the north central portion of the state down to Torrance County, in central New Mexico. Stimulant use continued its stronghold in Chaves, Eddy, Luna, and Valencia Counties. However, stimulant use spread, and was the most prevalent substance in seven other counties as well. Alcohol dropped from the statewide prevalence that it had in the 2008 – 2012 period. Alcohol was still the most frequently detected substance in the three counties in the northeastern corner of the state, as well as in Doña Ana and Sierra Counties. Unlike prior years, however, alcohol became the most common detected substance (18%) in Otero County, closely followed by stimulants (17%). The use of depressants was most common in Hidalgo County during this period, the first time depressants had the greatest prevalence in a county in any period. Details of the proportion of substances detected overall and by time periods within each county are available in Appendix E.

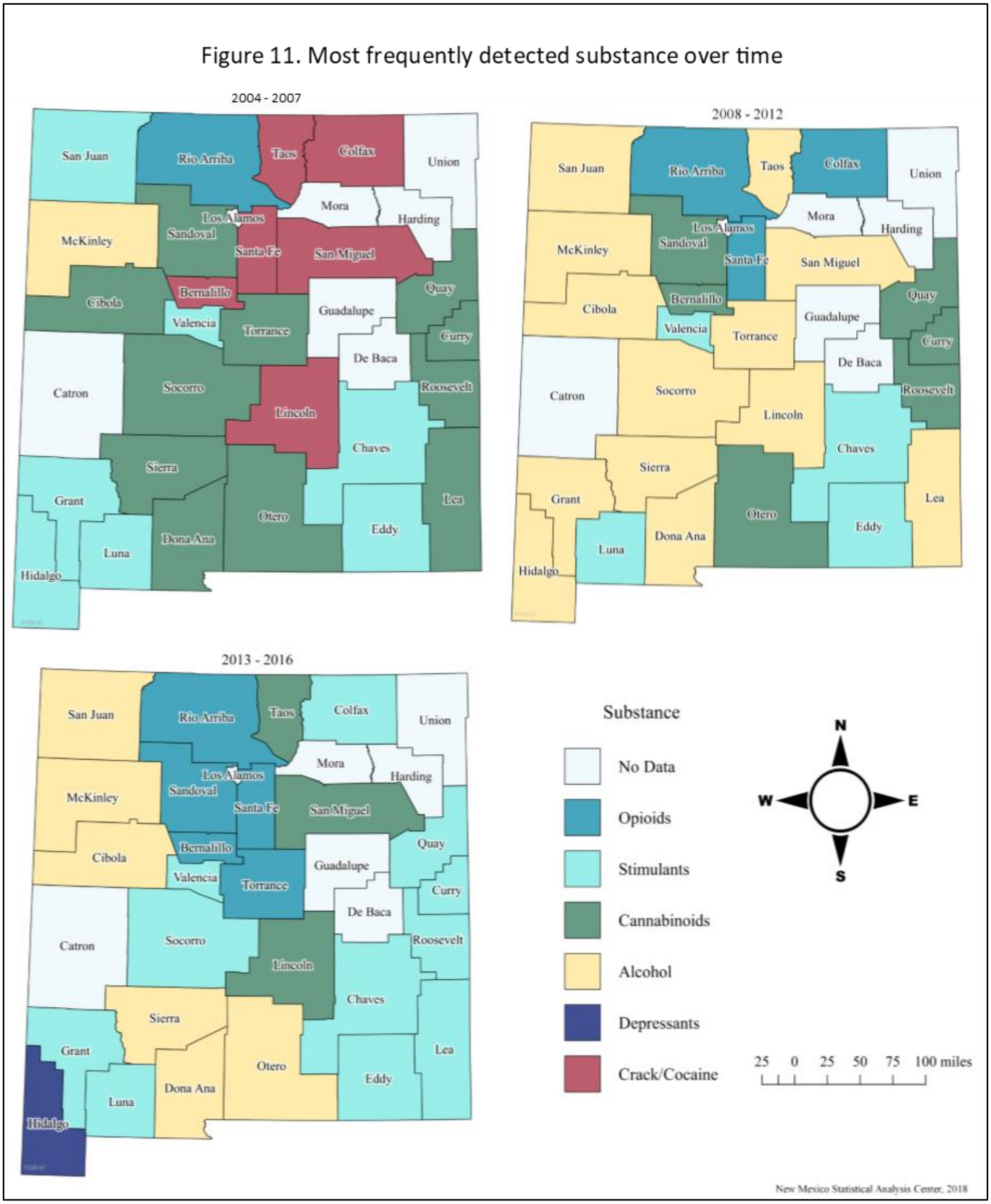


FIGURE 11. POSITIVE UA PER PERSON PER YEAR BY COUNTY AND SUBSTANCE TYPE.

Supervision

Probationers and parolees may be placed in specialized programs. These include drug court, intensive supervision, community corrections, and sex offender management. Additionally, some individuals are placed in residential treatment (e.g., Men's or Women's Recovery Academy) or transitional housing (program descriptions available in Appendix A). We found differences in positive UAs for those who participate in the drug court, community corrections, and intensive supervision program relative to other programs.

Those in community corrections, drug court, or under intensive supervision (ISP) were significantly ($p<.001$) more likely to produce a positive UA than those under other special supervision programs. However, those who were not supervised in a special program tested positive at the highest rates overall. There was variation by substance type. Among those in special programs, those in drug court had the highest rates of positive tests for alcohol. Those in community corrections had the highest rates of stimulant, depressant, and cannabinoid UA results. Individuals supervised under ISP tested positive for opioids and crack/cocaine more often than those in other supervision categories, including those who were not supervised under any special programs.

TABLE 3. DETECTION RATES FOR SPECIFIC SUBSTANCES BY SUPERVISION TYPE

Substance	No program	Facility	Drug Court	Community Corrections	Sex Offender	ISP
All substances	48.3%	16.2%	40.2%	47.8%	26.6%	43.3%
N tested	63,633	1,962	1,516	6,206	1,316	6,422
Alcohol	18.9%	0.8%	17.0%	16.3%	7.40%	16.6%
N tested	34,600	1,820	1,202	4,298	918	3,361
Stimulants	16.6%	4.6%	12.9%	16.2%	4.0%	11.6%
N tested	63,350	1,961	1,503	6,179	1,310	6,406
Any opioids	14.5%	9.7%	12.6%	16.9%	9.0%	20.5%
N tested	62,617	1,960	1,486	6,042	1,296	6,408
Depressants	6.6%	2.2%	2.6%	6.6%	3.4%	4.0%
N tested	49,747	1,902	990	4,479	1,057	4,822
Cannabinoids	21.8%	1.8%	8.0%	13.4%	9.3%	10.2%
N tested	63,292	1,962	1,502	6,177	1,308	6,405
Crack/cocaine	11.7%	0.9%	8.9%	12.8%	6.5%	13.4%
N tested	63,305	1,961	1,489	6,160	1,312	6,415

***P<.001 FOR EACH SUBSTANCE TYPE AND OVERALL.

Polysubstance use

We define polysubstance use as positive UA results for different substances produced at the same time (concurrent use) or at different points throughout a given year (consecutive use).

Overall, 21% (n=14,167) of the sample tested positive for polysubstance use, while 29% (n=19,893) tested positive for a single substance at least once during the study period. This means that *among those who tested positive at least once* between 2004 and 2016, approximately 42% engaged in concurrent or consecutive polysubstance use (see Figure 12 below). This is in line with prior studies that have found that polysubtance use among treatment populations (Brecht et al., 2008; Gossop et al., 2003; Grella et al., 1997).

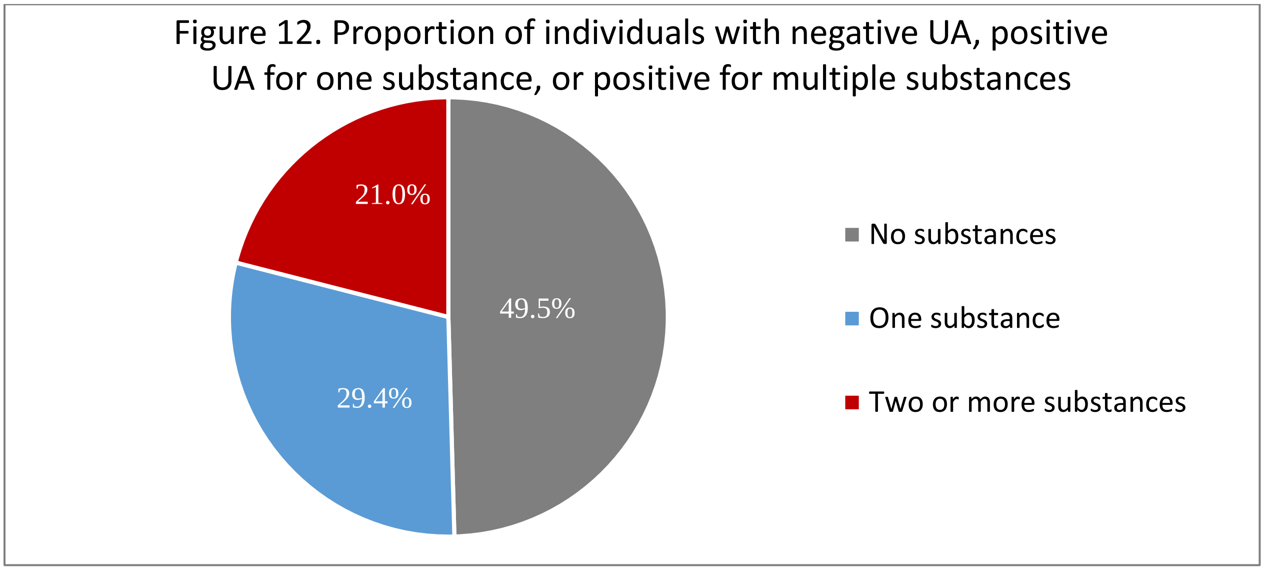


FIGURE 12. UA RESULTS PER PERSON.

Over time, the proportion of individuals who test positive for polysubstance use (either consecutively or concurrently) has increased. Likewise, both overall use and use of a single substance have also increased. However, it is notable that the rate of increase is higher for those who tested positive for multiple substances relative to those who tested positive for a single substance. In 2004, approximately 23% of the sample tested positive for one substance; in 2016, this increased to 26%. In comparison, in 2004, 10% of the sample tested positive for multiple substances, but in 2016 this increased to 18%. Figure 13 captures these rates by person per year, presented against the background detection rate for all substances by person per year.

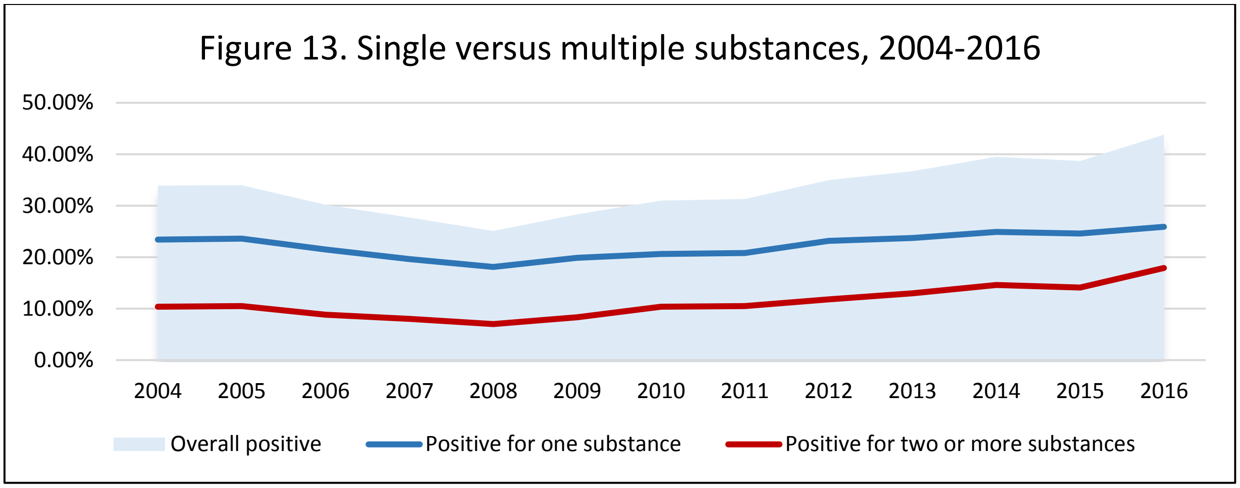


FIGURE 13. DETECTION RATES FOR SINGLE VERSUS MULTIPLE SUBSTANCES (CONCURRENT OR CONSECUTIVE USE) PER PERSON PER YEAR.

