The Snohomish County
Arrestee Substance Abuse (SCASA) Study

Characteristics of Drug Use Among Arrestees Booked Into Snohomish County Corrections
Including Comparisons to Booked Arrestees in King and Spokane Counties

by

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April 30, 2003

Acknowledgments

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Key Snohomish County Arrestee Substance Abuse (SCASA) Findings

The Snohomish County Arrestee Substance Abuse, or SCASA Study, obtained information on the nature and extent of drug use among recently booked arrestees between November 2002 and February 2003. This study recorded the results of face-to-face computerized interviews and urinalysis tests of 512 male adult arrestees in the Snohomish County Jail. Additionally, this report contains inmate demographic and charge information from County electronic booking records.

In this report, findings from the SCASA Study are presented alongside findings from the similar Arrestee Drug Abuse Monitoring (ADAM) programs in King County and Spokane County.

Key Findings Drawn from the SCASA Study Include:

Drug Use: Use of illicit substances (including marijuana, crack or powder cocaine, opiates including heroin, and methamphetamine) while not ubiquitous, were quite high among the Snohomish County arrestees.

- Almost 75% of Snohomish County arrestees tested positive for any illicit substance.

- Nearly 60% of Snohomish County arrestees reported using any illicit substance in the past 30 days.

- Nearly 1 out of 3 Snohomish County arrestees tested positive for multiple illicit substances.

- Almost 25% of Snohomish County arrestees reported using multiple illicit substances in the past 30 days.

Percentage of Snohomish County Arrestees Testing Positive for Illicit Substances

Substance	Percentage
Any Substance	73.6
Multiple Substances	31.6
Marijuana	39.9
Cocaine	18.7
Opiates	9.9
Methamphetamine	19.5

Dependency and Treatment: A significant proportion of Snohomish County arrestees reported symptoms of chemical dependency. This report offers several methods to ascertain treatment needs.

- Just under 25% of Snohomish County arrestees were classified as dependent upon alcohol.

- Approximately 40% of Snohomish County arrestees were classified as dependent upon drugs.

- Over 75% of arrestees who reported using methamphetamine reported that methamphetamine caused dependency symptoms compared to approximately half of marijuana, heroin, and crack cocaine users.

- Less than half of Snohomish County arrestees reported ever receiving inpatient or outpatient care for drug or alcohol use.

- Less than 30% of Snohomish County arrestees reported receiving any inpatient or outpatient care during the past year.

Criminal History: The majority of Snohomish County arrestees reported previous involvement with the criminal justice system. Further, use of illicit substances was linked with greater criminal history.

- Over half of Snohomish County arrestees reported being previously arrested in the past 12 months.

- Over 85% of Snohomish County arrestees reported spending at least 24 hours in jail at some point in their life before their current arrest.

- Arrestees that reported heavy substance use were more likely to have been arrested in the past 12 months, reported a greater number of arrests across their lifetime, and reported spending more time in jail than arrestees that did not report heavy substance use.

SECTION I

The Snohomish County Arrestee Substance Abuse (SCASA) Study

Introduction

Background

The Snohomish County Department of Corrections (SCDOC) operates at or near its inmate capacity on a daily basis. Faced with continued overcrowding and an uphill battle for public funding that would allow an additional correctional facility to be operated, the County is striving for more information on their inmate population that will help guide future programming and housing decisions. The Snohomish County Arrestee Substance Abuse (SCASA) Study examines one very important behavioral domain of SCDOC inmates, that being the nature and extent of drug use among recently booked arrestees.

This report presents the results of 512 interviews and urinalysis tests about drug use and that were conducted with recently booked arrestees from November 2002 through February 2003 at the Snohomish County Jail.

National Study Protocol

The SCASA Study was modeled substantially on the National Institute of Justice's Arrestee Drug Abuse Monitoring (ADAM) program. The ADAM program tracks trends in the prevalence and types of drug use among recently booked arrestees by conducting a 20-minute face-to-face survey and collecting a urine specimen for drug testing from arrestees booked within the past 48 hours. The focus on recently booked arrestees ensures the usefulness of urine tests. In both the ADAM and the SCASA Study, arrestees are promised confidentiality of all responses and drug testing.

The ADAM program currently operates in 35 metropolitan counties across the country, including both King and Spokane Counties in Washington State. Looking Glass Analytics, the contractor for the SCASA Study, also manages the quarterly ADAM data collection efforts in King and Spokane Counties. Advantageously, all interviewers used in the SCASA study were already experienced ADAM interviewers.

Data from the ADAM program play an important role in assembling the national picture of drug abuse in the arrestee population and have been a central component in studying the links between drug use and crime. By utilizing an instrument that is similar to that used by ADAM, additional analyses comparing results from Snohomish County with those found at the King County and Spokane County ADAM sites could be conducted.

Differences Between ADAM and SCASA: Survey Content and Mode of Implementation

There are differences between the SCASA and the ADAM survey instruments. Both contain almost identical sections on arrestee demographics, frequency of drug use, and risk for drug dependency. However, the ADAM survey contains a more extensive section on characteristics of drug purchasing behavior, while the SCASA survey contains more delineation on experiences with substance abuse and mental health treatment. ADAM is a pen and paper survey, whereas the SCASA survey was computer aided. Using laptop computers loaned to the project by the County, the computer-aided survey significantly reduced costs for materials and for data entry. The core elements of the computerized survey were obtained from researchers in Utah who programmed most sections of the ADAM instrument for a study among Utah's prison population. This computerized survey was then modified to fit the needs of the SCASA Study.

Multiple Data Sources

Results from the SCASA study presented in this report are obtained from the analysis of three complementing sources of data:

1) The ADAM-like computer-aided arrestee interviews;

2) Laboratory drug test results from urine specimens; and,

3) Inmate demographic and charge information from County electronic booking records.

Each of these sources of data are linked together to form one data set. Thus, information that an arrestee provides in the interview will be matched with both the results from their urine sample and information available from the arrest records.

SCASA Survey Content

The computer-aided interview contains four main sections. These sections include arrestee demographics, arrestee substance use, substance dependency and treatment history, and criminal history.

- The interview script is available for viewing or download on the Looking Glass Analytics web site at **www.lgan.com**. This script lists the questions and response choices as read to arrestees. Given the number of questions in this interview, it is impossible to present all possible results in a single report. This script is provided as a resource to the reader of this report and can be used to determine if any additional questions of interest may be addressed by the data.

Arrestee Demographics

The questions in this section of the interview seek to describe the arrestee population. In addition to gathering information about arrestee characteristics such as age, race, and marital

status, these questions also elicited information about other arrestee features such as education, employment, and health insurance. This information, in addition to being used in this report to describe the population surveyed, will also be used in other analyses in subsequent sections of the report.

Arrestee Substance Use

Information on arrestee substance use was gathered using two separate research methodologies: self-report and laboratory urinalysis testing. Each of these methodologies offers unique advantages.

- Whereas laboratory results can only indicate recent drug use, self-report data can provide information about patterns of use across the lifespan of the arrestee. The periods of self-report indicated in this report are use during the past 30 days, use in the past 12 months, and use during the lifetime of the arrestee.

- Laboratory urinalysis testing provides objective and scientifically verifiable accounts of substance use. This information can also be used to provide an indication of very recent use and of the validity of self-report data.

Substance use questions primarily focus on six commonly used substances: alcohol, marijuana, crack cocaine, powder cocaine, heroin, and methamphetamine.

Arrestee Dependence and Treatment

Alcohol and drug dependency are determined using a brief, standardized set of questions. The battery of questions is designed to allow an approximation of the substance dependence diagnosis of the American Psychiatric Association's Diagnostic and Statistical Manual, Fourth Edition (DSM-IV).

Questions about arrestee treatment focus on treatment experiences during an arrestees' lifetime and treatment during the past year. A wide range of treatment settings were examined from self-help groups to inpatient treatment.

Arrestee Criminal History

Arrestees were asked about their previous arrests, both during their lifetime and during the past 12 months and time spent in jail or other correctional facilities.

ADAM Results From King County and Spokane County

This report also contains results from the two Washington State ADAM sites, King County and Spokane County, that are presented for comparison with the Snohomish County data.

The King County and Spokane County results included in this report represent the latest available ADAM data. These data are from the year 2001 through the first two quarters of 2002.

Weighting the Interviews for Analysis Using Jail Booking Data

The purpose of the survey is to provide information not simply about the arrestees that were interviewed but about the entire population served by Snohomish County. In order to accomplish this, data were weighted according to characteristics of all arrestees booked in Snohomish County. The weights used in Snohomish County are presented in **Appendix A**. All analyses presented in this report utilize weighted data. Because of this practice, the number of arrestees represented by each interview represents a non-integer value. At times in this report, it may appear that the percentages described are not correct given the number of arrestees responding to a particular item. It should be kept in mind that these apparent discrepancies may be resolved by recalling that each interview has been weighted to represent a certain number of arrestees.

Data from King County and Spokane County are also weighted to reflect their respective booking populations.

Statistical Analyses Used

The majority of the analyses in this report involve comparing percentages across groups. Statistics like frequencies, percentages, and averages are called **descriptive statistics** because they describe or summarize the data. When we say, for example, that arrestees in Snohomish County reported an average physical health score of 2.77 and an average mental health score of 2.97, we are describing the sample, thus these are descriptive statistics. While these are certainly useful as a way to understand and conceptualize data, another class of statistics, called **inferential statistics**, are also frequently employed in this report. Inferential statistics allow for *inferences* to be made about the entire population based upon the collected sample data. In the case of the example of physical and mental health listed above, an inferential statistic (in this case a one sample t-test) can be used to determine whether or not the self-assessment of physical health by Snohomish County arrestees differs from their self-assessment of mental health. In this specific case, the value of the t-test is indeed significant, $\underline{t}$ (512) = 4.11, $\underline{p}$ < .001. By applying the correct inferential statistic to the question we are able to state, with a high degree of certainty, that the two scores are significantly different from one another.

The most commonly used inferential statistic used in this report is the chi-square (χ^2) test of independence. Given that this statistic is listed throughout the report, **Appendix B** provides a brief description and explanation of the statistic and how it is interpreted.

SECTION II

Arrestee Participation in the SCASA Study

Looking Glass Analytics initiated arrestee interviews on November 12, 2002, with the goal of obtaining 500 interviews and urine samples. For most questions responded to by the entire sample, the confidence interval around an estimate based on 500 interviews will be +/- 7 percent or better. That is, one can state with 95% confidence (or a 19 in 20 chance) that the true mean of the population of all arrestees who would be eligible for this survey lies within +/- 7 percent of the estimated mean. In a survey designed to quantify basic characteristics of a population, such as the SCASA, this will be satisfactory for most single item responses (i.e., the percent of arrestees who test positive for methamphetamine) and many two-item crosstabluations (i.e., the percent of arrestees who test positive for methamphetamine by age group). This total was achieved after 47 days of interviewing, and a final total of 512 completed interviews and urine samples were obtained by January 23, 2003. **Appendix C** contains a chart documenting this progress.

In all, 1014 arrestees were identified from their booking records as meeting eligibility requirements to participate in the study. In order to be eligible, arrestees had to have been arrested in the past 48 hours, and they could not have been transferred from another institution. Bookings for additional charges on inmates already in custody, arrestees that were booked and released before they could be approached for interview, or arrestees that were booked to serve time (i.e., court commitments, weekenders, etc.) were also not eligible.

Once identified as meeting eligibility requirements, interviewers attempted to interview the inmate. These efforts were met with the following three outcomes (Figure 2.1): (1) Arrestee agrees to the interview (58%), (2) Arrestee refuses to participate (19%), and (3) Arrestee is unavailable to participate in the interview (23%).

Figure 2.1: **Interview Status for Those Arrestees Meeting Eligibility Requirements (N = 1014)**

Legend
■ Agree (n = 579)
□ Refuse (n = 197)
▨ Not Available (n = 238)
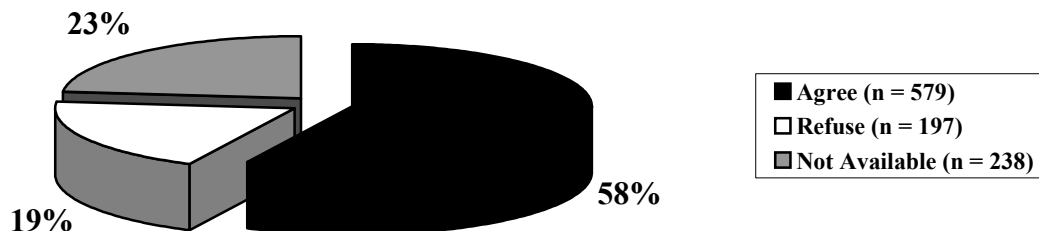
Arrestees Not Available for Interview

Even if an arrestee is selected to be interviewed, a number of circumstances exist in correction environments that prohibit interviewers from approaching all eligible arrestees (Table 2.1). Two-thirds of those who could not be approached were due to the release or transfer of the inmate from the facility before the interview could be conducted.

Table 2.1: **Reasons Interviewers Were Unable to Approach Arrestees**

Reason	N	%
Released	116	48.7
Violent/Uncontrollable	42	17.7
Language*	13	5.5
Transferred	8	3.4
Medical Unit	8	3.4
Sick	6	2.5
All Other	45	18.9
Total	**238**	

* Computerized interview was available in an English version only.

- In Snohomish County, approximately 66% of unavailable arrestees were due to arrestees being released or transferred before the interview could be conducted.

- In the King County ADAM site, approximately 58% of unavailable arrestees are due to arrestees being released or transferred.

- In the Spokane County ADAM site, approximately 60% of unavailable arrestees are due to arrestees being released or transferred.

Reasons for Refusal

A total of 197 arrestees approached to participate in the interview refused. By far, the most commonly stated reason for refusing to participate in the interview was that the arrestee simply did not want to participate ($\underline{n} = 180$, 91.4%).

- This pattern was quite similar to that found among the King County ADAM interviews where 91.4% of the refusals were because the arrestee did not wish to participate.

- Similarly, refusals at the Spokane County ADAM site were attributed overwhelmingly to an arrestee not wanting to participate (97.6%).

- Characteristics of arrestees that refused to participate in the interview are presented in **Appendix D**.

Completion of Interview and Obtaining Urine Samples

A description of the interview procedure was read to arrestees prior to the initiation of the interview. At this time, arrestees were told that they would be asked for a urine sample that would be used for drug testing at the end of the interview.

- 90% of arrestees who participated in the interview provided a urine sample.
- Only 6% of all arrestees who agree to participate in the interview refused outright to provide a urine sample.
- In rare instances, arrestees were unable to complete the interview or provide a urine sample due to other reasons (e.g., released, sick, etc.).

Figure 2.2: **Outcome of Request for Urine Sample in Snohomish County (N = 569)**
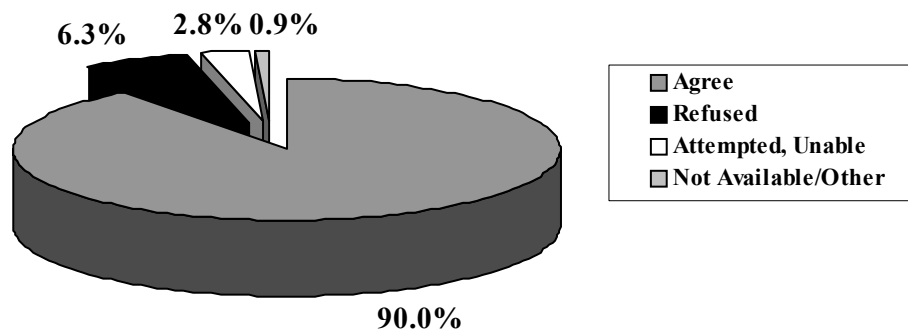
Comparison of Participation Rate with King County and Spokane County ADAM Sites

Participation rates are calculated by dividing the number of arrestees who agree to the interview by the total number of arrestees that interviewers are able to speak with.

Table 2.2: **Interview Participation Rate in Snohomish County and Washington ADAM Sites**

	Snohomish County	King County	Spokane County
Agree	**579**	1288	436
Refuse	**197**	567	125
Participation %	**74.6%**	69.4%	77.7%

- Participation in the Snohomish County project was quite good (74.6%) and comparable to the rates found in both King and Spokane Counties.

SECTION III

Demographic Characteristics of Respondents

Demographic characteristics of arrestees interviewed in the SCASA study are presented in this section. Many of these variables are crosstabulated with measures of substance use and abuse later in the report. Comparisons are also made to the King County and Spokane County ADAM sites where possible.

Age

In subsequent analyses, results are presented by three primary age groups: 18 to 24, 25 to 34, and 35+. The distribution of arrestee ages for Snohomish County, as well as the King and Spokane County ADAM sites, is described below (Table 3.1):

Table 3.1: **Age Distribution of Arrestees**
Participating in Interview Across Washington Sites

Age Group	**Snohomish County (N* = 567)**	King County (N = 1283)	Spokane County (N = 435)
18-24	**30.2%**	29.2%	35.1%
25-34	**31.7%**	29.5%	27.9%
35+	**38.1%**	41.3%	37.1%

*As weighted data are used for all analyses, Ns are approximate and rounded to the nearest whole number.

- Arrestees interviewed in Snohomish County ranged in age from 18 to 66.

- The average age of arrestees was 31.8 (SD = 9.9).

- The average age of Snohomish County arrestees did not differ significantly from the average age at the King County (M = 32.5) or Spokane County (M = 30.9) sites.

Race and Ethnicity

Arrestees were asked to describe the race group or groups that described them best from the following list: White, Black or African American, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, Asian, and Other.

Identification of arrestees of Hispanic ethnicity was dependent upon one additional question:

- "Are you of Hispanic or Latino origin or background?"

- Arrestees who indicated "yes" to this question were coded as Hispanic

- This classification was made even in instances where arrestees endorsed another racial group from the above choices (most commonly this was White). That is, Hispanics are classified as such to their mutual exclusion from other race groups.

Statistically significant differences between sites were found in the racial composition of arrestees (Table 3.2).

Table 3.2: **Racial Distribution of Arrestees
Participating in Interview Across Washington Sites**

Race	**Snohomish County** **(N = 568)**	King County (N = 1259)	Spokane County (N = 422)
White	**81.9%**	45.2%	72.3%
African American	**7.8%**	25.9%	6.9%
Hispanic	**5.1%**	10.7%	7.2%
Other	**5.2%**	18.2%	13.8%

- The proportion of White arrestees interviewed were statistically different across sites.[1] A greater percentage of White arrestees were interviewed in Snohomish and Spokane Counties compared with King County.

- Similarly, the proportion of African Americans was statistically different across the three sites.[2] A greater percentage of African Americans were interviewed in King County.

- The proportion of Hispanic arrestees was statistically different across groups[3] with a greater proportion being interviewed at the King County site. No significant difference in the percentage of Hispanics interviewed was found between sites Snohomish and Spokane Counties.

Other Ethnic Groups

In addition to the more commonly reported ethnic groups (White, African American, Hispanic), arrestees reported a number of other racial backgrounds (see Table 3.3).

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[1] $\chi^2 = 256.18$, df = 2, $p < .0001$
[2] $\chi^2 = 131.64$, df = 2, $p < .0001$
[3] $\chi^2 = 17.32$, df = 2, $p < .001$

Table 3.3: Distribution of Other Racial Groups in Snohomish County (N = 29)

Race	Percentage
Native American	34.5
Asian American	10.7
Hawaiian/Pacific Islander	13.5
Multiple	15.9
All Others	23.5

- Over 1/3 of arrestees coded as "Other" reported they were Native American.

- Arrestees reporting multiple races accounted for the next largest portion coded as "Other."

Country of Birth

- Almost all (94.7%) arrestees reported being born in USA.

- Approximately one-half of those not born in USA (53.4%) now report being U.S. citizens

Figure 3.1: Percent of Snohomish County Arrestees Born in the United States
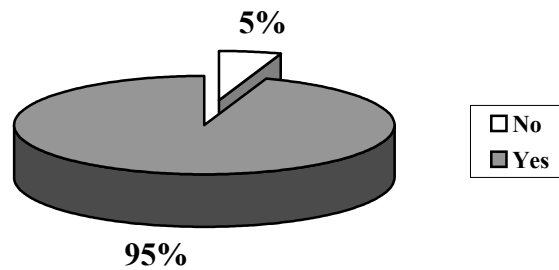
Residence

Arrestees were asked to indicate the type of residence they had lived in during the majority of the time during the past month.

Table 3.4: **Types of Residence During Past 30 Days by Site**

Residence Type	**Snohomish County (N = 564)**	King County (N = 1253)	Spokane County (N = 420)
House/Apartment	**85.6%**	77.4%	85.2%
Residential Hotel	**3.2%**	4.7%	2.5%
Hospital	**0.2%**	0.6%	1.0%
Jail	**1.6%**	2.4%	2.8%
Shelter	**0.9%**	2.5%	-
Homeless	**6.4%**	11.5%	8.1%
Other	**2.0%**	1.0%	0.5%

- Arrestees most commonly reported living in a house or apartment.
- While far less common, being homeless was the second most frequently reported residence at all sites.

Education

Arrestees were asked to indicate the highest level of educational that they had obtained.

- Almost 2/3 of Snohomish County arrestees had no more than a high school diploma or GED, and more than 1/5 of all arrestees lacked any degree.

Table 3.5: **Education Level of Arrestees by Site**

Education Level	**Snohomish County (N = 566)**	King County (N = 1261)	Spokane County (N = 422)
No Degree	**23.9%**	21.4%	22.7%
HS/GED	**41.4%**	40.2%	41.5%
Vocational/Trade School	**10.7%**	6.3%	6.3%
Some College	**19.7%**	26.1%	26.2%
Four-Year Degree +	**4.3%**	6.1%	3.4%

- No significant difference in the percentage of arrestees receiving their high school diploma (or better) was found between sites.[4]

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[4] $\chi^2 = 1.51$, df = 2, p = .47

Figure 3.2: **Highest Grade Completed Among**
Snohomish County Non-High School Graduates (N = 135)
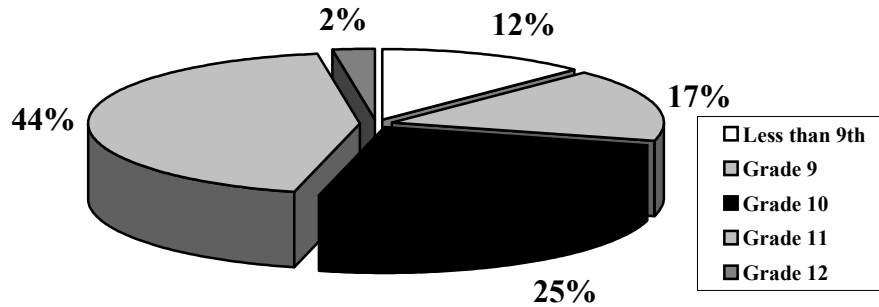
- Twelve percent of arrestees who reported not graduating from high school reported receiving less than a ninth grade education.