Polysubstance use by substance type

While about half of those who had a positive UA tested positive for multiple substances, this varied somewhat by substance type. A greater proportion of those who tested positive for prescription drugs (87.3%) or depressants (73.7%) tested positive for one or more other substances relative to those who tested positive for other substances. Rates of polysubstance use were lowest among those who tested positive for cannabinoids. These results are illustrated in Table 4.

TABLE 4. SINGLE VERSUS POLYSUBSTANCE USE BY SUBSTANCE EVER PER PERSON

Substance	Single substance	Polysubstance use	N
Alcohol	43.3%	56.7%	7,841
Cannabinoids	44.3%	55.7%	14,837
Crack/cocaine	37.2%	62.8%	8,669
Opioids	36.5%	63.5%	10,880
Stimulants	41.6%	58.4%	11,770
Depressants	26.3%	73.7%	3,757
Prescription drugs	12.7%	87.3%	797

Polysubstance use by gender

While rates of testing positive for a single substance were identical (29.4%) by gender, females tested positive for polysubstance use at higher rates overall (23.5%) than males (20.2%). This suggests that the overall differences found by gender are driven by differences in polysubstance use. Figure 14 presents these results.

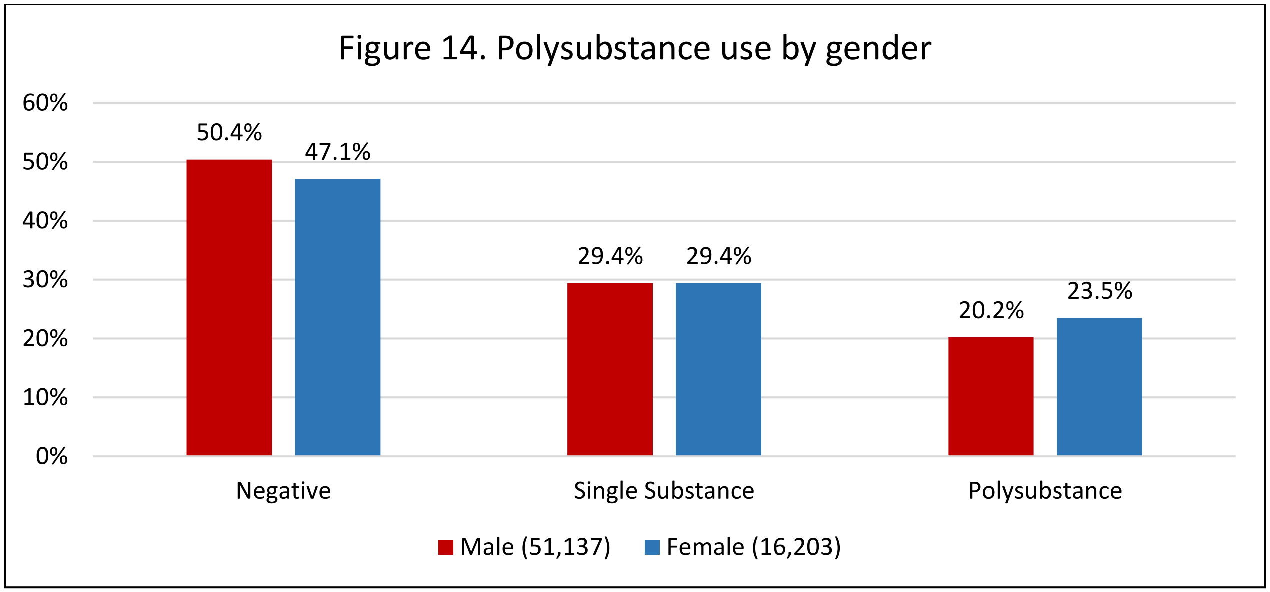


FIGURE 14. POSITIVE POLYSUBSTANCE UA PER PERSON BY GENDER. P<.001.

Ethnicity and polysubstance use

We examined positive results for single versus polysubstance use by ethnicity. Among those who tested positive at least once, Hispanic individuals tested positive for multiple substances at rates that exceeded all other race/ethnic groups (44%). Non-Hispanic Whites followed, at 41%. Like UA tests generally, Native Americans/Alaskan Natives were least likely to test positive for multiple substances (28%) among those who tested positive for at least one substance.

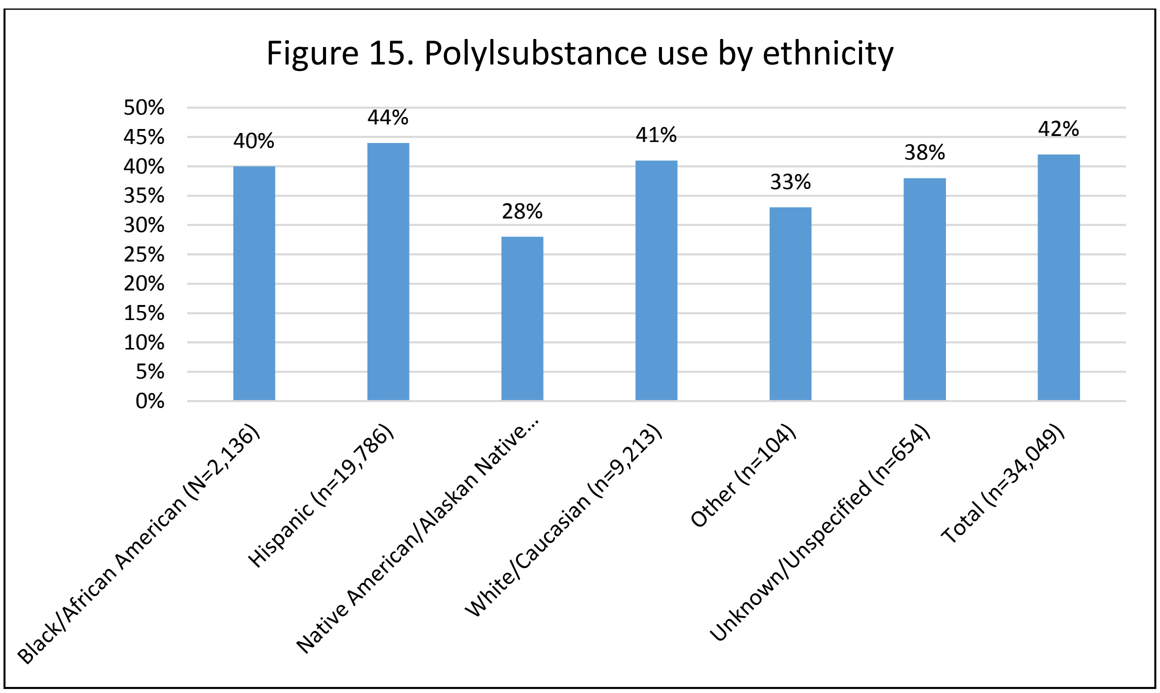


FIGURE 15. POSITIVE POLYSUBSTANCE UA RESULTS PER PERSON BY RACE/ETHNICITY AMONG THOSE TESTED FOR MULTIPLE SUBSTANCES.

Polysubstance use by age

Those who tested positive for multiple substances were younger on average (33 years old, s.d. 10.24) relative to those who tested positive for a single substance (34 years old, s.d., 10.64). These differences were statistically significant ($p<.001$).

Part II: Opioids

The problem of opioid use has garnered attention nationally and in New Mexico. Understanding opioid use among probationers and parolees is important. This section of the report highlights the use of opioids among the supervised population.

Overall results

Between 2004 and 2016, the PPD tested 66,660 individuals for opioids. Of these, 10,880 (16%) individuals tested positive at least once during the study period. As illustrated previously in Figure 3, opioid use rates increased precipitously between 2004 and 2016. Figure 16 shows this trend more clearly. Since 2004, the annual rate of opioid use among parolees and probationers has doubled. In 2004, a little over 7% of those tested for opioids returned a positive UA result. By 2016, that proportion was nearly 15%.

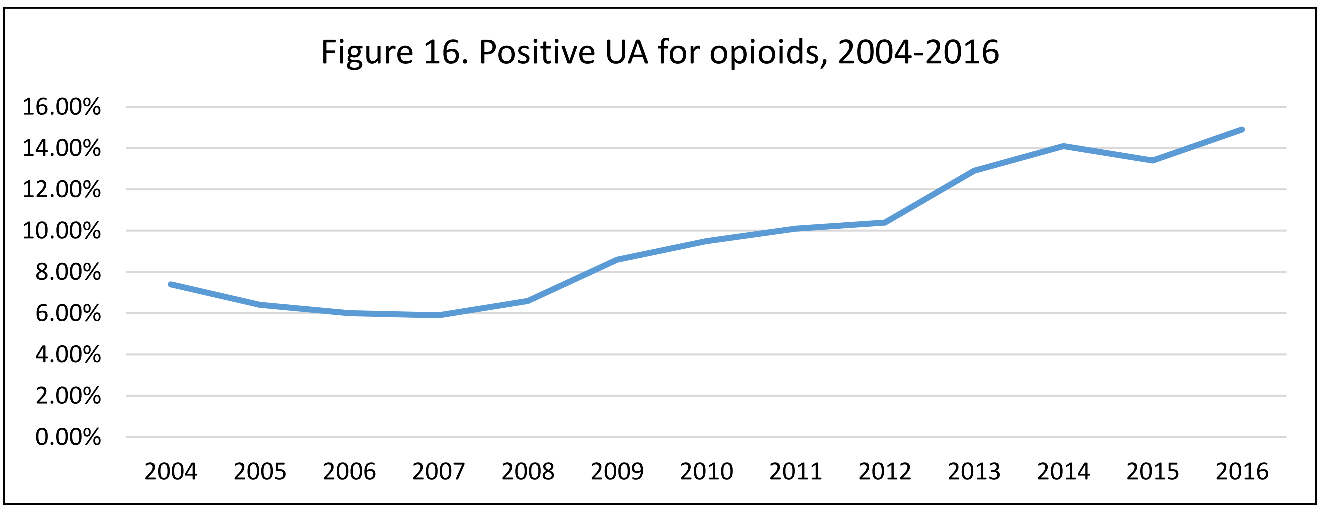


FIGURE 16. POSITIVE UA FOR OPIOIDS PER PERSON PER YEAR.

Although the UA substance test can provide details about the type of opioid found, most UA tests were recorded only as "opiates." It is unclear whether this refers to the class of opioids that are naturally occurring (e.g., heroin, morphine, codeine) or if the term "opiate" is being used as a generic term for any opioid (natural or synthetic). Complicating matters, tests sometimes included entries for "opiates" and specified other opioids such as heroin and buprenorphine. Thus, we could not determine whether "opiates" was intended as a blanket term since both naturally occurring and synthetic opioids were specified in addition to "opiates."

Among those tests that did have a specific type of opioid listed, individuals tested positive for buprenorphine most often. Physicians prescribe buprenorphine to treat addiction to heroin and other opioids. Certainly, some of those people tested may have had a legitimate prescription for the substance, but others would not. It is important to note that prior to 2010 none of the UAs specifically tested for buprenorphine, so the relative high proportion of positive UAs is particularly notable. Positive tests for heroin were the next most prevalent opioid, followed by methadone and morphine. These results are displayed in the table below.

TABLE 5. POSITIVE UA FOR OPIOID TYPE PER PERSON

Substance	Number tested per person*	Percent positive
Opiates (unspecified)	66,199	14.8%
Heroin	21,244	4.6%
Methadone	20,212	4.3%
Morphine	10,609	4.3%
Propoxyphene	10,824	0.7%
Buprenorphine	21,416	5.8%
All opioids	66,660	16.3%

*UA RESULTS MAY INCLUDE MULTIPLE SUBSTANCES (E.G., OPIATES AND BUPRENORPHINE) PER TEST.

Demographic Differences

Gender

As with substance use more generally, females tested positive for opioids at a higher rate than males (20% versus 15% on average per year). This held for every year in the study (see Figure 17). Although the use of opioids by females exceeded males, the trends in use were very similar. Both groups experienced a decline from 2004 to 2007, followed by an increase nearly every year thereafter.