- Over half of arrestees (54%) who reported not graduating from high school reported receiving a tenth grade education or less.

Marital Status

Arrestees were asked to describe their "most recent marital status":

Table 3.6: **Most Recent Marital Status by Site**

Marital Status	Snohomish County (N = 565)	King County (N = 1284)	Spokane County (N = 435)
Single, Never Married	60.6%	66.6%	58.0%
Divorced	16.8%	15.5%	21.7%
Legally Separated	3.9%	4.1%	5.1%
Widowed	0.7%	1.1%	1.0%
Married*	18.1%	12.7%	14.2%

* Can include common-law marriages.

- Majority of arrestees at all three sites report never being married.

- Being single was <u>not</u> independent of site.[5] Instead, significantly more arrestees reported being single in King County than at the other two sites.[6]

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[5] $\chi^2 = 13.10$, df = 2, <u>p</u> < .01
[6] $\chi^2 = 13.90$, df = 1, <u>p</u> < .001

- Similarly, reports of being currently married were not independent of site.[7] Significantly more arrestees in Snohomish County reported being married than at the other two sites.[8]

- Marital status was not independent of age.[9] As shown in Table 3.7, younger arrestees were more likely to be single and older arrestees were more likely to be married.

Table 3.7: **Marital Status by Age Group in Snohomish County Arrestees**

Marital Status	Age			
	18-24	25-34	35+	Total
Single, Never Married	27.7%	18.7%	14.2%	60.6%
Divorced	0.2%	5.6%	11.1%	16.8%
Legally Separated	0.0%	1.9%	2.0%	3.9%
Widowed	0.0%	0.2%	0.4%	0.7%
Married	2.4%	5.2%	10.5%	18.1%
Total	30.3%	31.6%	38.6%	

Children

Arrestees in Snohomish County were asked to indicate the number of children for whom they had primary care responsibilities.

- Most arrestees (71.3%) reported that they did not have any children

- Of those who did, the average number of children was two ($\underline{M} = 2.10$, $\underline{SD} = 1.21$).

Employment

Arrestees were asked to describe their current work status.

- Approximately 1/2 (51.2%) of Snohomish County arrestees indicated they had full- or part-time employment

- Approximately 1/3 were unemployed.

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[7] $\chi^2 = 13.10$, df = 2, $\underline{p} < .01$
[8] $\chi^2 = 8.81$, df = 1, $\underline{p} < .01$
[9] $\chi^2 = 123.92$, df = 8, $\underline{p} < .001$

Table 3.8: **Work Status by Site**

Type of Work	Snohomish County (N = 564)	King County (N = 1283)	Spokane County (N = 436)
Full Time (>35hrs/wk.)	**37.3%**	38.6%	38.8%
Part Time	**13.2%**	14.2%	5.9%
Military Service	**0.7%**	0.1%	1.0%
Seasonal Work Only	**2.4%**	2.8%	6.2%
Unemployed	**34.5%**	31.7%	33.3%
Disabled	**6.6%**	6.5%	10.7%
All Others*	**5.3%**	6.1%	4.1%

Other types of employment included being on strike or involved in another form of labor dispute, retirement, full-time student, and homemaker. In Snohomish, each of these accounted for less than 1% of total employment status.

Arrestee Income

Arrestees were asked one question about their income. They were asked to provide an estimate of their total income during the past 12 months.

- The median income reported among Snohomish County arrestees was $18,000.
- No significant difference in average annual income was found between racial groups.[10]

Table 3.9: **Income Distribution of Snohomish County Arrestees by Race**

Annual Income	Overall (N = 510)	Race			
		White (N = 424)	African American (N = 34)	Hispanic (N = 26)	Other (N = 26)
0 - $14,999	41.9%	40.5%	53.6%	51.0%	40.0%
$15,000 - $29,000	31.4%	31.3%	35.3%	29.7%	29.5%
$30,000 - $59,999	20.1%	20.7%	8.3%	17.9%	27.3%
$60,000 +	6.7%	7.5%	2.7%	1.4%	3.3%

Arrestee Health Coverage and Health

Arrestees were asked whether they were covered by health insurance, the source of their health coverage, and about their physical and emotional health

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[10] $p = .51$

Figure 3.3: **Percent of Arrestees Reporting Currently Covered by Health Insurance**

37%

63%

☐ No
■ Yes
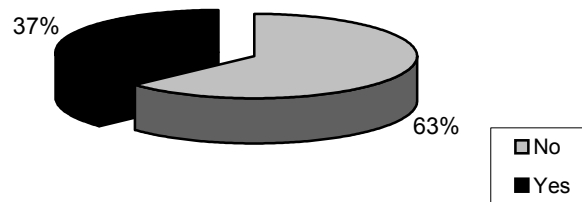
- Close to 2/3 of arrestees in Snohomish County (63%) reported not having any health insurance coverage

- Absence of health coverage was quite similar in both King (65.8%) and Spokane (62.1%) Counties.

Table 3.10: **Source of Health Insurance Among Arrestees Across Sites**

Insurance Type	Snohomish County (N = 206)	King County (N = 420)	Spokane County (N = 160)
Employer	50.2%	48.2%	38.1%
State Government	30.3%	30.2%	40.6%
Individually Purchased	8.3%	11.2%	11.0%
Disability	4.2%	7.9%	8.0%
Other	6.9%	2.6%	2.2%

- Of those with health insurance, most in Snohomish County and King County received it from their employer, while Spokane County had more coverage from government programs.

Physical and Emotional/Mental Health

Arrestees were asked to rate both their general physical and emotional health on 5-point scales (Excellent – 1, Very Good – 2, Good – 3, Fair – 4, Poor – 5)

- Average score for physical health was 2.77 ($\underline{SD}$ = 1.13)

- Average score for emotional/mental health was 2.97 ($\underline{SD}$ = 1.25)

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- Arrestees reported significantly better physical health than emotional/mental health.[11]

Table 3.11: **Snohomish County Arrestee Reports
of General Physical and Emotional Health**

	Physical (N = 513)	Emotional/Mental (N = 513)
Excellent	15.8%	16.3%
Very Good	22.6%	16.6%
Good	38.3%	33.5%
Fair	15.7%	20.4%
Poor	7.6%	13.3%

Comparison With National 2001 ADAM Data

Appendix E compares the sociodemographic characteristics of the Snohomish County site with ADAM sites in the Northwest and with average characteristics across all ADAM sites. These ADAM data are limited to 2001.[12]

Summary of Demographic Characteristics of Snohomish County Arrestees

- Average age of arrestees was approximately 32.

- Arrest population largely White (81.9%).

- Majority of arrestees (85.6%) live in houses or apartments.

- Almost two-thirds (65.9%) of Snohomish County arrestees had no more than a high school or GED and more than one-fifth of all arrestees lacked even that.

- Most arrestees never married (60.6%), and most do not care for any children (71.3%).

- About half of arrestees (51.2%) reported being employed.

- Majority of arrestees (63%) do not have health coverage.

While quite similar to King and Spokane Counties in most respects, the Snohomish County population is more racially homogenous—particularly in comparison to the King County population.

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[11] $\underline{t}$ (512) = 4.11, $\underline{p}$ < .001

[12] The ADAM program determines race differently than it is determined in this report. ADAM classifies an arrestee as White when they indicate that they are White and they also indicate that they are of Hispanic background. In this report, that same arrestee would be classified as Hispanic. This accounts for the greater number of Hispanics at the King and Spokane County sites indicated throughout this report compared with the 2001 ADAM data in Appendix E.

SECTION IV

Drug Use Among Arrestees

Information on arrestee drug use is gathered using two different sources of data, laboratory urinalysis testing, and arrestee self-report.

An extensive series of questions about arrestee use of alcohol and illicit substances coupled with the urinalysis tests allow this project to examine patterns in both recent substance use as well as in more distal substance use.

Among other questions, arrestees were asked to indicate whether they had ever used substances, whether they had used substances in the past year, and whether they had used substances in the past 30 days:

- "Have you ever used any…"

- "Did you use any _____ in the past 12 months…"

- "Please tell me your best estimate of the number of days you used _____ during the past 30 days."

Moderate alcohol consumption was **<u>not</u>** of interest. Instead, alcohol use focused on **binge drinking behaviors**—specifically drinking five or more drinks of alcohol (including beer, wine, or any other type of alcohol) on the same day.

Arrestees were asked specifically about five primary illicit substances. While arrestees were asked about the use of "other" substances, the majority of substance use questions focused on the five.

The following were the primary illicit substances focused on by this study:

- **Marijuana or Hashish**
- **Crack or Rock Cocaine**
- **Powder Cocaine**
- **Heroin**
- **Methamphetamine (like Crystal Meth)**

Analysis of substance use among arrestees is organized by different substance types. Overall use of the substance as well as association of the substance with different demographic characteristics are presented. First, associations of arrestee alcohol use are considered. Second, discussion will focus on arrestee use of any illicit substance. Third, discussion will focus on arrestee use of multiple illicit substances. Fourth, discussion will focus on arrestee use of each of marijuana, crack cocaine, powder cocaine, heroin, and methamphetamine. Last, discussion will focus on use of other illicit substances.

Urinalysis Drug Testing

The Snohomish County project, like the ADAM project, uses an immunoassay, EMIT (Enzyme Multiplied Immunoassay Testing) system to screen for the presence of drugs in urine. EMIT tests have been shown to be one of the most consistently accurate drug testing methods, with greater than 95% accuracy and specificity for most drugs.

An immunoassay is a test that uses antibodies to detect the presence of drugs and other substances in urine. Each immunoassay is designed to detect one particular drug or drug class. In some cases, the EMIT assay detects the drug itself, while in other cases the assay detects the metabolites of the drug. Metabolites are compounds that result from the breakdown of a drug by the body. This is an important distinction to note. For example, there is no specific EMIT assay for heroin. Instead, EMIT detects metabolites common to heroin and other opiates, including codeine. This means that EMIT is general to the opiate group and not specific to heroin.

Drug testing conducted in this project represent a proximal measure of use for most substances. In general, substances must have been used within the past week to be detected. The primary exception to this is in the case of marijuana where the detection period can range up to a month.

- **Note**. A positive urine test does **not** mean the arrestee was under the influence at the time of arrest or when committing a crime, only that he used the substance recently.

Table 4.1: **Cutoff Values and Detection Period for NIDA-5 Drugs**

Drug	Cutoff Value	Detection Period
Marijuana	50 ng/ml	7 days for infrequent user, 30 days for frequent user
Cocaine	300 ng/ml	2-3 days
Opiates	300 ng/ml	2-3 days
PCP	25 ng/ml	3-8 days
Methamphetamine	300 ng/ml	2-4 days

Table 4.2: **Cutoff Values and Detection Period for Other Drugs Tested**

Drug	Cutoff Value	Detection Period
Amphetamines	1000 ng/ml	2-4 days
Barbiturates	300 ng/ml	3 days
Benzodiazepines	300 ng/ml	Up to 14 days
Methadone	300 ng/ml	2-4 days
Methaqualone	300 ng/ml	Up to 10 days
Propoxyphene	300 ng/ml	3-7 days

- **Appendix F** contains a brief description of each of these drug types and, in the instance of drug class, lists the drugs that will result in a positive screen.

- **Appendix G** summarizes the urinalysis results of NIDA-5 drug use across the three sites.

Substance Use in Past 30 Days

The SCASA survey differs from the ADAM questionnaire in how substance use during the past 30 days is determined. ADAM asks all arrestees to indicate whether or not they have used substances in the past 30 days. The computerized interview used in the SCASA Study does not ask about monthly use of substances when arrestees deny using them during the past year. Arrestees who denied use during the past year were also coded as not using the substance during the past 30 days. Those arrestees who report using a substance during the past year are asked to describe the number of days out of the past 30 that they have used that substance. Any reports of one day or more were coded as positive for use in the past 30 days.

Substance Use in Past Year

Substance use in the past month was elicited by questions asking whether arrestees had used specific substances within the past 12 months. Arrestees were further given an "anchor" month ("that is between now and _____") to help define the boundary of 12 months for the arrestee.

Lifetime Use of Substances

Lifetime use was elicited by questions asking whether arrestees had **ever** used specific substances.

Using Urinalysis Results to Test Validity of Self-Reports

Results of urinalysis tests were used to validate arrestee self-reports of drug use. **Generally, arrestee reports of drug use appear quite good.**

One problem, of course, with using self-reports of drug use behavior is that arrestees may not be telling the truth about their use. Pressures to deny use may be particularly high for arrestees given that that they have recently been arrested. Despite reassurances of confidentiality, arrestees may be fearful that admitting to illicit drug use may further complicate their legal difficulties.

It is possible to use results from urinalysis tests to provide a test of the validity of arrestee reports of drug use behaviors. Although not perfect, this test can be accomplished by looking at positive test results and comparing these with responses given by arrestees.

The relative short nature of the drug detection periods means that, in order to be detected, a substance would have to have been used in the past 30 days. By examining the self-reports of past 30-day use for those who tested positive for substances, the number of arrestees that were being truthful can be approximated.

Table 4.3: Percent of Arrestees in Snohomish County Who Tested Positive for Substance and Reported Using that Substance in Past 30 Days

Substance	% Agreement
Marijuana (N = 205)	88.9
Cocaine (N = 95)	65.4
Methamphetamine (N = 101)	76.7
Heroin (N = 45)	100.0

- Generally, agreement between self-report and UA results were quite high.

- As seen in Table 4.3, all who tested positive for opiates reported using heroin in the past 30 days.

- The lowest agreement between self report was for cocaine. For this substance, less than 2/3 of arrestees who tested positive admitted to use in the past year. As the EMIT test cannot discriminate between crack and powder forms of cocaine this cannot be broken down further.

- There are a couple of limitations to this validity check that should be noted.

  - UA results cannot be used to check self-reports of behaviors over longer periods of time. If anything, however, it is reasonable to assume that arrestees would be less likely to admit illegal behaviors committed more recently than to deny more distal substance use.

  - Another limitation is that this test cannot address whether arrestees falsely report substance use. Here, the brief detection period of the various substance works against the problem. It is possible that arrestees used a substance within the past 30 days but not within the detection period.

Results of Arrestee Substance Use

Tables 4.4 through 4.11 describe the percentage of arrestees who used alcohol and other, illicit, substances. These percentages are listed by each of the three Washington sites, Snohomish, King, and Spokane Counties. In addition to describing overall use of each substance, results are also presented by many of the demographic groups described in Section III. As some categories of demographic groups were quite small, some of the categories of demographic variables were collapsed or excluded in these analyses. The changes made to the demographic variables are:

- **Marital Status:** This variable was reduced to three categories. Divorced and legally separated were combined to form one category. Single, never been married, and married made up the other two categories. Those arrestees who indicated they were widowed were excluded from these analyses.

- **Residence Type:** This variable was collapsed to include just the two largest categories—house/apartment and homeless. Arrestees indicating any other form of residence were excluded from these analyses.

- **Employment Status:** This variable was collapsed to form just two categories—employed and unemployed. Arrestees indicating that they were employed full-time, part-time, or serving in the military were coded as employed. Those arrestees who indicated they were unemployed and looking for work, unemployed and not looking for work, disabled from work, or worked seasonal work only (but currently were not working) were all coded as unemployed. All other arrestees were excluded from these analyses.

Alcohol

Table 4.4 presents a comprehensive account of binge drinking among Snohomish County arrestees. In addition to describing overall rates of alcohol use, this table also describes substance use across different demographic groups. ADAM data on alcohol use in both the King County and Spokane County sites are also presented for comparison.

Below is a summary of the findings in this table:

- Regardless of the site, **over 1/2 of arrestees** reported consuming 5 or more drinks of alcohol on the same day **during the past month**.

- **Roughly 2/3 of arrestees**, across all sites, reported consuming 5 or more drinks of alcohol on the same day **during the past 12 months**.

- **Approximately 9 out of 10 arrestees**, regardless of site, indicated they had **ever** drank 5 or more drinks of alcohol on the same day.

Age

- While the percentage of arrestees consuming 5 or more drinks on the same day during the past year did not differ among the three age groups, there was a small but significant correlation between age and binge drinking in the past year. Specifically, among Snohomish County arrestees, **arrestee age is negatively correlated with binge drinking behaviors during the past year**.[13] That is, younger arrestees are significantly more likely to have consumed 5 or more drinks on the same day **during the past year** than are older arrestees.

- This pattern appears consistent across all three sites.

- Among Snohomish County arrestees, **arrestee age was positively correlated with lifetime binge drinking** behaviors.[14] That is, older arrestees are significantly more likely to have consumed 5 or more drinks on the same day during their lifetime than are younger arrestees. Here significant differences were observed between lifetime binge drinking and age groups.[15]

Race

- Among Snohomish County arrestees, reports of **lifetime** binge drinking are significantly different among racial groups.[16]

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[13] $\underline{r} = -.10, \underline{p} < .01$
[14] $\underline{r} = .16, \underline{p} < .001$
[15] $\chi^2(2, \underline{N} = 562) = 14.17, \underline{p} < .001$
[16] $\chi^2(3, \underline{N} = 562) = 17.31, \underline{p} < .001$

- Post hoc examination revealed that Whites were more likely to report **ever** engaging in binge drinking behavior compared to arrestees from all other racial groups.[17]

Education

- Arrestee reports of consuming 5 or more drinks on the same day was independent of level of education. This finding was consistent regardless of the time frame of the self-report.

Marital Status

- Among Snohomish County arrestees, self-reports of consuming 5 or more drinks in the past year were significantly different between marital status groups.[18] Arrestees who were married were less likely to report drinking 5 or more drinks during the past year.

- The relationship between marital status and binge drinking was similar in both King and Spokane Counties.

Residence Type

- Drinking behaviors appeared similar regardless of housing situation.

Employment Status

- Drinking behaviors appeared similar regardless of employment status.

Income

Data on arrestee income are **not** part of the ADAM questionnaire and were collected only in Snohomish County. Income analyses examine the relationship of arrestee annual income with self-report of alcohol use in the past month and in the past year.

- Arrestee reports of consuming 5 or more drinks of alcohol in a single day **during the past month** were independent of income level.[19]

- Similarly, arrestee reports of consuming 5 or more drinks of alcohol in a single day **during the past year** were independent of income level.[20]

These results suggest that binge drinking behaviors are as likely to occur in arrestees of one income group as in other income groups.

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[17] $\chi^2 (1, \underline{N} = 562) = 14.54, \underline{p} < .001$
[18] $\chi^2 (2, \underline{N} = 557) = 9.42, \underline{p} < .01$
[19] $\chi^2 (3, \underline{N} = 510) = 5.03, \underline{p} = .17$
[20] $\chi^2 (3, \underline{N} = 510) = 4.05, \underline{p} = .26$

Figure 4.1: **Arrestee Reports of Binge Drinking Behaviors by Income Group**
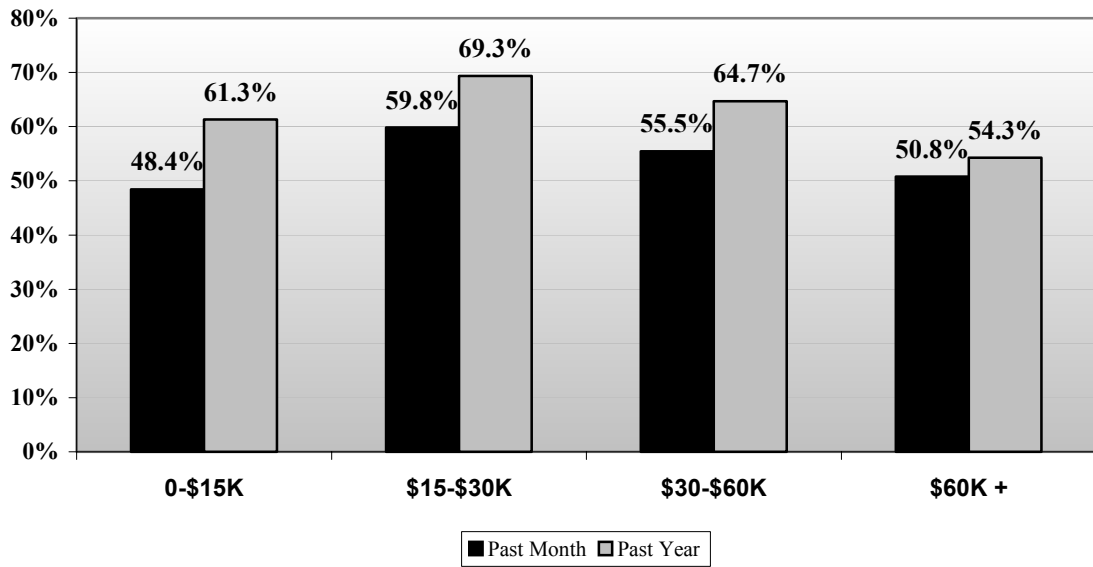
Table 4.4: **Percent of Arrestees Using Alcohol by Demographic Groups, Site, and Reporting Period**

	Past 30 Days			Past Year			Lifetime		
	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County
Overall Use	52.6	52.5	58.6	63.8	64.0	70.5	90.7	89.0	91.8
Age									
18-24	53.0	51.9	63.8	69.2	69.4*	78.3*	84.3*	87.3	88.3
25-34	54.2	56.4	54.4	64.9	66.1	69.9	91.0	89.4	93.6
35+	51.1	50.0	56.6	58.5	58.6	63.7	95.5	90.2	93.7
Race									
White	53.8	55.0	57.6	64.8	65.9	70.8	92.9*	94.5*	93.0*
Black	40.8	48.7	41.6	53.3	60.4	56.3	76.8	81.3	70.4
Hispanic	53.1	50.4	64.6	61.7	65.0	72.8	79.9	85.2	93.3
Other	51.3	52.6	68.8	65.6	63.5	75.2	85.3	88.7	95.6
Education									
No Degree	52.8	51.8	66.3*	62.9	60.9	80.9*	86.0	90.0	93.0
HS/GED	54.4	51.2	60.5	65.7	62.9	73.1	91.0	87.3	92.5
Voc./Trade School	52.2	61.4	66.0	64.2	70.1	73.9	96.2	94.9	100.0
Some College	51.4	55.2	50.3	63.3	67.7	59.0	93.1	90.4	88.3
4 Year Degree +	41.3	42.9	34.3	51.9	60.1	53.5	88.6	85.3	86.0
Marital Status									
Single	54.2	54.0*	65.5*	68.3*	66.1*	78.7*	90.2	89.0	92.3*
Divorced/Separated	52.8	53.3	54.3	58.8	63.1	65.9	95.4	90.0	97.5
Married	45.5	42.7	41.1	52.9	53.7	49.1	86.5	89.6	77.9
Residence Type									
House/Apartment	50.9	54.0	57.4	62.1	65.7*	69.5	89.8	90.2*	91.3
Homeless	63.0	45.9	56.2	66.3	51.6	71.9	95.4	84.4	93.8
Employment Status									
Employed	53.5	54.6	63.4	63.0	64.6	71.3	89.6	88.8	90.9
Unemployed	52.4	50.7	54.7	64.9	63.4	70.2	91.4	89.5	92.5

Alcohol use not tested for with urinalysis assay.