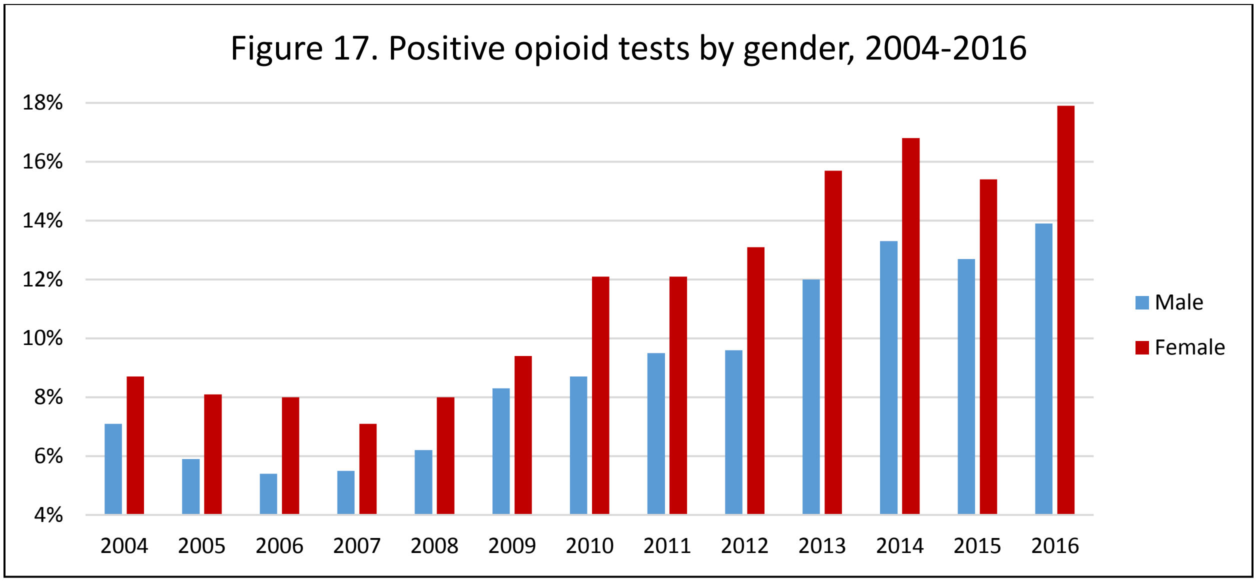


FIGURE 17. POSITIVE OPIOID UA PER PERSON PER YEAR BY GENDER.

Ethnicity

Patterns of opioid use among individuals from different ethnicities vary somewhat from patterns of substance use generally. Whereas those identified as Black/African American tested positive at higher rates overall for substance use, opioid use was more prevalent among those identified as Hispanic than other ethnic/race groups. Individuals identified as Non-White Hispanic provided the second most frequent positive opioid UA results, followed by Black/African Americans. Despite these differences, the use of opioids has increased for all ethnicities. Figure 18 depicts these results. Note that the trends for those identified as "Other" is especially variable. This is likely attributable to small sample size. Between 2004 and 2016, authorities tested 253 "Other" individuals for opioids. Of these, 21 tested positive. This is about 0.2% of the total population of individuals who tested positive for opioids at some point.

While the proportion of individuals testing positive for opioids increased over time, it is notable that the disparities by racial/ethnic group have also increased. For example, in 2004, the proportion of individuals who tested positive for opioids varied from a low of about 6% (Native American/Alaska Native) to a high of about 8% (Hispanic, and excluding those identified as "other"). In 2016, Native Americans continued to test positive for opioids at the lowest rate (6%) and Hispanics at the highest rate (18%). The difference between these two groups in 2004 was just 2%, but in 2016 it was 12%.

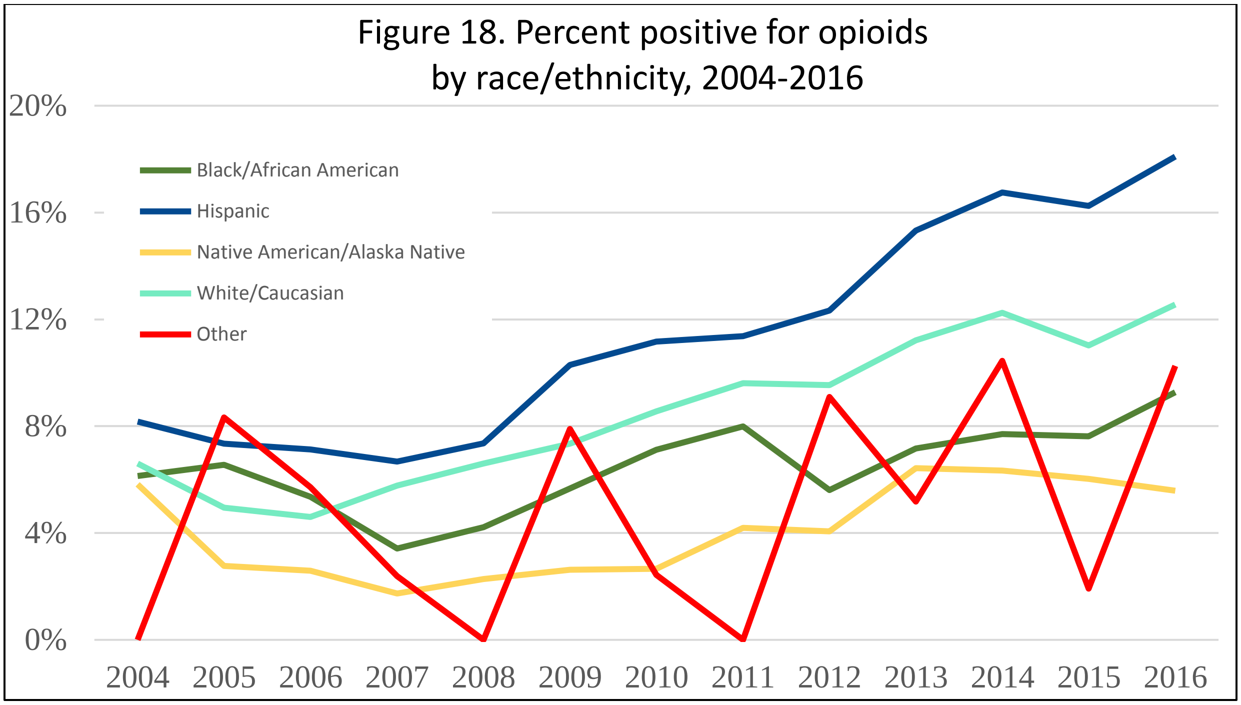


FIGURE 18. POSITIVE OPIOID UA PER PERSON PER YEAR BY RACE/ETHNICITY.

Age

Opioid users under PPD supervision were slightly older than the average substance user (35 years old versus 34 years old, respectively) but are the same as the age of those who did not test positive for any substances. Unlike other substances, the average age of opioid users has been declining over time (Figure 19). In 2004, the average opioid user was over four years older than the average substance user. By 2016, the average opioid user was just slightly older than the average substance user overall.

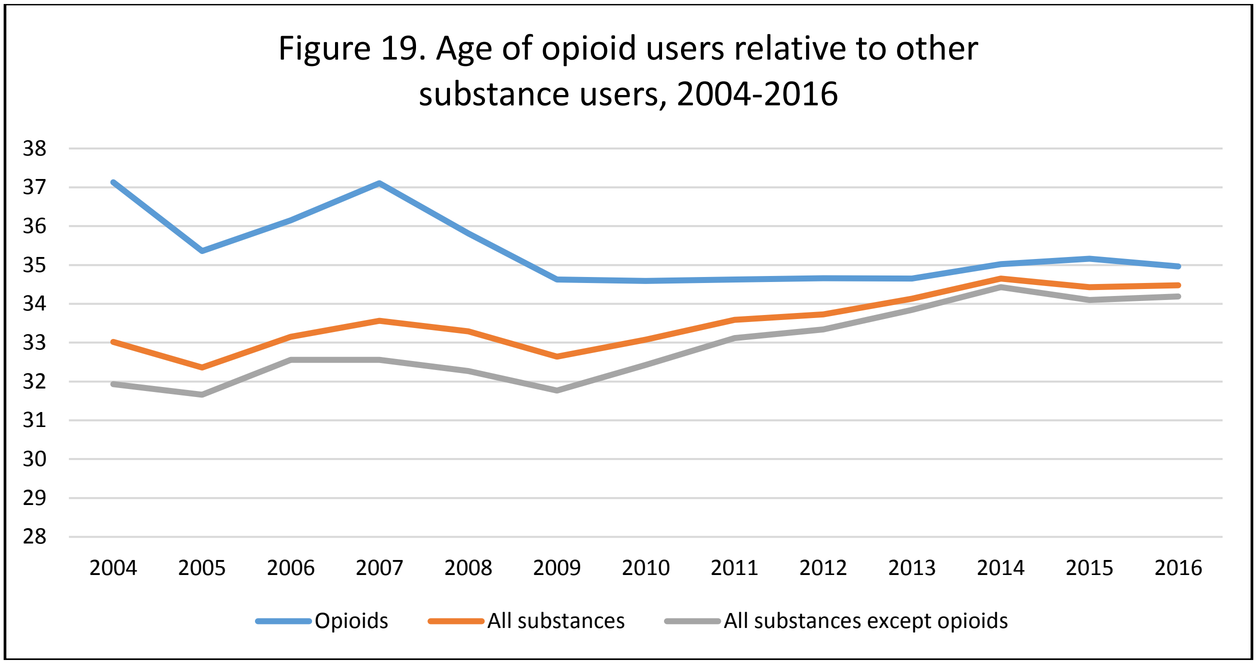


FIGURE 19. POSITIVE OPIOID UA PER PERSON PER YEAR BY AGE.

Geographic Variation

Opioid detection rates varied throughout New Mexico. The map below presents these results. (Figure 20.) Between 2004 and 2016, Rio Arriba County had the highest rate of opioid detection in the state. This is consistent with overdose data, which consistently show Rio Arriba as having the highest overdose-related death rates in New Mexico (New Mexico Department of Health, 2017). These deaths are largely attributable to opioids (ibid.). Socorro and Taos Counties are the next most prevalent. Notably, these counties are *not* among those rated as among the highest for drug overdose deaths by the Department of Health. However, like Española in Rio Arriba County, Taos is known to have long-standing problems with multi-generational heroin use (New Mexico Investigative Support Center, New Mexico HIDTA, 2018). Details about the opioid rates across counties can be found in Appendix E.

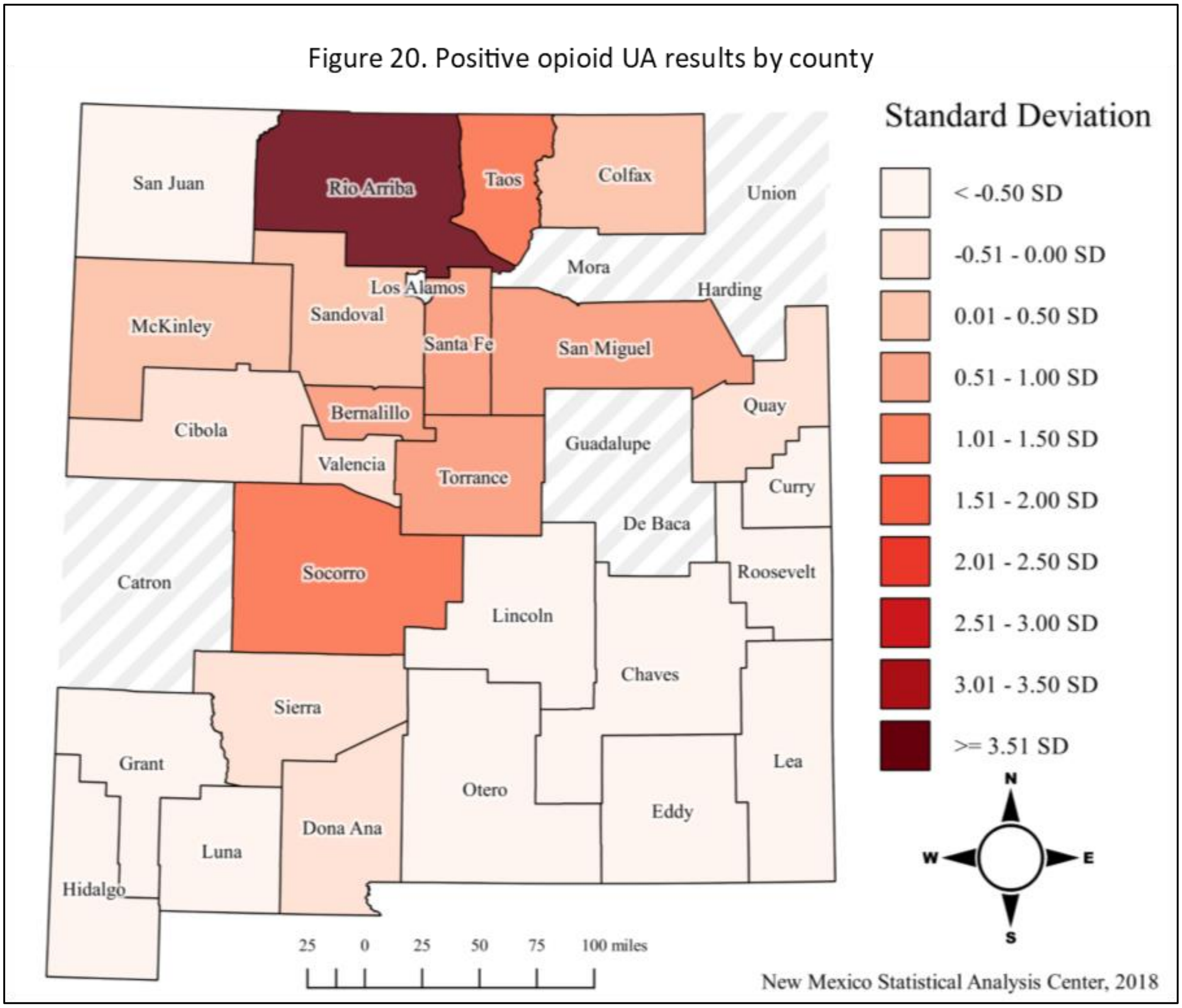


FIGURE 20. STANDARD DEVIATION OF POSITIVE OPIOID UA RESULTS PER PERSON BY COUNTY.

Supervision program

As illustrated in Table 3 (above), those in ISP and Community Corrections tested positive for opioids at higher rates than those in other programs. Over time, the proportion of those who tested positive for opioids increased most notably for those supervised under ISP or who were in a facility (such as Recovery Academy, or in Drug Court). Opioid use among those monitored by the sex offender unit declined slightly over time (Figure 21).

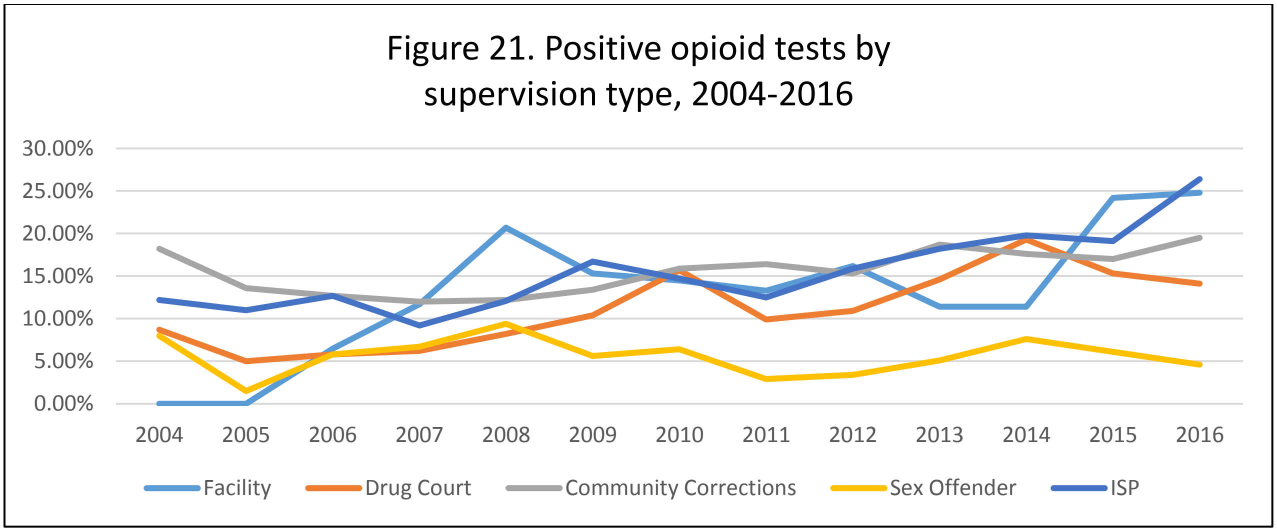


FIGURE 21. POSITIVE OPIOID UA RESULTS PER PERSON PER YEAR BY SUPERVISION PROGRAM.

Polysubstance use among opioid users

Figure 22 shows polysubustance trends among those who tested positive for opioids. The light blue area presents the background rate for opioid detection overall among those tested for multiple substances. Polysubstance use among opioid users has increased over time. The proportion of individuals who tested positive for opioids and one or more other substances was similar to those who tested positive for opioids alone until 2009. Beginning in 2010, the proportion who tested positive for opioids and another substance exceeded those who tested positive for opioids alone. This trend has continued in recent years. This differs from polysubstance use generally; while both single and polysubstance use has increased over time, rates of positive tests for single substances have exceed polysubstance rates (see Figure 13, above).

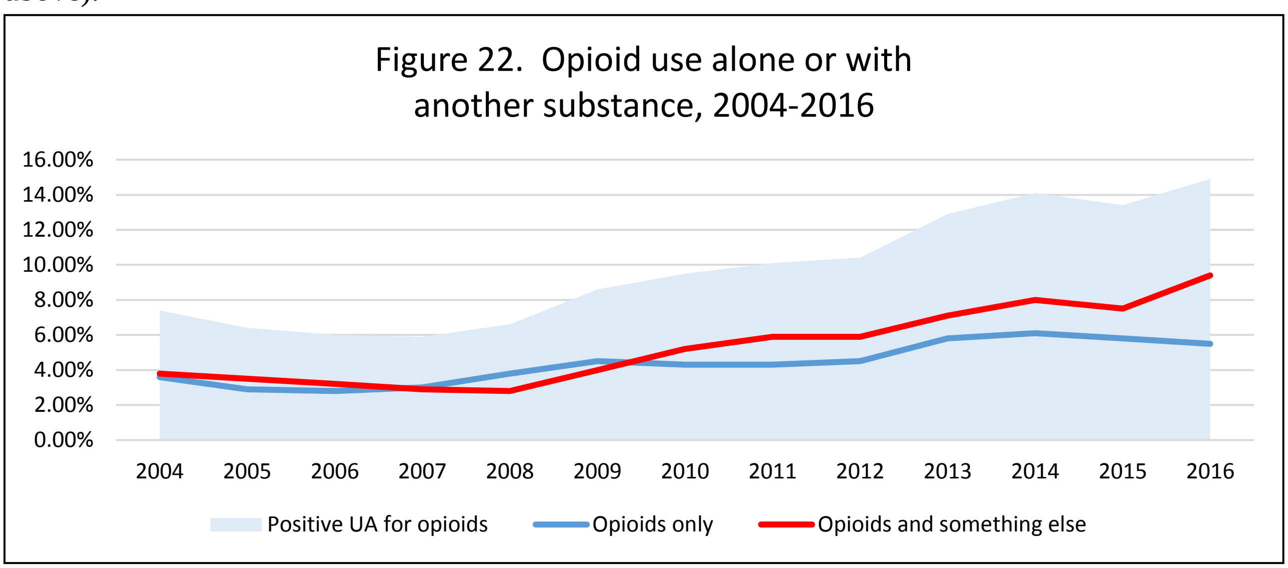


FIGURE 22. POSITIVE POLYSUBSTANCE OPIOID UA PER PERSON PER YEAR.

Polysubstance use by substance types

Trends in polysubstance use among those who tested positive for opioids differed by secondary substances. Figures 23 and 24 display trends by substances individuals used alongside opioids. Over time, the proportion of individuals who test positive for opioids in conjunction with crack/cocaine decreased. Note that this is contrary to polysubstance trends for those who use crack/cocaine. This indicates that among opioid users, the co-use of crack/cocaine is declining. Conversely, the use of other substances along with crack/cocaine users generally is increasing.

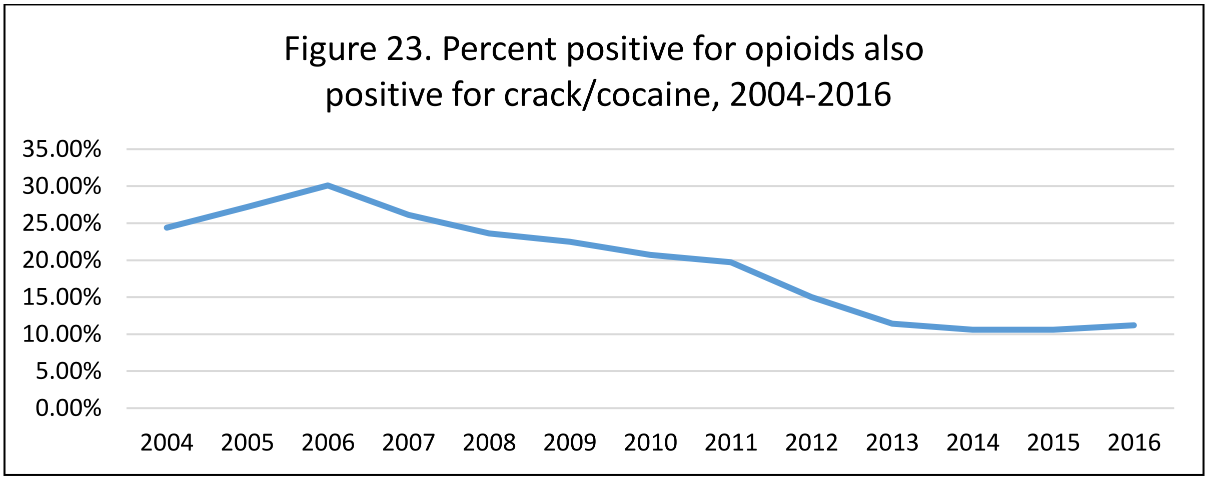


FIGURE 23. POSITIVE POLYSUBSTANCE OPIOID WITH CRACK/COCAINE PER PERSON PER YEAR.

While there is fluctuation over time, the general trend for the co-use of opioids with stimulants, cannabis, and alcohol increased. The co-use of opioids and depressants, on the other hand, decreased between 2004 and 2009 followed by a great increase and then another decline.

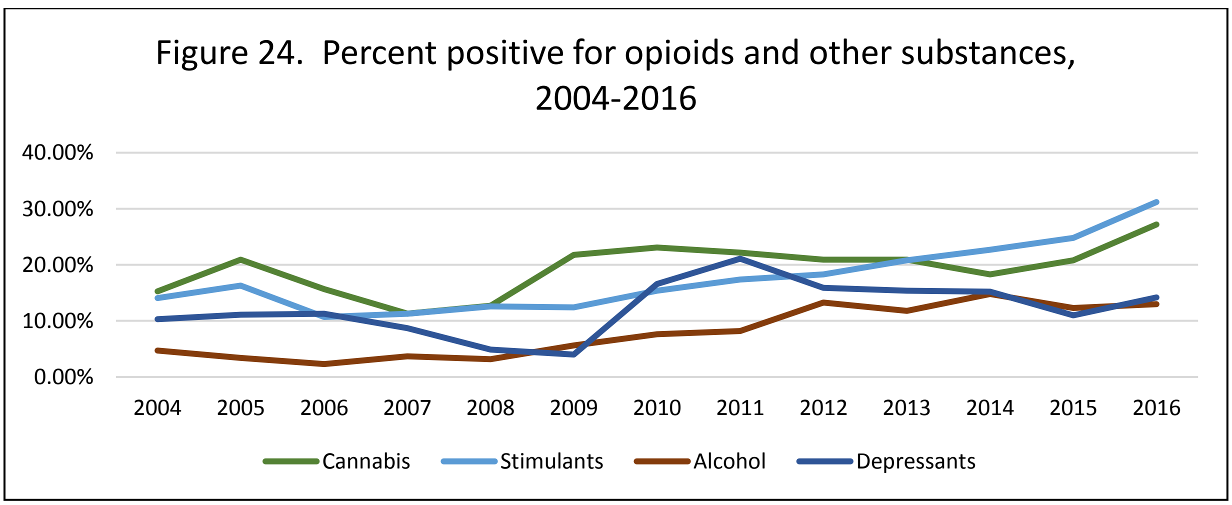


FIGURE 24. POSITIVE POLYSUBSTANCE OPIOID UA BY SUBSTANCE TYPE PER PERSON PER YEAR.

Concurrent versus consecutive polysubstance use by substance type

Figure 25 presents a summary of the proportion of opioid users who were using specific substances concurrently (at the same time) or consecutively (within the same year) with opioids.

The dark blue (lower) portion of the bars represents the proportion of people who tested positive for opioids and the listed substance concurrently. The light blue portion represents the proportion of people who tested positive for opioids and the listed substance at some point in a given year, but never concurrently.

Most people (65%) who tested positive for opioids also tested positive for some other substance at some point in a given year. As with polysubstance use overall, opioid users tested positive for another substance concurrently more often than consecutively. Among those who tested positive for opioids, the most common substance used in addition to opioids was a prescription medication. Nearly 46% tested positive for a prescription medication in addition to opioids, and just over one-third tested positive for a prescription drug at the same time as the opioid. One-quarter of the sample used opioids and cannabinoids, and another quarter used opioids and stimulants concurrently (about 20% each) or consecutively only (about 5% each). While concurrent use was most common for most substances, those who tested positive for both opioids and alcohol were just slightly more likely to use these substances concurrently (11%) than consecutively only (10%).