*Within site differences statistically significant at p < .05.

Any Illicit Substance

Table 4.5 presents a comprehensive account of any illicit substance use among Snohomish County arrestees. In addition to describing overall rates of use, this table also describes any illicit substance use across different demographic groups. ADAM data on illicit substance use in both the King County and Spokane County sites are also presented for comparison.

Below is a summary of the findings in this table:

- **Almost 3/4 of arrestees** in the Snohomish County jail **tested positive** for an illicit substance.

  - **Testing positive for any substances was statistically dependent upon site**.[21] This indicates significant differences between sites in the percentage testing positive for any substance. King County arrestees were more likely to test positive for any illicit substances than were arrestees at either Snohomish or Spokane Counties sites.

- Regardless of site, **well over 1/2 of arrestees** reported using an illicit substance **during the past 30 days**.

- Dependent upon the site, between 2/3 and 3/4 of arrestees reported using any illicit substance **in the past 12 months**.

- Regardless of site, **approximately 90% of arrestees reported ever using any illicit substance**.

Age

- In Snohomish County, younger arrestees were more likely to test positive for illicit substances and to report using substances in the past 30 days and during the past year. However, no differences were found between age groups when lifetime reports of substance use were considered.

Race

- Use of any illicit substance appeared to be largely independent of racial group in the Snohomish County sample. However, when lifetime use of any illicit substance was considered, racial differences were found.[22] Here, reports of lifetime use were lowest among Hispanics and highest among whites.

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[21] $\chi^2(2, \underline{N} = 2241) = 6.64, \underline{p} < .05$
[22] $\chi^2(3, \underline{N} = 563) = 15.66, \underline{p} < .01$

Education

- In Snohomish County, positive **urinalysis results were dependent on education level**.[23] That is, positive results differed by levels of education. Those arrestees reporting they had a college education were less likely to test positive for any illicit substance.

- Similarly, in Snohomish County, **education level was dependent upon self-reports of any illicit substance use** (in past 30 days, past year, and lifetime).

Marital Status

- Among Snohomish County arrestees, testing positive for any illicit substance was dependent upon marital status.[24] Fewer arrestees that were married tested positive for illicit substances.

- Similarly, self-reports of any illicit substance use among Snohomish County arrestees was dependent upon marital status. Again, fewer married arrestees reported using any illicit substances. (Note, differences between marital status did not achieve statistical significance for lifetime reports of any illicit substance).

- This pattern appears consistent across sites.

Residence Type

- In Snohomish County, no significant differences were found in the percentage of arrestees testing positive for any illicit substance between residence type.

Employment Status

- Fewer Snohomish County arrestees who were employed tested positive for any illicit substance compared with those arrestees who were unemployed.[25]

- Similarly, fewer Snohomish County arrestees who were employed reported using any illicit substance than did those who were unemployed.

- Similar patterns were found in King County but not in Spokane County.

Income

Data on arrestee income are **not** part of the ADAM questionnaire and were collected only in Snohomish County. Income analyses examine the relationship of arrestee annual income with arrestee use of any illicit substances.

- Arrestees testing positive for any illicit substance was independent of income level.[26]

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[23] $\chi^2(4, \underline{N} = 517) = 12.52, \underline{p} < .05$
[24] $\chi^2(2, \underline{N} = 513) = 12.15, \underline{p} < .01$
[25] $\chi^2(1, \underline{N} = 504) = 4.76, \underline{p} < .05$
[26] $\chi^2(3, \underline{N} = 471) = 3.77, \underline{p} = .29$

- However, arrestee reports of using any illicit substance **during the past year** was dependent upon income level.[27]

These results provide **mixed support** for the relationship between use of any illicit substance and arrestee income. There was a statistically significant relationship between reports of illicit substance use during the past year and annual income. As shown in Figure 4.2, as income increased, the percentage of arrestees reporting using any illicit substance in the past year decreased.

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[27] $\chi^2(3, \underline{N} = 510) = 8.05, \underline{p} < .05$

Figure 4.2: **Arrestee Use of Any Illicit Substance by Income Group**
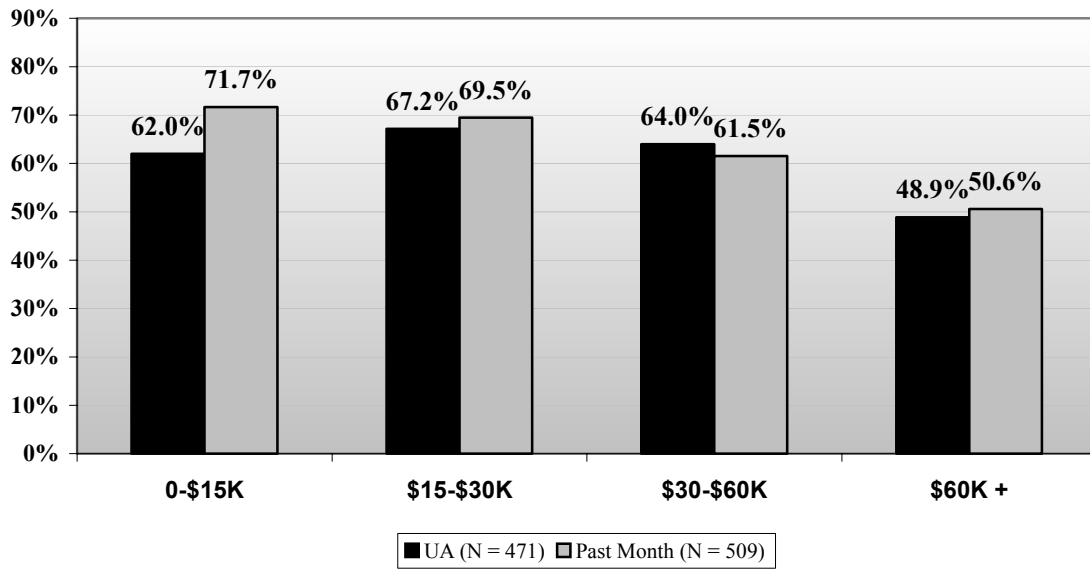
Table 4.5: **Percent of Arrestees Using Any Illicit Substance by Demographic Groups, Site, and Reporting Period**

	Urine			Past 30 Days			Past Year			Lifetime		
	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County
Overall Use	73.6	68.4	63.3	59.1	66.4	64.3	67.5	73.6	75.1	89.3	89.1	91.6
Age												
18-24	72.7*	68.9	66.8	70.9*	71.7*	70.4*	78.8*	78.4*	84.3*	91.3	89.0	88.7
25-34	62.3	68.2	68.2	59.5	64.6	67.4	69.0	73.1	78.6	88.8	90.4	94.5
35+	55.9	68.2	56.2	49.2	64.3	56.1	57.1	71.0	63.7	88.1	88.7	92.1
Race												
White	63.4	69.9*	62.3	59.7	69.6*	63.3	68.5	75.5*	74.3	91.1*	92.5*	91.9
Black	62.8	76.1	70.2	56.4	70.8	63.4	64.4	79.1	73.1	84.3	91.5	84.5
Hispanic	53.3	50.4	62.1	50.3	45.5	59.4	54.6	56.8	72.0	68.4	74.0	85.3
Other	68.7	64.1	65.6	61.3	64.2	72.4	67.6	70.6	81.4	89.0	85.9	96.7
Education												
No Degree	70.2*	68.9	74.5	73.2*	70.4*	74.6*	77.7*	78.6*	83.4*	91.3*	91.5*	91.0
HS/GED	65.4	71.0	61.2	61.1	68.6	65.6	71.7	74.1	77.6	92.3	89.6	92.4
Voc./Trade School	64.7	64.9	59.7	52.8	60.3	73.3	57.0	72.4	92.7	89.1	88.1	100.0
Some College	54.4	67.9	58.3	47.4	64.6	53.4	54.7	73.0	60.6	83.5	90.0	89.0
4 Year Degree +	37.6	54.6	59.4	29.4	52.2	47.7	54.1	56.7	66.9	76.4	74.0	90.7
Marital Status												
Single	68.7*	69.6*	69.9*	66.0*	69.2*	69.1*	73.7*	76.2*	81.2*	90.8	91.0*	92.0*
Divorced/Separated	55.0	73.8	60.2	50.5	69.5	63.3	60.5	77.2	71.2	89.1	89.9	96.6
Married	52.0	53.7	38.5	45.4	48.1	43.4	53.4	56.0	55.0	84.1	77.8	79.6
Residence Type												
House/Apartment	62.8	68.0	62.8	57.0*	63.8*	63.1*	66.0	71.3*	72.5	88.4*	87.7*	90.1
Homeless	79.0	73.3	73.9	78.2	79.9	80.2	79.4	86.2	86.4	100.0	95.0	100.0
Employment Status												
Employed	58.9*	61.8*	62.1	51.3*	58.7*	62.4	60.8*	66.8*	71.0	85.9*	85.4*	90.3
Unemployed	68.3	75.8	63.9	67.6	75.4	65.5	74.3	81.2	78.2	92.5	93.3	92.5

In order to be detected in urinalysis assay, most substances must have been used within past week.

* Within site differences statistically significant at $p < .05$.

Multiple Illicit Substances

Table 4.6 presents a comprehensive account of multiple illicit substance use among Snohomish County arrestees. In addition to describing overall rates of use, this table also describes multiple illicit substance use across different demographic groups. ADAM data on use of multiple substances in both the King County and Spokane County sites are also presented for comparison.

Below is a summary of the findings in this table:

- Regardless of site, approximately **30% of arrestees tested positive for more than one substance**.
  - Testing positive for multiple substances was independent of site.[28]
- Approximately 1 in 4 Snohomish County arrestees reported using more than one illicit substance **during the past 30 days**.
- Regardless of site, over 1/3 of arrestees reported using multiple illicit substances **during the past 12 months**.
- Regardless of site, approximately 2/3 of arrestees reported **ever** using **multiple** illicit substances.

Age

- The only statistically significant result in the Snohomish County sample was in arrestee reports of lifetime use. Lifetime reports of using multiple substances was dependent upon age.[29] Younger arrestees were less likely to report ever using multiple substances than were older arrestees.

Race

- Among Snohomish County arrestees, significant racial differences in rates of using multiple substances were found only for use in past year[30] and lifetime use.[31] In both cases, White arrestees appeared most likely to report using multiple substances.

Education

- In Snohomish County, the only significant result for education was in self-report of multiple substance use during the past 30 days.[32] Here, it appears that college-educated arrestees were less likely to report using multiple substances.