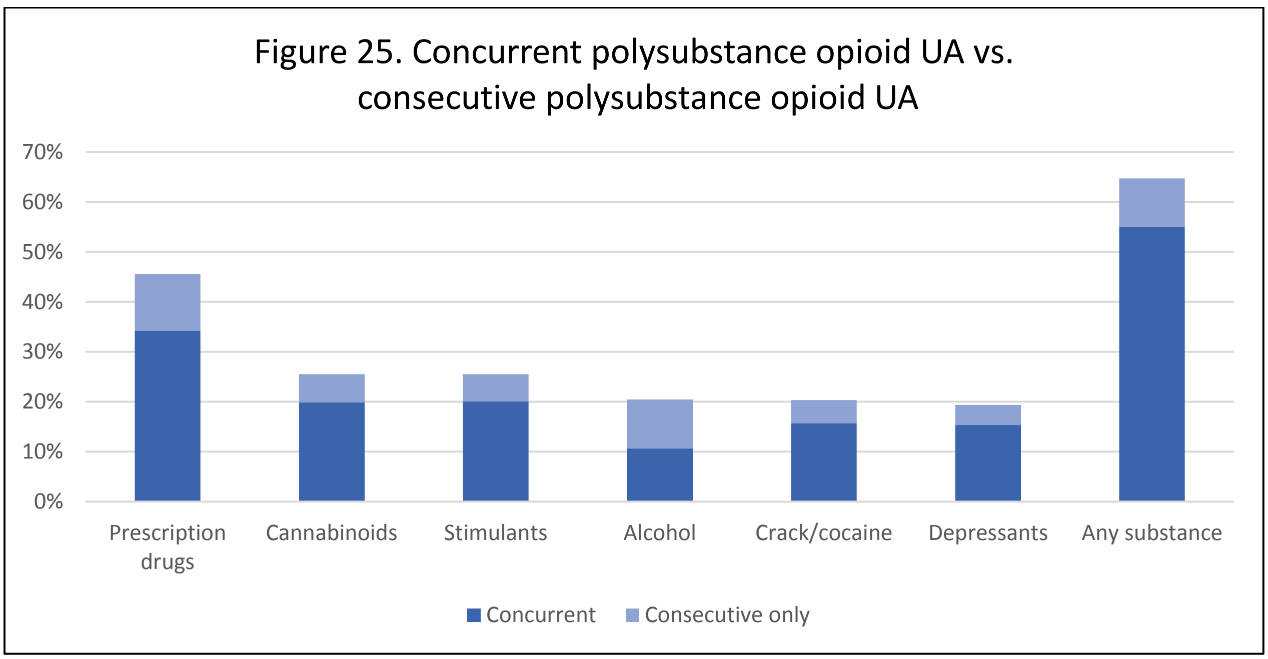


FIGURE 25. POSITIVE POLYSUBSTANCE OPIOID UA PER PERSON BY CONCURRENT VS CONSECUTIVE USE.

Polysubstance opioid use by gender

Among those who tested positive for opioids, males tested positive for opiods and another substance at rates that exceeded females (38.5% versus 34.2%, respectively). This difference was statistically significant (p<.001). Note that this reverse of polysubstance use generally, where females tested positive at higher rates than males. (Figure 14, above.)

The type of substance used in conjunction with opioids varied by gender (Figure 26). A significantly greater proportion of females relative to males tested positive for stimulants or depressants along with opioids. Males tested positive for cannabinoids and alcohol along with opioids more often than females. Males and females tested positive at the same rate for opioids and crack/cocaine.

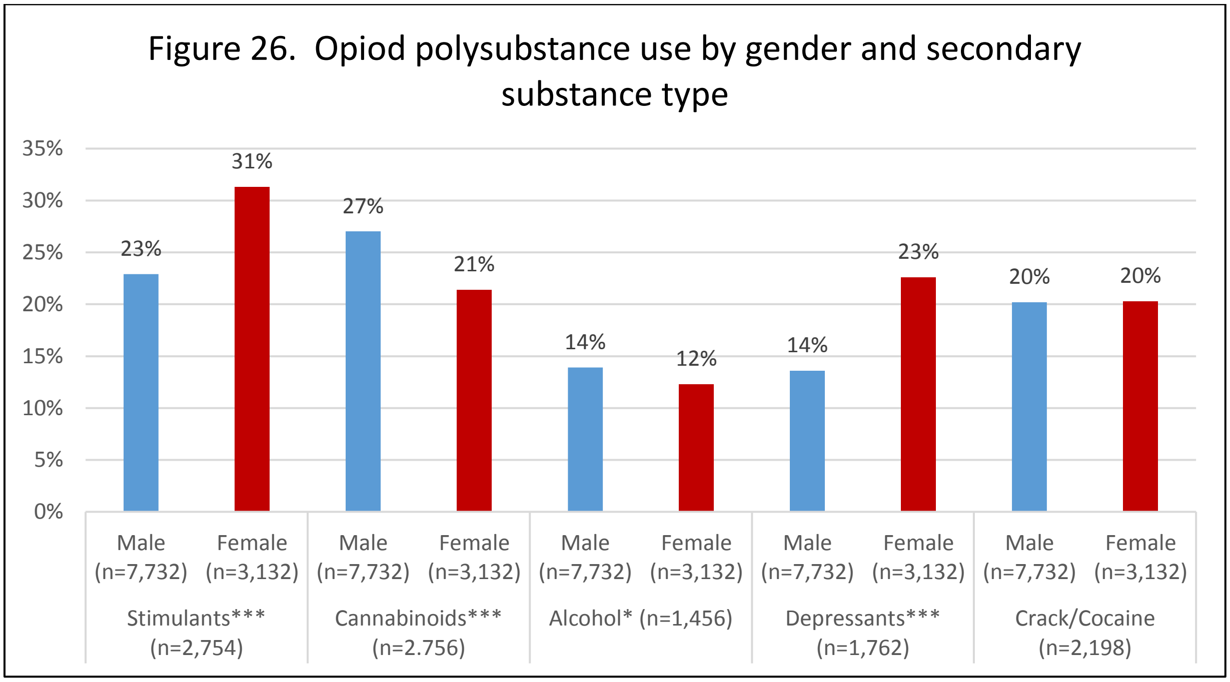


FIGURE 26. PROPORTION OF PEOPLE WHO TESTED POSITIVE FOR OPIOIDS AND SPECIFIC SUBSTANCE BY GENDER, BY PERSON. *P<.05, ***P<.001.

Polysubstance use by ethnicity among opioid users

Figure 27 presents the proportion of individuals who tested positive for opioids alone versus opioids and some other substance by ethnicity. Black/African American individuals tested positive for opioids and some other substance at the highest rate (68%) followed by Non-Hispanic Whites (63%) and Hispanics (64%). Native American/Alaska Native individuals tested positive for opioids and other substances at a rate that was lower than other race/ethnic groups. These results are similar to those we found for polysubstance use generally. There, we found polybsutance use rates were highest and similar for Hispanics, Non-Hispanic Whites, and Black/African Americans (all around 40%). Native Americans/Alaska Natives continue to test at the lowest rates for polysubstance use.

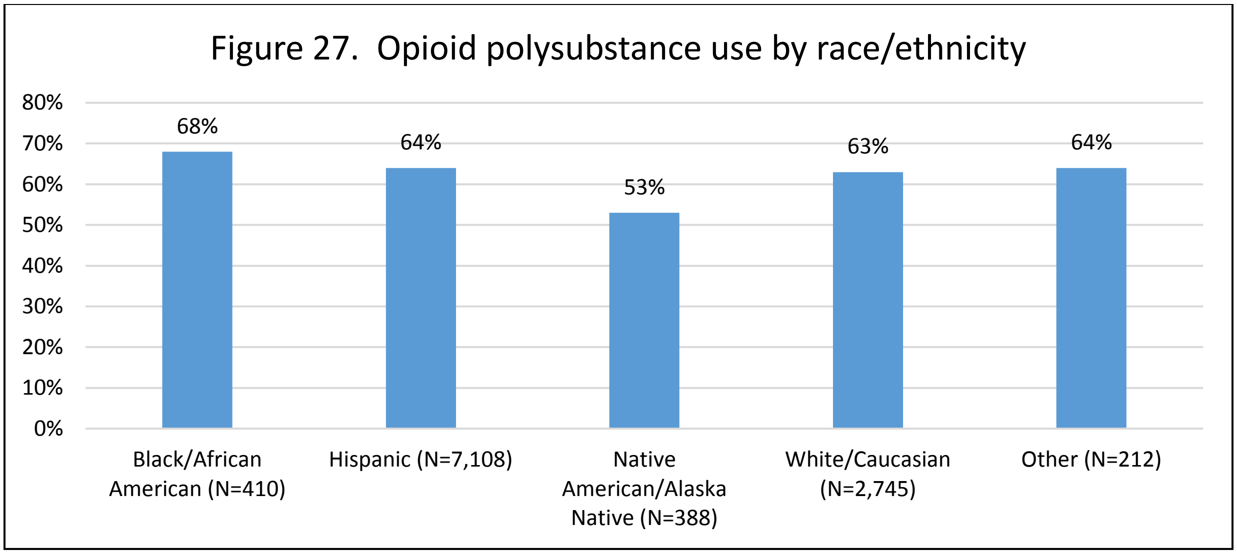


FIGURE 27. POSITIVE OPIOID UA AND OTHER SUBSTANCE PER PERSON BY RACE/ETHNICITY. P<.001.

Tests positive for opioids in addition to other substances varied by ethnic groups. Table 6 illustrates these results. Those identified as Black/African American were more likely to use crack/cocaine or cannabinoids in addition to opioids relative to those of any other race/ethnicity. Prescription drug use in conjunction with opioids was more prevalent among those identified as Hispanic. The combination of stimulants or depressants and opioids was greatest among those identified as white. Finally, alcohol use was most prevalent among individuals identified as Native American/Alaskan Native.

TABLE 6. OPIOD AND SECONDARY SUBSTANCE BY RACE/ETHNICITY

Race/Ethnicity (N=10,863)	Black/African American	Hispanic	Native American	White	Other	N Positive
Crack/cocaine***	31.5%	22.8%	10.3%	13.8%	19.0%	2,198
Prescription***	23.8%	43.3%	28.4%	35.1%	39.5%	2,396
Stimulants***	22.9%	24.3%	18.8%	29.5%	23.6%	2,753
Alcohol***	16.6%	13.1%	19.6%	13.1%	8.5%	1,455
Cannabinoids***	33.7%	25.5%	20.1%	24.3%	27.4%	2,756
Depressants***	10.5%	16.1%	13.4%	17.9%	16.0%	1,762

***P≤.001

Summary & Conclusions

The most commonly detected class of substances among those under PPD supervision between 2004 and 2016 was cannabinoids. We did observe a decrease in positive tests for cannibinoids until 2008, after which positive tests steadily increased. In 2007, New Mexico passed a law legalizing medical marijuana. Whether the cannabinoid trends are related to the passage of this law is unknown. The next most commonly detected substance was alcohol. While alcohol is legal to consume for those over 21, a standard condition of supervision is to refrain from using alcohol. Violations of this prohibition (as with any positive UA) may result in a sanction.

The proportion of probationers and parolees who tested positive for substances increased over time. This varied by substance type. As expected from the current spotlight on opioids, we observed an increase in the use of opioids. However, positive tests for other substances increased as well. It is noteworthy that by 2016, the rate of positive tests for stimulants exceeded those of all other substances. Recent drug overdose data in New Mexico suggest that methamphetamine use is rising rapidly in the state, and these results confirm that stimulant use is becoming more prevalent, at least among the supervised population. At the same time, there was a significant decrease in crack/cocaine use.

We also found significant differences by demographic characteristics. One of the most notable findings was the difference by gender. Women were more likely to return a positive UA test than men. Their rates of positive tests for "hard" substances such as opiods and stimulants typically exceeded those of males. Further, rates of polysubstance use among females exceeded those of their male counterparts.

This has important implications for success during supervision. Polysubstance use is associated with impaired self-control, differences in brain functioning, and increased mental health challenges. Any of these challenges could influence compliance with not only standard conditions of supervision, but also treatment. Notably, the female prison population has increased in recent years, while the male prison population has remained steady. While there is no way to determine within the parameters of this study whether polysubstance use may be a contributing factor, it is something worth exploring in the future.

Geographically, New Mexico exhibited county-by-county variation in substance use rates. This variation was both spatial and temporal: the rates of substance use both differed from county to county and changed within individual counties over time. The spread of both opioids and stimulants is striking. The rate of positive UAs for opiods was consistently highest in Rio Arriba County throughout the study period. However, opioid rates increased in the counties located in the north-central portion of the state, spreading south from Rio Arriba. Stimulant use was consistently highest in Chaves, Eddy, Luna, and Valencia Counties. With the exception of Valencia County, these are located near the southern border. Over time, stimulant use has spread north from this region. Alcohol use was consistently highest in McKinley County. These spatial differences are important to point out as they have implications for treatment and intervention needs. For example, opioid use is often used for the treatment of opioid disorders, while other treatments may be more effective for disorders involving other substances.