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[28] $\chi^2(2, \underline{N} = 2240) = 0.71, \underline{p} = .70$
[29] $\chi^2(2, \underline{N} = 436) = 21.15, \underline{p} < .001$
[30] $\chi^2(3, \underline{N} = 567) = 10.19, \underline{p} < .05$
[31] $\chi^2(3, \underline{N} = 567) = 21.46, \underline{p} < .001$
[32] $\chi^2(4, \underline{N} = 565) = 10.84, \underline{p} < .05$

Marital Status

- Among Snohomish County arrestees, significant differences in multiple substance use by marital status were found only in self-report of use during the past year and lifetime use. In the case of use during the past year, married arrestees were less likely to report multiple substance use. In the case of lifetime use, divorced or separated arrestees were more likely to using multiple substances.

Residence Type

- Among Snohomish County arrestees, residence type was not associated with testing positive for multiple substances.[33] However, all self-reports indicated that homeless arrestees used multiple substances more often than those arrestees living in a house or apartment.

Employment Status

- Regardless of site, arrestees who were employed were less likely to use multiple substances than were arrestees who were unemployed.

- This finding was consistent whether assessed via urinalysis or self-report.

Income

Income was examined only in the Snohomish County project. Figure 4.3 presents the percentage of arrestees who used multiple substances by income group.

- The percentage of arrestees **testing positive** for multiple substances did **not** differ significantly between income groups.[34]

- The percentage of arrestees reporting using multiple substances in the **past year** did **not** differ significantly by income group.[35]

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[33] $\chi^2(2, \underline{N} = 474) = 1.02, \underline{p} = .31$
[34] $\chi^2(3, \underline{N} = 471) = 1.03, \underline{p} = .79$
[35] $\chi^2(3, \underline{N} = 511) = 2.75, \underline{p} = .43$

Figure 4.3: **Multiple Substance Use by Income Group**

Bar chart showing multiple substance use by income group for UA (N = 471) and Past Month (N = 511):

Income Group	UA (N = 471)	Past Month (N = 511)
0-$15K	31.2%	40.0%
$15-$30K	29.3%	33.4%
$30-$60K	33.7%	37.5%
$60K +	37.5%	28.6%
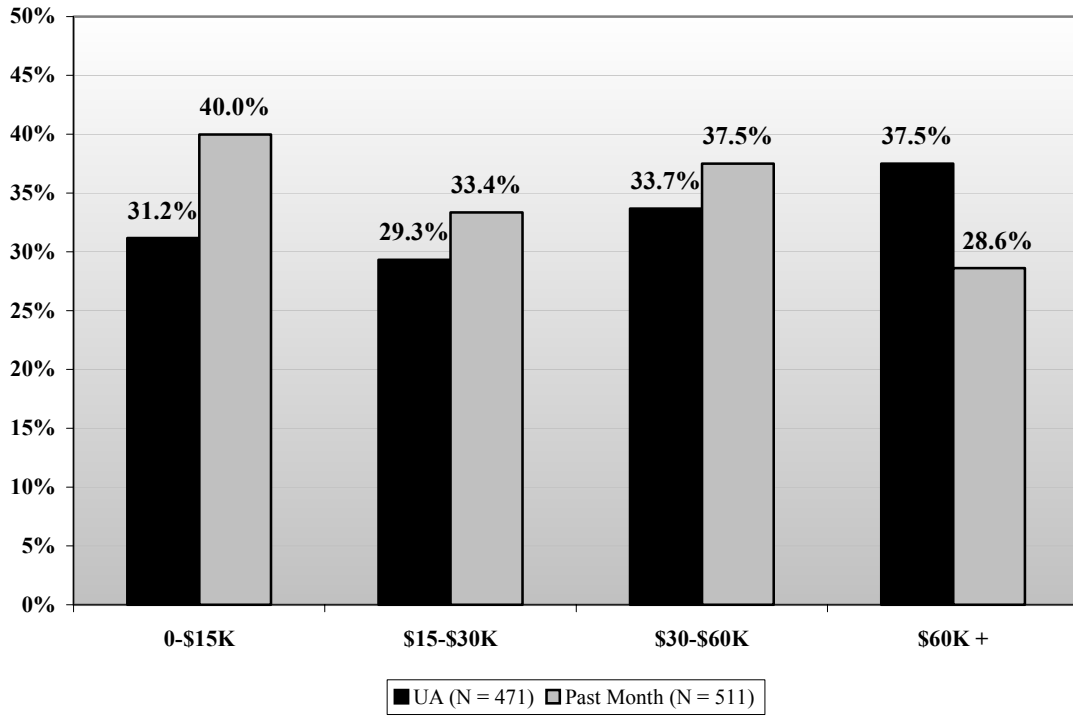
Table 4.6: Percent of Arrestees Using Multiple Illicit Substances by Demographic Groups, Site, and Reporting Period

	Urine			Past 30 Days			Past Year			Lifetime		
	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County
Overall Use	31.6	29.7	31.2	24.7	28.5	26.8	36.5	38.0	37.1	63.8	64.5	63.4
Age												
18-24	20.4	26.5	23.2	24.2	20.9*	18.1*	36.5	29.0*	28.3*	51.0*	44.5*	49.1*
25-34	26.9	28.3	29.8	26.0	30.9	37.2	42.6	41.6	48.4	68.3	65.1	69.1
35+	23.3	22.9	26.2	24.0	32.5	27.2	31.3	42.2	37.0	70.1	79.4	72.6
Race												
White	25.0	29.6*	21.8*	26.6	34.5*	25.6*	39.4*	46.6*	35.8*	68.0*	77.3*	66.4*
Black	20.0	25.6	31.5	16.2	26.9	21.3	24.8	33.1	26.7	40.9	56.2	39.5
Hispanic	9.4	16.5	42.5	11.4	17.0	17.2	17.1	26.7	26.7	40.8	50.0	39.7
Other	20.0	19.5	38.0	20.2	22.7	40.9	27.7	30.4	54.5	54.1	54.8	72.0
Education												
No Degree	24.6	25.1	32.5*	33.3*	30.3	33.2	44.2	41.6	47.1*	66.2	65.1*	64.1
HS/GED	23.9	27.3	30.0	23.8	28.8	30.3	36.6	37.4	40.3	62.0	59.6	65.3
Voc./Trade School	29.2	31.8	9.6	26.9	30.2	17.9	37.3	40.6	30.3	75.6	78.8	74.1
Some College	20.3	22.8	20.1	18.5	27.3	18.9	31.4	36.3	27.3	61.1	70.7	58.5
4 Year Degree +	16.0	18.3	14.0	9.8	22.4	19.6	15.5	33.1	19.6	55.4	57.3	53.0
Marital Status												
Single	25.3	25.2	26.6*	25.7	27.8	26.0	38.9*	37.3	36.4*	60.8*	61.0*	58.2*
Divorced/Separated	21.9	24.1	29.8	27.1	31.3	31.3	39.1	42.6	44.5	77.3	79.9	76.8
Married	16.7	29.2	11.7	19.1	27.8	14.8	25.7	32.9	20.1	60.8	59.7	55.5
Residence Type												
House/Apartment	23.4	24.5	23.2*	22.4*	24.5*	22.7*	32.8*	33.7*	33.6*	61.5*	60.2*	60.6*
Homeless	31.2	31.3	58.5	45.5	43.3	61.8	61.8	52.2	69.7	92.1	83.5	91.0
Employment Status												
Employed	19.6*	22.0*	20.4*	17.7*	21.9*	21.6*	28.9*	30.9*	28.7*	56.0*	58.4*	57.0*
Unemployed	28.3	29.5	30.2	33.1	36.0	30.4	44.7	45.8	43.5	71.8	71.4	68.3

In order to be detected in urinalysis assay, most substances must have been used within past week.
* Within site differences statistically significant at p < .05.

Marijuana

Table 4.7 presents a comprehensive account of marijuana use among Snohomish County arrestees. In addition to describing overall rates of use, this table also describes marijuana use across different demographic groups. ADAM data on marijuana use in both the King County and Spokane County sites are also presented for comparison.

Below is a summary of the findings in this table:

- Roughly 1/2 of all arrestees reported using marijuana in the past 30 days.
- Well over 1/2 of all arrestees reported using marijuana in the past 12 months.
- **Lifetime use** of marijuana, across sites, occurred with almost the same frequency as alcohol (almost 90%).

Age

Figure 4.4 describes a remarkably consistent trend found across the three sites:

Figure 4.4: **Percent Testing Positive for Marijuana by Age Group and Site**
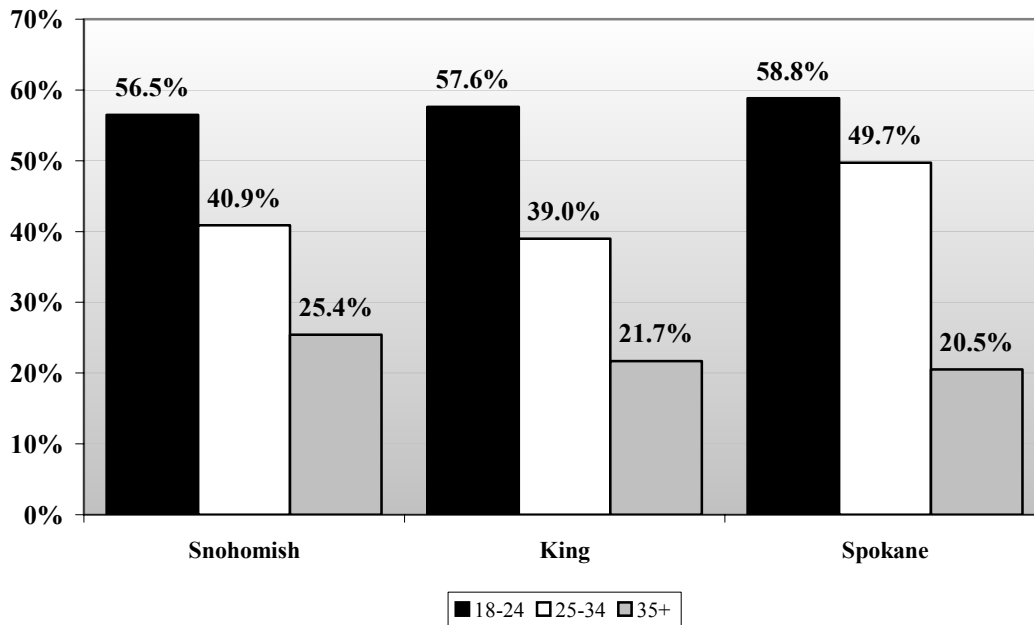
- Here, regardless of site, testing positive for marijuana was more common for younger arrestees.[36]
- This result is consistent with a nationwide finding that was recently presented in an NIJ report (http://www.adam-nij.net/files/golub_and_johnson_pub.pdf).

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[36] For Snohomish, $\chi^2(2, \underline{N} = 517) = 34.99$, $\underline{p} < .001$.

- Among Snohomish County arrestees, arrestee **age was negatively associated with marijuana use during the past year**.[37] This means that younger arrestees are significantly more likely to use marijuana during the past year than are older arrestees.

    - Marijuana use in the past year appears to be more common among younger arrestees regardless of site.

- Among Snohomish County arrestees, arrestee age was negatively associated with **lifetime use** of marijuana.[38] This means that lifetime use of marijuana appears more prevalent among younger arrestees than among older arrestees and may indicate a trend that use of marijuana has either increased or is increasingly popular among younger arrestees.

Race

Use of marijuana appears largely unaffected by race of arrestee. The only exception is in self-reports of lifetime use.

- Among Snohomish County arrestees, reports of **lifetime marijuana use** are significantly different between racial groups.[39]

- Post hoc examination revealed that Hispanics were less likely to report **ever** using marijuana compared to arrestees from all other racial groups.[40]

Education

- Regardless of site, statistically significant differences in marijuana use were found by education level. Consistently, fewer college-educated arrestees tested positive for or reported using marijuana.

Marital Status

- Regardless of site, statistically significant differences in marijuana use were found by marital status. Consistently, more single arrestees tested positive for or reported using marijuana.

Residence Type

- Save for self-reports of lifetime use (where 100% of homeless arrestees reported having used marijuana), no significant differences in marijuana use by residence type were found.

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[37] $r = -.32$, $p < .001$
[38] $r = -.11$, $p < .01$
[39] $\chi^2(3, N = 561) = 17.59$, $p < .001$
[40] $\chi^2(1, N = 561) = 13.00$, $p < .001$

Employment Status

- In Snohomish County, employed arrestees reported less marijuana use during the past 30 days, and fewer employed arrestees reported ever using marijuana.

Income

Income was examined only in Snohomish County. The chart below describes the relationship between marijuana use and income.

Figure 4.5: **Marijuana Use by Income Level**
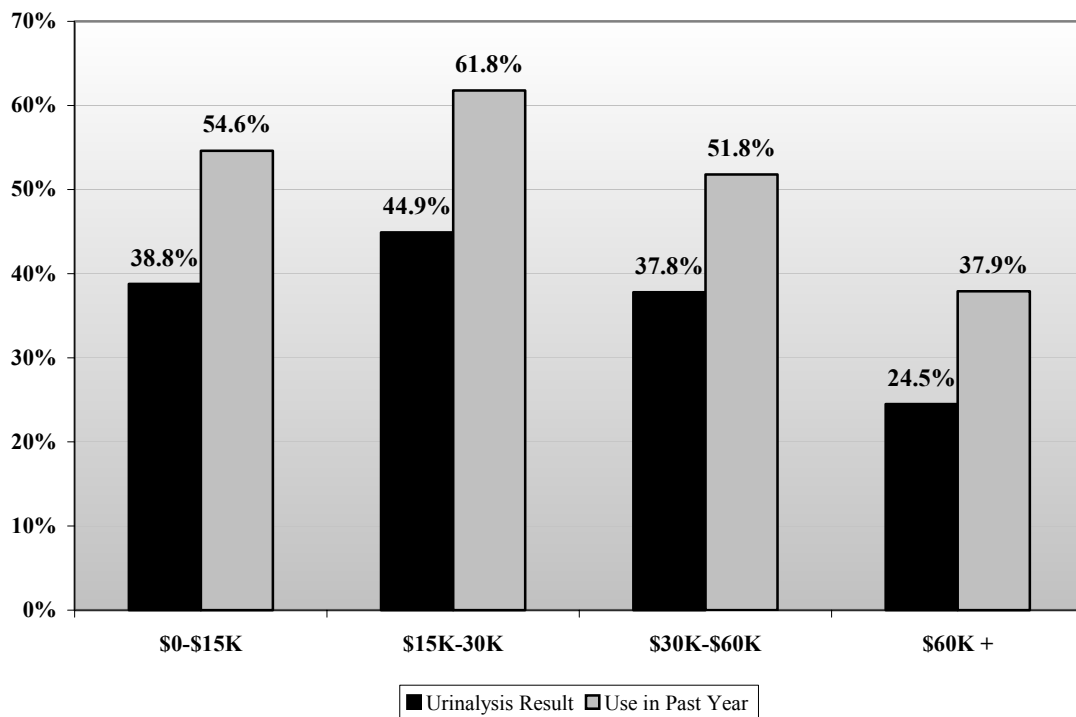
- Testing positive for marijuana was statistically independent of annual income.[41] That is, testing positive for marijuana was as likely to occur in any income group.

- Similarly, marijuana use during the past year was statistically independent of annual income.[42] That is, use of marijuana during the past year was as likely to occur in any income group.

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[41] $\chi^2(3, \underline{N} = 471) = 4.70, \underline{p} = .20$
[42] $\chi^2(3, \underline{N} = 508) = 7.75, \underline{p} = .05$

Table 4.7: **Percent of Arrestees Using Marijuana by Demographic Groups, Site, and Reporting Period**

	Urine			Past 30 Days			Past Year			Lifetime		
	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County
Overall Use	39.9	37.3	42.0	47.3	48.4	52.8	55.6	57.9	62.9	87.6	86.3	88.5
Age												
18-24	56.5*	57.6*	58.8*	64.3*	65.6*	66.0*	74.4*	74.2*	79.5*	91.3	87.6	88.4
25-34	40.9	39.0	49.7	47.0	51.3	59.0	55.9	62.7	71.1	86.3	88.4	90.8
35+	25.4	21.7	20.5	34.0	34.2	35.4	40.2	43.2	41.0	85.6	84.3	87.0
Race												
White	39.3	36.8	38.8	47.3	49.3*	49.2*	55.9	58.4	59.7	89.4*	89.9*	88.6*
Black	46.4	40.6	43.1	49.7	51.5	53.0	57.7	61.3	63.1	84.3	88.5	74.5
Hispanic	31.4	32.1	59.0	37.5	36.8	59.4	44.6	47.6	72.0	63.0	70.3	85.3
Other	47.7	36.6	49.5	53.6	48.5	68.1	57.9	57.8	74.8	87.4	83.6	96.7
Education												
No Degree	51.2*	39.0*	56.9*	62.1*	49.1*	65.6*	68.0*	61.3*	75.3*	89.6	85.7*	88.3*
HS/GED	40.6	41.9	39.9	49.4	53.7	52.9	59.3	61.1	65.4	89.3	87.3	92.0
Voc./Trade School	40.6	36.2	37.6	39.8	46.3	55.0	49.7	60.2	61.0	89.1	88.1	100.0
Some College	31.1	34.5	36.2	36.9	44.2	44.4	42.5	54.0	50.8	84.0	88.4	82.7
4 Year Degree +	10.1	14.2	22.4	9.8	32.4	28.1	24.7	40.4	47.3	71.5	70.7	71.1
Marital Status												
Single	47.3*	42.3*	53.2*	54.3*	53.5*	60.2*	63.0*	63.1*	71.0*	89.9*	88.3*	90.1*
Divorced/Separated	25.8	26.4	29.9	36.9	41.0	50.1	45.8	51.5	55.8	86.8	86.6	91.0
Married	29.7	29.5	17.4	34.9	35.0	27.1	40.3	42.8	41.7	80.2	75.6	76.2
Residence Type												
House/Apartment	41.2	40.7*	41.2	46.7	48.4	51.4*	54.8	58.0	60.5*	86.4*	85.3*	86.5*
Homeless	44.6	22.3	57.8	55.1	46.3	70.4	63.9	54.9	82.1	100.0	91.6	100.0
Employment Status												
Employed	39.8	35.2	46.9	43.2*	43.5*	54.5	52.7	53.4*	62.0	84.4*	82.5*	86.9
Unemployed	40.3	39.6	38.1	52.7	54.4	51.5	59.2	63.0	63.3	90.4	90.7	89.8

In the case of heavy use, marijuana use may be detected for a period of up to one month.
* Within site differences statistically significant at p < .05.

Crack Cocaine

Table 4.8 presents a comprehensive account of crack cocaine use among Snohomish County arrestees. In addition to describing overall rates of use, this table also describes crack use across different demographic groups. ADAM data on crack use in both the King County and Spokane County sites are also presented for comparison.

Below is a summary and discussion of the findings in this table:

- In Snohomish County, approximately 1 in 10 arrestees reported using crack cocaine **during the past 30 days**.

- In Snohomish County, use of crack cocaine was reported by approximately 1 out of 5 arrestees **during the past 12 months**.

- **Lifetime use** of crack cocaine was reported by approximately 2 out of 5 arrestees in Snohomish County.

Age

- Regardless of site, crack cocaine use was less likely to be reported by younger arrestees.

Race

- Among Snohomish County arrestees, racial differences in self-reported crack cocaine use were largely <u>not</u> observed. One exception was in the case of lifetime crack cocaine use.[43]

- Post hoc examination revealed that Whites were more likely to report **ever using** crack cocaine compared to arrestees from all other racial groups.[44]

- Reports of **lifetime** crack cocaine use are lowest among Hispanics.

Education

- Among Snohomish County arrestees differences in self-reported crack cocaine use by level of education were largely <u>not</u> observed. One exception was in the case of lifetime crack cocaine use.[45] Self-reports of lifetime crack cocaine use appeared lowest among college educated arrestees.

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[43] $\chi^2(3, \underline{N} = 563) = 10.56, \underline{p} < .05$
[44] $\chi^2 (1, \underline{N} = 562) = 7.71, \underline{p} < .01$
[45] $\chi^2(4, \underline{N} = 563) = 19.06, \underline{p} < .001$

Marital Status

- Regardless of site, self-reports of crack cocaine use differed by marital status of the arrestee. Arrestees who were divorced or separated appeared more likely to report the use of crack cocaine.

Residence Type

- Regardless of site, crack cocaine use was reported more frequently by homeless arrestees than arrestees living in a house or apartment. Only in the case of self-reports over the past 30 days in Snohomish County did this not achieve statistical significance. Here however, insufficient sample size may have limited the results.

Employment Status

- Regardless of site, crack cocaine use was reported more frequently by unemployed than employed arrestees.

Income

Figure 4.6 illustrates the relationship between self-report of crack cocaine use and annual income:

Figure 4.6: Use of Crack Cocaine During Past Year by Annual Income
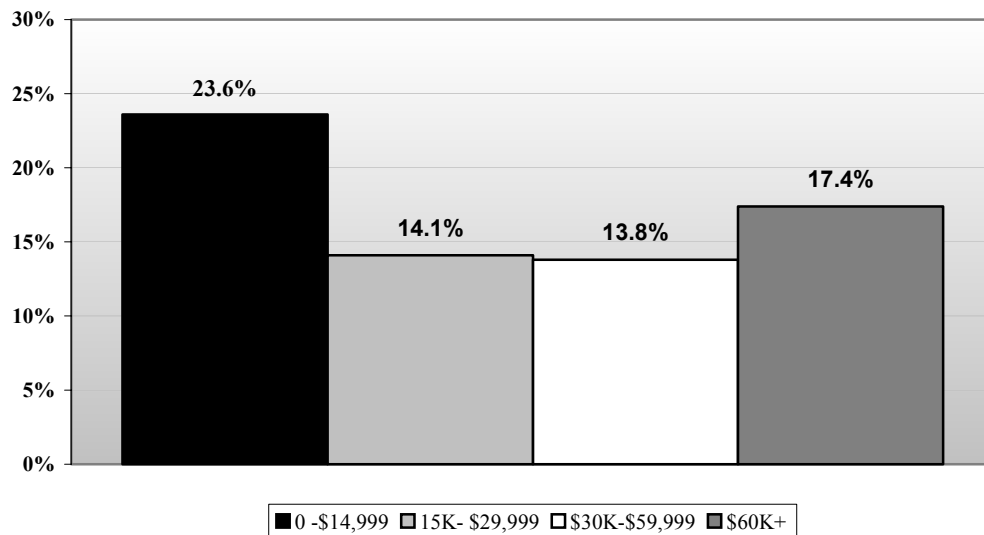
- Use of crack cocaine during the past year was statistically independent of annual income level.[46] That is, use of crack cocaine during the past year was as likely to occur in any income group.