A primary purpose for undertaking this study was to understand opioid use among the population under state supervision. In addition to the geographic and gender diffrences discussed, other important findings emerged. Rates of positive opioid tests have increased over time, as might be expected. Unlike overall UA rates, though, the proportion testing positive for opioids and another substance have increased at rates that exceed opioid use alone. Hispanics tested positive for opioids at rates that exeed those of other races/ethnicities, and those disparities have increased over time. Futhermore, the age of those testing positive for opiods has declined over time. This is in contrast to the increase in age observed among those who had one or more positive UA tests.

There are some limitations to this study that are important to point out. One is that we did not examine the data by supervision type (probation/parole/dual supervision). This is important, as parolees are likely to face more serious ramifications for use of substances, including increased risk of overdose due to use after abstinence. These data were not readily available and thus were not included.

These data capture rates of positive UAs. Since most of these tests are administered randomly, there is a high likelihood that individuals who do indeed use substances will not be identified as such. This is especially true since many substances are no longer detectable within just a few days of use if not used regularly.

Overall, though, these results paint a clearer picture of substance use among probationers and parolees in New Mexico than was previously available. Differences among ethnic groups and between genders reveal that individual substances do not affect all communities in the same way. Similarly, it is apparent that particular substances present greater challenges in different communities throughout New Mexico. Illuminating these use patterns is a useful step toward developing more effective, targeted strategies for addressing substance abuse.

References

Albuquerque Journal. (2014). “Lockdown underway at 11 NM prisons.” Retrieved from: http://www.abqjournal.com/483127/news/lockdownunderwayat11nmprisons.html.

Brecht, Mary-Lynn, David Huang, Elizabeth Evans, Yih-Ing Hser. (2008). “Polydrug Use and Implications for Longitudinal Research: Ten-Year Trajectories for Heroin, Cocaine, and Methamphetamine Users.” *Drug and Alcohol Dependence* 96:193-201.

Centers for Disease Control and Prevention. (2015). “Vital Signs: Today’s Heroin Epidemic.” Retrived from: https://www.cdc.gov/vitalsigns/heroin/index.html.

Connor, Jason P., Matthew J. Gullo, Angela White, and Adrian B. Kelly. (2014). “Polysubstance Use: Diagnostic Challenges, Patterns of Use and Health.” *Current Opinion in Psychiatry* 27:269-275.

DeLisi, Matt, Michael G. Vaughn, Chistopher P. Salas-Wright, and Wesley G. Jennings. (2015). “Drugged and Dangerous: Prevalence and Variants of Substance Use Comorbidity Among Seriously Violent Offenders in the United States.” *Journal of Drug Issues* 45(3):232-248.

Denman, Kristine, Lisa Broidy, Dale Willits, Ashley Gonzales, Danielle Albright, and Erin Kleymann. (2010). “Parole Revocation in New Mexico.” New Mexico Statistical Analysis Center, Institute for Social Research.

Fearn, Noelle E., Michael G. Vaughn, Erik J. Nelson, Christopher P. Salas-Wright, Matt DeLisi, and Zhengmin Qian. (2016). “Trends and Correlates of Substance Use Disorders Among Probationers and Parolees in the United States 2002-2014.” *Drug and Alcohol Dependence* 167:128-139.

Gossop, Michael, John Marsden, Duncan Stewart, and Tara Kidd. (2003). “The National Treatment Outcome Research Study (NTORS): 4-5 Year Follow-Up Results.” *Addiction* 98:291-303.

Grella, Christine E., M. Douglas Anglin, and Stuart E. Wugalter. (1997). “Patterns and Predictors of Cocaine and Crack Use by Clients in Standard and Enhanced Methadone Maintenance Treatment.” *The American Journal of Drug and Alcohol Abuse* 23(1):15-42.

Håkansson, Anders and Mats Berglund. (2012). “Risk Factors for Criminal Recidivism – A Prospective Follow-Up Study in Prisoners with Substance Abuse.” *BMC Psychiatry* 12:111.

Håkansson, Anders, F. Schlyter, and M. Berglund. (2011). “Associations Between Polysubstance Use and Psychiatric Problems in a Criminal Justice Population in Sweden.” *Drug and Alcohol Dependence* 118:5-11.

Havens, Jennifer R., Carrie B. Oser, Carl G. Leukefeld, Matthew Webster, Steven S. Martin, and Daniel J. O’Connell. (2007). “Differences in Prevalence of Prescription Opiate Misuse

Among Rural and Urban Probationers." *The American Journal of Drug and Alcohol Abuse* 33(2): 309-317.

Heffernan, Edward B., Joe Finn, John B. Saunders, and Gerard Byrne. (2003). "Substance-Use Disorders and Psychological Distress Among Police Arrestees." *The Medical Journal of Australia* 179: 408-411.

Leri, Francesco, Jane Stewart, Benedikt Fischer, Rehm Jürgen, David C. Marsh, Suzanne Brissette, Julie Bruneau, Nady El-Guebaly, Lina Noel, Mark W. Tyndall, and T. Cameron Wild. (2005). "Patterns of Opioid and Cocaine Co-Use: A Descriptive Study in a Canadian Sample of Untreated Opioid-Dependent Individuals." *Experimental and Clinical Psychopharmacology* 13(4): 303-310.

Moreno-López, Laura, Emmanuel Andreas Stamatakis, Maria José Fernández-Serrano, Manuel Gómez-Rio, Antonio Rodríguez-Fernández, Miguel Pérez-García, and Antonio Verdejo-García. (2012). "Neural Correlates of Hot and Cold Executive Functions in Polysubstance Addiction: Association Between Neuropsychological Performance and Resting Brain Metabolism as Measured by Positron Emission Tomography." *Psychiatry Research: Neuroimaging* 203: 214-221.

Morley, Katherine I., Michael T. Lynskey, Raul Moran, Rohan Borschmann, and Adam R. Winstock. (2015). "Polysubstance Use, Mental Health and High-Risk Behaviors: Results from the 2012 Global Drug Survey." *Drug and Alcohol Review* 34: 427-437.

National Drug Intelligence Center, U.S. Department of Justice. (2011). National Drug Threat Assessment. Retrieved from: https://www.hsdl.org/?abstract&did=685687.

New Mexico Corrections Department. (2015). "CD-051800: PPD Substance Abuse Testing for Offenders." Retrieved from: http://cd.nm.gov/policies/docs/CD-051800.pdf.

New Mexico Corrections Department. (2015). "Suboxone…Busted!" Retrieved from: http://newmexicocorrectionsdepartment.blogspot.com/2015/01/suboxonebusted.html.

New Mexico Department of Health (2017). "New Mexico Substance Abuse Epidemiology Profile." Retrieved from: https://nmhealth.org/data/view/substance/2067/.

New Mexico Investigative Support Center, New Mexico HIDTA (2018). "Opioids: The Face of the Demon in New Mexico." Retrieved from: https://static1.squarespace.com/static/50355cc884ae416826d09054/t/5a767801c830259c53b644f2/1517713518136/NMISC+Opioid+Report+2018.pdf.

New Mexico Youth Risk & Resiliency Survey (NM-YRRS). (2013). "2013 Risk Behavior Comparisons, New Mexico and United States: High School (Grades 9-12)." Retrieved from: http://www.youthrisk.org/tables/#/2013.

Office of National Drug Control Policy. Southwest Border HIDTA New Mesico Region. Retrieved from https://www.nmhidta.org/default.aspx?menuitemid=220

Smith, Gillian W., Michael Farrell, Brendan P. Bunting, James E. Houston, and Mark Shevlin. (2011). "Patterns of Polydrug Use in Great Britain: Findings From a National Household Population Survey." *Drug and Alcohol Dependence* 113: 222-228.

Taxy, Sam, Julie Samuels, and William Adams. (2015). "Drug Offenders in Federal Prison: Estimates of Characteristics Based on Linked Data." U.S. Department of Justice, Bureau of Justice Statistics.

Appendices

Appendix A: Descriptions of programs[1]

Intensive Supervision (ISP)

ISP is for the most high-risk offenders, which typically includes gang members, repeat felons, and violent offenders. The objective is to minimize the risk to the community by closely monitoring these cases while requiring extensive counseling and treatment.

Community Corrections

Community Corrections targets high risk and high need offenders, offering close supervision and supportive treatment services. These offenders tend to have chronic needs such as mental health diagnoses, homelessness, severe medical conditions, and multiple unsuccessful attempts at substance abuse treatment, among others. Community Corrections serves as a diversionary program for probation/parole violators who would otherwise likely be incarcerated.

Community Corrections oversees residential programs - the Men's and Women's Recovery Academies – which offer intensive substance abuse treatment and mental health services to parolees who need a transition from prison to community. The Men's Recovery Academy offers substance abuse treatment to up to 84 male offenders, and the Women's Recovery Academy offers substance abuse and mental health treatment to up to 48 female offenders in two tracks: substance abuse/mental health and moms and kids seeking on-campus reunification. A halfway house for males and females is also offered at each program.

Drug Court

Drug courts provide community-based treatment and supervision to selected offenders who are identified as having substance abuse issues that have contributed to their criminal activity. The Drug Court typically supervises those whose encounter with the criminal justice system is their first. The Drug Court provides a stepped-up level of supervision and treatment to reduce the likelihood of recidivism. Drug courts work closely with the judges, prosecutors, defense attorneys, probation/parole authorities and other corrections personnel, law enforcement, pre-trial service agencies, law enforcement, vocational rehabilitation, education and housing, and treatment providers.

Sex Offender Unit

The Sex Offender Unit supervises probation and parolees who are sex offenders living in Bernalillo County. The sex offender unit assists offenders in their reintegration by focusing on a stable residence and consistent employment, which allows the offenders to become independent and reduce their change of reoffending. If an offender does not comply with any of the terms of their supervision, the sex offender unit attempts to correct the behavior through increased counseling and treatment services, community service, and short-term periods of incarceration to redirect the offender's thinking. If the offender chooses to not take full advantage of the services offered to them and remains non-compliant, they may be returned to confinement to serve the remainder of their sentence.

[1] Information gathered from the New Mexico Corrections Department website: http://cd.nm.gov/

Appendix B: Average number of UA tests administered annually

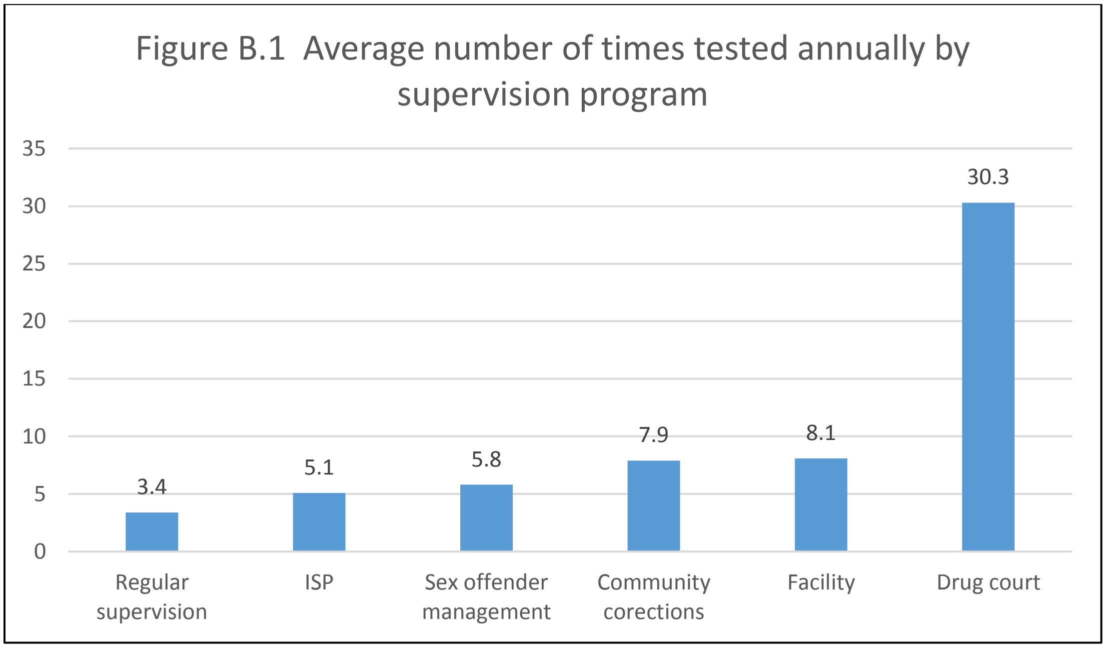
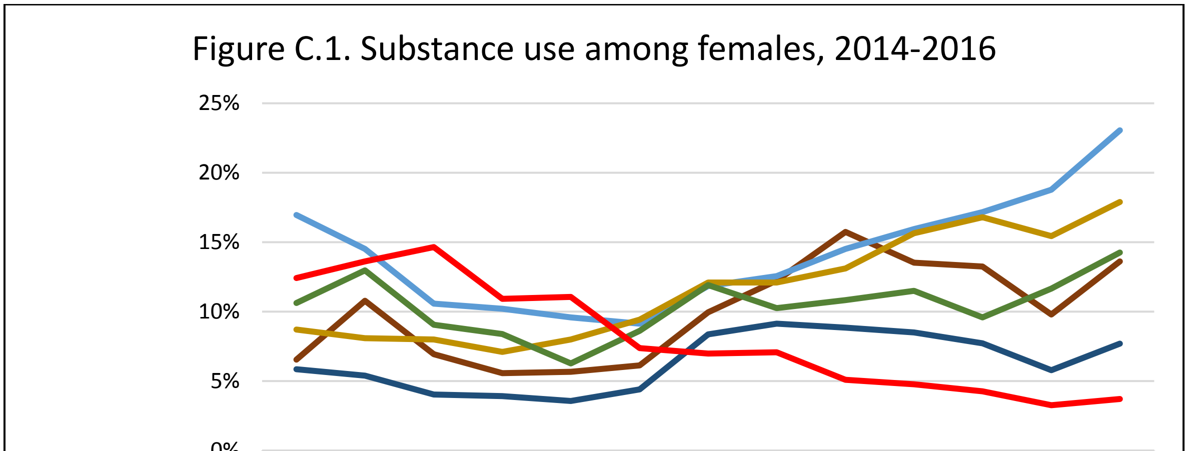


FIGURE B.1. NUMBER OF SUBSTANCE TESTS BY SUPERVISION PROGRAM.

Appendix C: Substance use type trends by gender

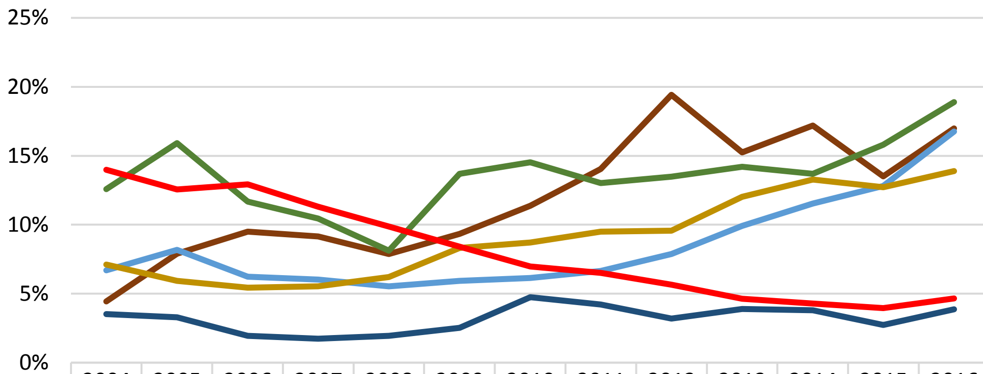
Substance use among males and females increased over time, but this differs by substance type. The proportion of males and females who tested positive for crack/cocaine decreased over time. The proportion who tested positive for most other substances increased. The exception was tests for depressants. The trend varied somewhat for males compared to females. Females experienced an increase in positive tests for depressants over time. The proportion of positive UAs for depressants among males fluctuated, but did not increase as much as it did for females.



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Alcohol	7%	11%	7%	6%	6%	6%	10%	12%	16%	14%	13%	10%	14%
Stimulants	17%	15%	11%	10%	10%	9%	12%	13%	15%	16%	17%	19%	23%
Opiods	9%	8%	8%	7%	8%	9%	12%	12%	13%	16%	17%	15%	18%
Depressants	6%	5%	4%	4%	4%	4%	8%	9%	9%	9%	8%	6%	8%
Cannabis	11%	13%	9%	8%	6%	9%	12%	10%	11%	12%	10%	12%	14%
Crack/Cocaine	12%	14%	15%	11%	11%	7%	7%	7%	5%	5%	4%	3%	4%

FIGURE C.1. SUBSTANCE USE TRENDS AMONG FEMALES BY SUBSTANCE TYPE.

Figure C.2. Substance use among males, 2004-2016

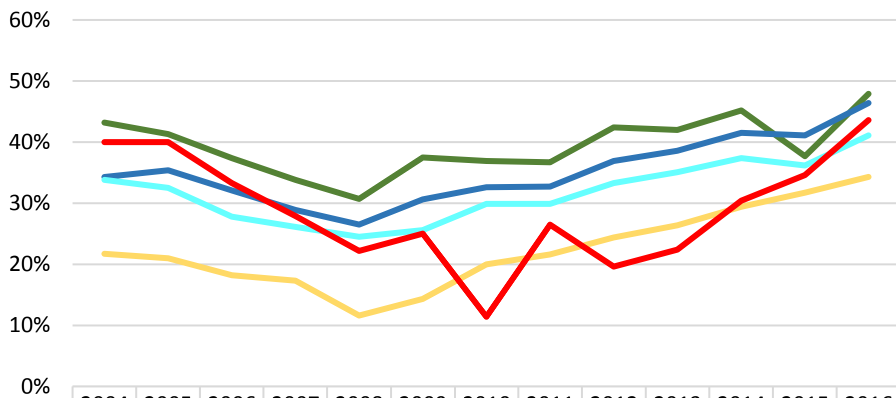


	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Alcohol	4%	8%	10%	9%	8%	9%	11%	14%	19%	15%	17%	14%	17%
Stimulants	7%	8%	6%	6%	6%	6%	6%	7%	8%	10%	12%	13%	17%
Opiods	7%	6%	5%	6%	6%	8%	9%	10%	10%	12%	13%	13%	14%
Depressants	4%	3%	2%	2%	2%	3%	5%	4%	3%	4%	4%	3%	4%
Cannabis	13%	16%	12%	10%	8%	14%	15%	13%	13%	14%	14%	16%	19%
Crack/Cocaine	14%	13%	13%	11%	10%	8%	7%	7%	6%	5%	4%	4%	5%

FIGURE C.1. SUBSTANCE USE TRENDS AMONG FEMALES BY SUBSTANCE TYPE.

Appendix D: Substance use trends by race/ethnicity

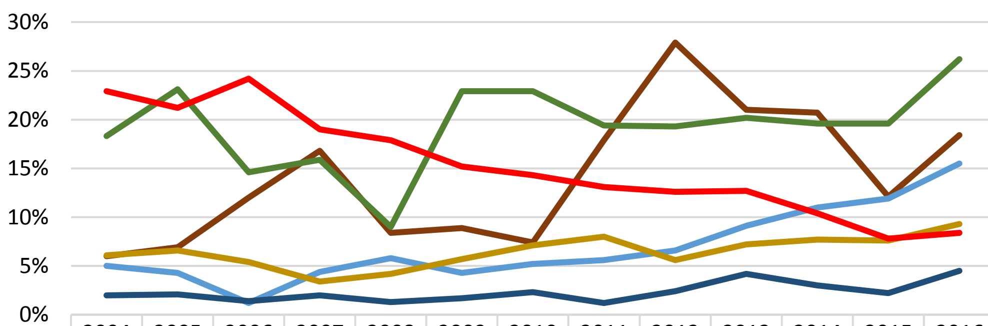
Figure D.1. Positive UA by race/ethnicity, 2004-2016



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Black/African American	43%	41%	37%	34%	31%	38%	37%	37%	42%	42%	45%	38%	48%
Hispanic	34%	35%	32%	29%	27%	31%	33%	33%	37%	39%	42%	41%	46%
Native American	22%	21%	18%	17%	12%	14%	20%	22%	24%	26%	29%	32%	34%
White	34%	33%	28%	26%	25%	26%	30%	30%	33%	35%	37%	36%	41%
Other	40%	40%	33%	28%	22%	25%	11%	27%	20%	22%	30%	35%	44%

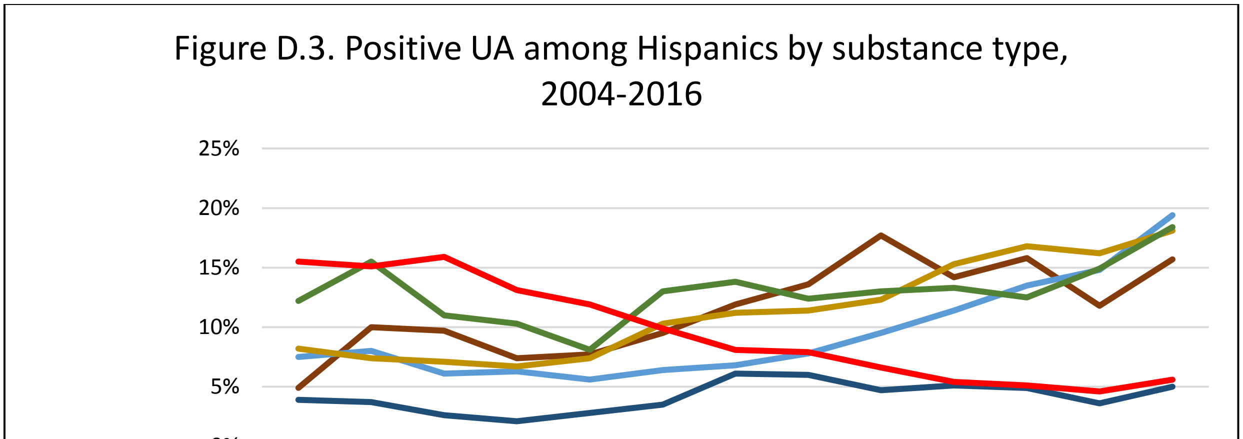
FIGURE D.1. SUBSTANCE USE BY RACE/ETHNICITY AND SUBSTANCE TYPE

Figure D.2. Positive UA among Black/African Americans by substance type, 2004-2016



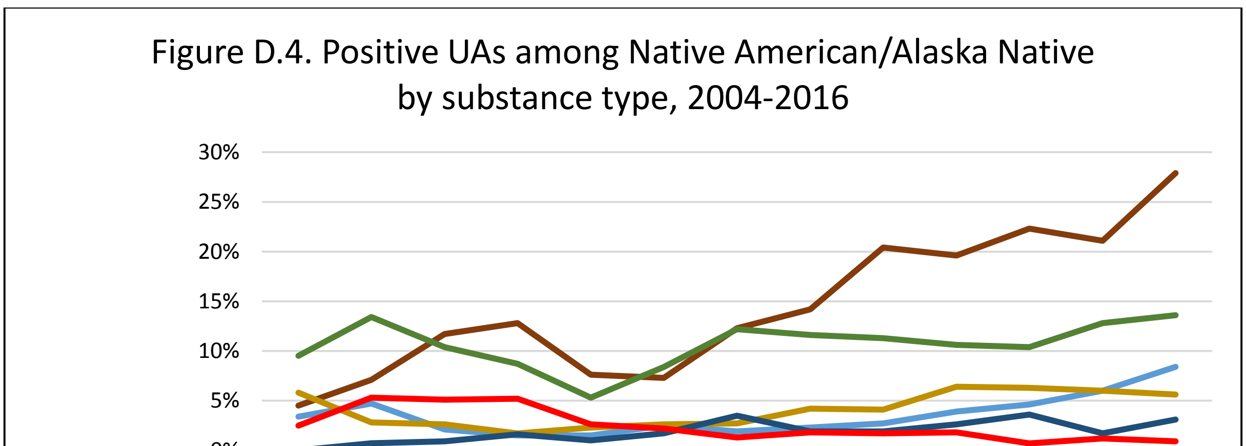
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Alcohol	6%	7%	12%	17%	8%	9%	7%	18%	28%	21%	21%	12%	18%
Stimulants	5%	4%	1%	4%	6%	4%	5%	6%	7%	9%	11%	12%	16%
Opiods	6%	7%	5%	3%	4%	6%	7%	8%	6%	7%	8%	8%	9%
Depressants	2%	2%	1%	2%	1%	2%	2%	1%	2%	4%	3%	2%	5%
Cannabis	18%	23%	15%	16%	9%	23%	23%	19%	19%	20%	20%	20%	26%
Crack/Cocaine	23%	21%	24%	19%	18%	15%	14%	13%	13%	13%	10%	8%	8%

FIGURE D.2. SUBSTANCE USE AMONG AFRICAN AMERICANS BY SUBSTANCE TYPE.



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Alcohol	5%	10%	10%	7%	8%	10%	12%	14%	18%	14%	16%	12%	16%
Stimulants	8%	8%	6%	6%	6%	6%	7%	8%	10%	11%	14%	15%	19%
Opiods	8%	7%	7%	7%	7%	10%	11%	11%	12%	15%	17%	16%	18%
Depressants	4%	4%	3%	2%	3%	4%	6%	6%	5%	5%	5%	4%	5%
Cannabis	12%	16%	11%	10%	8%	13%	14%	12%	13%	13%	13%	15%	18%
Crack/Cocaine	16%	15%	16%	13%	12%	10%	8%	8%	7%	5%	5%	5%	6%

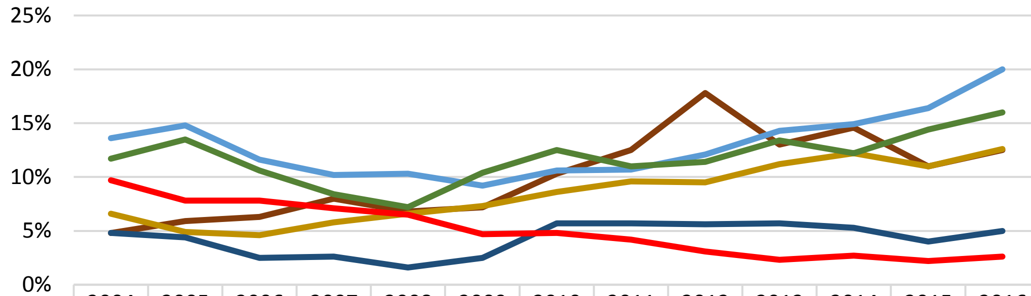
FIGURE D.3. SUBSTANCE USE AMONG HISPANICS BY SUBSTANCE TYPE



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Alcohol	5%	7%	12%	13%	8%	7%	12%	14%	20%	20%	22%	21%	28%
Stimulants	3%	5%	2%	2%	2%	3%	2%	2%	3%	4%	5%	6%	8%
Opiods	6%	3%	3%	2%	2%	3%	3%	4%	4%	6%	6%	6%	6%
Depressants	0%	1%	1%	2%	1%	2%	4%	2%	2%	3%	4%	2%	3%
Cannabis	10%	13%	10%	9%	5%	8%	12%	12%	11%	11%	10%	13%	14%
Crack/Cocaine	3%	5%	5%	5%	3%	2%	1%	2%	2%	2%	1%	1%	1%

FIGURE D.4. SUBSTANCE USE AMONG NATIVE AMERICANS BY SUBSTANCE TYPE.

Figure D.5. Positive UA among non-Hispanic Whites by substance type, 2004-2016



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Alcohol	5%	6%	6%	8%	7%	7%	10%	13%	18%	13%	15%	11%	13%
Stimulants	14%	15%	12%	10%	10%	9%	11%	11%	12%	14%	15%	16%	20%
Opiods	7%	5%	5%	6%	7%	7%	9%	10%	10%	11%	12%	11%	13%
Depressants	5%	4%	3%	3%	2%	3%	6%	6%	6%	6%	5%	4%	5%
Cannabis	12%	14%	11%	8%	7%	10%	13%	11%	11%	13%	12%	14%	16%
Crack/Cocaine	10%	8%	8%	7%	7%	5%	5%	4%	3%	2%	3%	2%	3%

FIGURE D.5. SUBSTANCE USE AMONG NON-HISPANIC WHITES BY SUBSTANCE TYPE.

APPENDIX E: SUBSTANCE USE BY COUNTY

TABLE E.1 AVERAGE PROPORTION OF POSITIVE UA BY COUNTY, 2004-2016

County	Opioids	Stimulants	Cannabinoids	Alcohol	Depressants	Crack/Cocaine
Bernalillo	12.2%	8.5%	11.9%	11.6%	4.1%	7.5%
Chaves	5.7%	23.5%	15.4%	10.3%	2.8%	2.4%
Cibola	7.5%	10.3%	10.7%	19.9%	2.8%	2.1%
Colfax	8.7%	12.3%	10.8%	8.3%	4.3%	6.7%
Curry	5.3%	16.1%	19.4%	12.0%	2.6%	8.3%
Dona Ana	7.9%	8.8%	16.0%	23.0%	4.0%	10.7%
Eddy	5.5%	19.3%	10.9%	7.6%	2.6%	3.8%
Grant	5.8%	19.9%	14.0%	14.2%	3.2%	2.4%
Hildago	5.8%	14.4%	9.2%	11.8%	9.4%	0.6%
Lea	4.3%	15.8%	11.2%	14.6%	0.6%	7.3%
Lincoln	5.9%	9.0%	9.8%	7.5%	3.5%	2.4%
Luna	4.2%	24.0%	13.2%	17.5%	3.3%	2.0%
McKinley	9.1%	8.0%	12.4%	24.8%	3.9%	4.1%
Otero	5.1%	13.5%	14.2%	10.9%	4.1%	4.5%
Quay	7.6%	18.1%	16.5%	14.1%	2.3%	2.6%
Rio Arriba	26.4%	2.2%	9.8%	12.2%	9.6%	10.4%
Roosevelt	4.6%	14.6%	13.7%	5.8%	2.8%	5.2%
San Juan	4.1%	9.1%	9.7%	19.3%	2.9%	0.6%
San Miguel	11.4%	3.2%	13.0%	14.5%	9.9%	8.7%
Sandoval	8.8%	6.1%	10.7%	6.5%	3.0%	3.5%
Santa Fe	11.3%	3.0%	9.5%	10.5%	5.2%	9.5%
Sierra	8.8%	15.2%	14.5%	17.7%	7.9%	0.7%
Socorro	15.3%	17.1%	14.4%	13.2%	4.5%	5.4%
Taos	14.0%	4.6%	16.8%	21.7%	6.4%	18.5%
Torrance	10.8%	9.6%	10.7%	9.1%	3.5%	3.6%
Valencia	8.3%	12.6%	9.9%	6.5%	3.4%	3.6%

TABLE E.2. AVERAGE PROPORTION OF POSITIVE UA BY COUNTY, 2004-2007

County	Opioids	Stimulants	Cannabinoids	Alcohol	Depressants	Crack/Cocaine
Bernalillo	7.3%	6.4%	9.2%	6.8%	2.5%	13.0%
Chaves	3.7%	15.2%	9.3%	3.3%	1.0%	8.6%
Cibola	4.0%	10.1%	13.3%	3.6%	2.3%	4.4%
Colfax	2.8%	8.9%	16.9%	0.0%	2.0%	19.8%
Curry	4.1%	13.4%	20.0%	18.2%	3.0%	13.6%
Dona Ana	3.5%	5.8%	16.7%	15.1%	1.0%	15.6%
Eddy	2.0%	21.1%	15.9%	12.5%	0.8%	12.6%
Grant	1.9%	17.6%	8.5%	6.3%	0.0%	3.7%
Hildago	2.5%	29.4%	9.1%	16.7%	0.0%	1.2%
Lea	1.7%	12.4%	14.1%	10.5%	1.3%	12.9%
Lincoln	2.8%	1.8%	3.1%	1.5%	1.2%	3.1%
Luna	2.0%	15.6%	9.6%	6.9%	2.20%	2.6%
McKinley	3.7%	2.9%	10.7%	11.0%	4.7%	7.4%
Otero	4.6%	10.7%	12.0%	6.5%	1.9%	8.3%
Quay	5.6%	18.5%	19.5%	0.0%	2.6%	6.6%
Rio Arriba	17.0%	1.8%	9.8%	2.7%	7.3%	16.3%
Roosevelt	1.9%	14.8%	17.3%	0.0%	0.0%	12.3%
San Juan	2.0%	13.4%	12.2%	5.2%	2.0%	1.6%
San Miguel	5.9%	2.7%	13.7%	8.7%	4.6%	15.6%
Sandoval	3.8%	5.2%	9.3%	7.8%	2.5%	7.8%
Santa Fe	7.0%	2.4%	8.0%	6.6%	3.9%	13.6%
Sierra	3.0%	6.1%	13.6%	5.6%	0.0%	1.5%
Socorro	6.7%	13.5%	16.0%	5.6%	2.1%	10.4%
Taos	6.1%	1.2%	15.0%	6.3%	5.2%	20.5%
Torrance	9.6%	12.5%	19.1%	6.7%	1.9%	10.2%
Valencia	5.1%	15.6%	15.1%	5.4%	4.6%	7.3%

TABLE E.3 AVERAGE PROPORTION OF POSITIVE UA BY COUNTY, 2008-2012

County	Opioids	Stimulants	Cannabinoids	Alcohol	Depressants	Crack/Cocaine
Bernalillo	10.4%	6.5%	11.5%	11.4%	4.4%	7.5%
Chaves	5.4%	18.6%	10.6%	15.2%	0.6%	3.1%
Cibola	5.7%	7.1%	6.1%	19.1%	1.1%	1.9%
Colfax	8.4%	6.2%	7.3%	5.0%	6.6%	5.3%
Curry	5.8%	13.9%	20.7%	9.0%	1.9%	10.2%
Dona Ana	7.1%	6.5%	15.6%	29.2%	4.7%	11.8%
Eddy	5.6%	13.0%	8.4%	11.8%	4.9%	4.3%
Grant	5.2%	9.0%	7.7%	33.3%	5.6%	3.8%
Hildago	7.0%	8.1%	6.0%	11.1%	8.2%	0.3%
Lea	4.5%	10.1%	10.2%	19.1%	0.3%	8.9%
Lincoln	7.0%	9.9%	9.9%	11.6%	4.3%	2.6%
Luna	2.9%	24.5%	14.0%	24.1%	4.1%	2.1%
McKinley	7.7%	5.6%	9.4%	12.7%	1.3%	9.0%
Otero	4.6%	11.3%	14.2%	7.6%	4.0%	4.8%
Quay	12.6%	16.3%	19.1%	13.6%	3.6%	2.5%
Rio Arriba	16.8%	1.2%	6.3%	7.2%	7.7%	6.7%
Roosevelt	4.3%	7.7%	10.9%	3.0%	2.3%	7.4%
San Juan	3.3%	6.2%	6.7%	15.4%	2.0%	0.5%
San Miguel	10.0%	1.2%	9.2%	25.1%	10.7%	7.5%
Sandoval	5.1%	3.9%	8.2%	4.2%	2.5%	3.5%
Santa Fe	9.6%	1.6%	7.2%	9.4%	6.0%	8.2%
Sierra	14.1%	16.8%	17.5%	20.8%	9.2%	0.7%
Socorro	11.6%	13.6%	16.3%	20.9%	5.8%	9.2%
Taos	18.3%	5.6%	15.0%	25.8%	8.5%	18.5%
Torrance	9.1%	7.6%	9.1%	10.4%	4.3%	2.9%
Valencia	9.1%	11.5%	9.7%	8.5%	4.9%	4.3%

TABLE E.4. AVERAGE PROPORTION OF POSITIVE UA BY COUNTY, 2013-2016

County	Opioids	Stimulants	Cannabinoids	Alcohol	Depressants	Crack/Cocaine
Bernalillo	17.3%	12.1%	14.2%	13.1%	4.5%	4.2%
Chaves	6.0%	26.0%	17.5%	9.9%	3.3%	1.3%
Cibola	10.6%	14.3%	15.7%	21.7%	3.7%	1.8%
Colfax	11.4%	22.5%	13.5%	16.9%	3.2%	3.9%
Curry	5.3%	19.8%	17.6%	15.5%	3.0%	3.6%
Dona Ana	11.0%	12.6%	15.9%	22.3%	4.3%	7.0%
Eddy	6.1%	23.0%	11.6%	5.2%	2.5%	2.1%
Grant	6.6%	23.1%	16.6%	14.4%	3.2%	1.8%
Hildago	6.4%	12.4%	15.0%	10.5%	17.3%	0.5%
Lea	4.8%	19.3%	11.0%	14.0%	0.7%	5.2%
Lincoln	7.8%	16.2%	17.7%	16.0%	5.5%	1.2%
Luna	6.4%	27.6%	14.0%	20.6%	2.9%	1.5%
McKinley	10.4%	9.7%	13.6%	29.6%	4.1%	2.0%
Otero	6.0%	17.4%	15.1%	18.0%	4.5%	2.5%
Quay	4.4%	19.5%	12.4%	15.6%	1.6%	0.4%
Rio Arriba	39.1%	3.3%	13.1%	16.4%	11.8%	11.0%
Roosevelt	5.7%	19.2%	14.6%	8.5%	3.1%	1.3%
San Juan	5.3%	10.0%	11.2%	21.0%	3.3%	0.4%
San Miguel	16.2%	6.1%	17.7%	12.7%	10.6%	6.7%
Sandoval	13.9%	8.5%	13.7%	7.2%	3.5%	1.9%
Santa Fe	17.7%	5.3%	13.8%	13.9%	5.6%	7.1%
Sierra	7.4%	16.8%	13.0%	20.4%	8.1%	0.4%
Socorro	21.0%	21.2%	12.3%	13.6%	4.3%	0.6%
Taos	19.6%	8.6%	22.6%	22.3%	4.9%	15.1%
Torrance	13.5%	11.0%	8.7%	7.9%	3.4%	1.2%
Valencia	9.7%	11.6%	6.9%	6.2%	2.0%	0.7%