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[46] $\chi^2(2, \underline{N} = 509) = 7.42$, $\underline{p} = .06$

Table 4.8: **Percent of Arrestees Using Crack Cocaine by Demographic Groups, Site, and Reporting Period**

	Past 30 Days			Past Year			Lifetime		
	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County
Overall Use	11.3	26.3	16.1	18.7	31.0	24.0	40.4	47.9	41.6
Age									
18-24	6.4*	8.2*	6.9*	12.7*	11.2*	12.9*	24.8*	23.7*	19.4*
25-34	8.9	23.1	14.9	20.4	28.5	25.1	45.6	47.3	50.4
35+	17.3	41.5	25.7	22.3	47.1	33.6	48.5	66.0	55.9
Race									
White	11.1	24.3*	17.2	19.6	29.7*	25.4	43.1*	52.6*	44.2*
Black	15.9	39.6	16.3	20.0	42.2	19.6	31.8	51.5	26.0
Hispanic	4.2	11.6	9.1	4.2	17.2	11.7	15.3	30.6	21.7
Other	14.2	21.5	13.8	18.1	26.5	25.1	34.6	41.5	46.1
Education									
No Degree	13.0	23.8	16.3	22.3	29.6	22.9	43.0*	49.2	39.6
HS/GED	10.9	26.2	18.0	17.8	30.3	29.0	38.3	46.5	42.9
Voc./Trade School	17.2	23.2	9.7	27.3	30.1	22.0	59.0	51.4	41.7
Some College	7.2	29.2	13.9	13.9	33.5	17.3	38.1	48.5	39.1
4 Year Degree +	9.8	25.5	19.6	9.8	30.0	25.2	9.8	46.0	58.6
Marital Status									
Single	10.1*	23.5*	13.3	18.5*	27.6*	20.5*	37.3*	43.7*	37.6*
Divorced/Separated	19.2	39.3	22.2	26.0	45.2	34.4	53.6	62.9	55.8
Married	6.7	21.1	14.1	12.3	26.5	17.8	35.8	44.3	27.1
Residence Type									
House/Apartment	10.4	20.9*	12.5*	16.5*	25.1*	20.0*	37.8*	41.3*	38.9*
Homeless	17.6	47.5	45.7	39.3	54.2	54.2	63.0	71.9	66.4
Employment Status									
Employed	6.7*	21.9*	10.9*	12.9*	26.2*	16.2*	33.7*	41.4*	32.7*
Unemployed	16.6	31.7	20.4	24.6	36.7	30.6	45.4	54.8	48.4

Urinalysis could not differentiate crack from powder cocaine. Urinalysis results for cocaine are included in Powder Cocaine table.
* Within site differences statistically significant at $p < .05$.

Powder Cocaine

Table 4.9 presents a comprehensive account of powder cocaine use among Snohomish County arrestees. In addition to describing overall rates of use, this table also describes use across different demographic groups. ADAM data on powder cocaine use in both the King County and Spokane County sites are also presented for comparison.

Below is a summary and discussion of the findings in this table:

- In Snohomish County, approximately 1 in 10 arrestees reported using powder cocaine during the past 30 days.

- In Snohomish County, use of powder cocaine was reported by approximately 1 out of 5 arrestees **during the past 12 months**.

- Over half of arrestees, regardless of site, indicated **ever** using powder cocaine.

Age

Figure 4.7 describes a consistent trend across the three sites in the relationship between testing positive for cocaine and arrestee age. It is important to remember that the EMIT test for cocaine can not differentiate between crack and powder cocaine, and this chart includes both crack and powder cocaine.

Figure 4.7: **Percent Testing Positive for Cocaine by Age Group and Site**
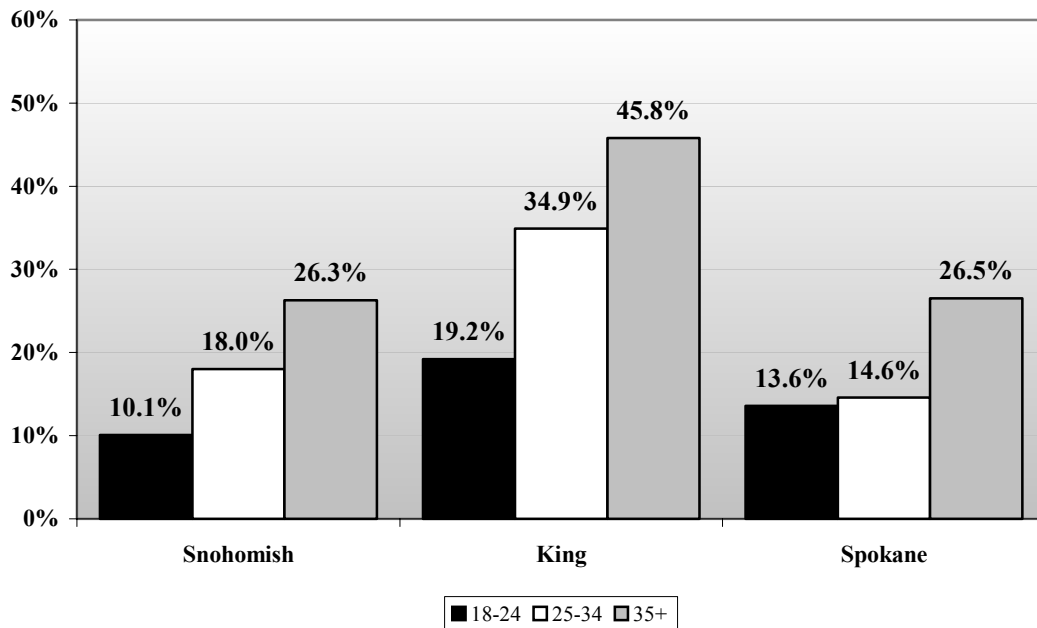
- Across sites, testing positive for cocaine was more common among older arrestees.[47]

- Save for self-reports of lifetime use, no association between powder cocaine and age was found.

- Regardless of site, self-reports of **lifetime use** of powder cocaine differed by age group.[48] Specifically, **lifetime use** of powder cocaine was less prevalent among younger arrestees.

- This **lifetime** finding appears consistent across all three sites.

Race

- Across all sites, **testing positive for Cocaine** appeared to be highest among African American arrestees.[49] White arrestees tested positive for cocaine about 1/2 as frequently as African Americans.

- Among Snohomish County arrestees, self-reports of powder cocaine was significantly different by race only in the case of lifetime use.[50]
  - Post hoc examination revealed that Whites were more likely to report **ever using** powder cocaine compared with arrestees from all other racial groups.[51]

Education

- Among Snohomish County arrestees, self-reports of powder cocaine use were independent of level of education.

Marital Status

- Among Snohomish County arrestees, only self-reports of lifetime powder cocaine use were significantly different between marital status groups.[52]

Residence Type

- Regardless of site or reporting period, self-report of powder cocaine use occurred more frequently among homeless arrestees than arrestees living in a house or apartment.

Employment Status

- Regardless of site or reporting period, self-report of powder cocaine use occurred more frequently among employed arrestees than unemployed arrestees.

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[47] For Snohomish, $\chi^2(2, \underline{N} = 517) = 14.88, \underline{p} < .001$
[48] For Snohomish, $\chi^2(2, \underline{N} = 436) = 32.77, \underline{p} < .001$
[49] In Snohomish, however, this did not quite achieve statistical significance, $\chi^2(3, \underline{N} = 517) = 7.05, \underline{p} = .07.$
[50] $\chi^2(3, \underline{N} = 561) = 10.55, \underline{p} < .05$
[51] $\chi^2(1, \underline{N} = 561) = 9.49, \underline{p} < .01$
[52] $\chi^2(2, \underline{N} = 558) = 10.53, \underline{p} < .05$

Income

Figure 4.8 illustrates the relationship between self-reports of cocaine use in the past year and annual income.

Figure 4.8: **Use of Powder Cocaine During Past Year by Annual Income**
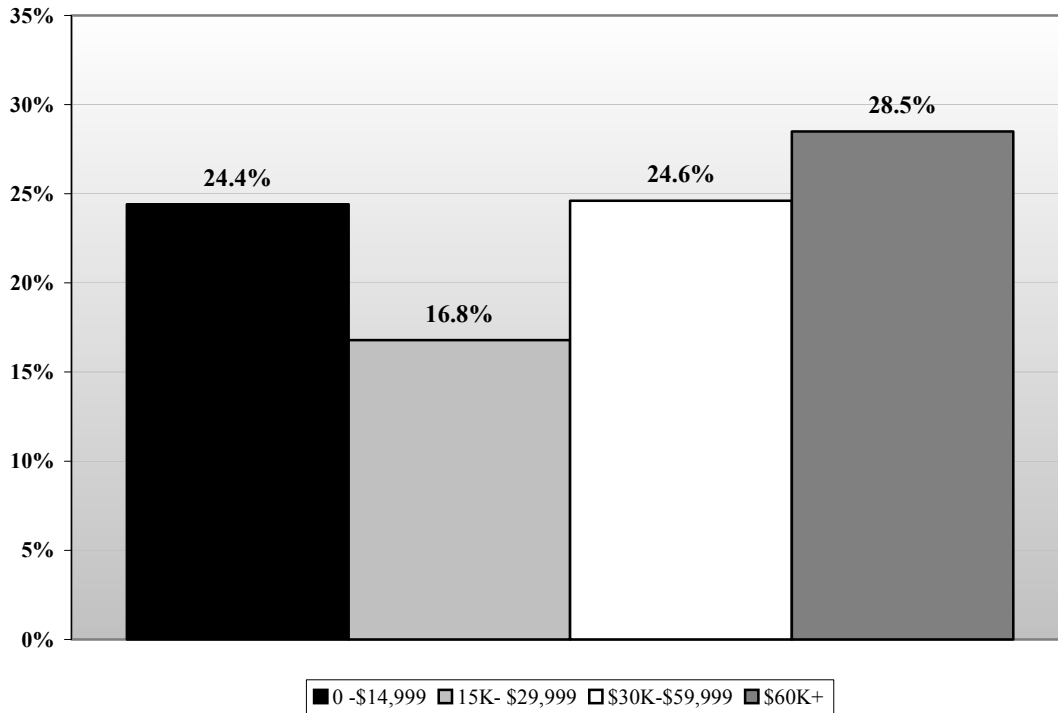
- No association was found between self-reported use of powder cocaine during the past year and annual income.[53]

- Similarly, no association was found between income level and urinalysis results indicating cocaine (either crack or powder) use.

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[53] $\chi^2(3, \underline{N} = 507) = 4.43, \underline{p} = .22$

Table 4.9: **Percent of Arrestees Using Powder Cocaine by Demographic Groups, Site, and Reporting Period**

	Urine [a]			Past 30 Days			Past Year			Lifetime		
	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County
Overall Use	18.7	34.7	18.6	11.3	13.2	10.1	21.6	19.3	16.6	52.8	53.3	51.2
Age												
18-24	10.1*	19.2*	13.6*	10.4	10.1	8.7	21.5	16.2	15.2	38.4*	32.2*	35.6*
25-34	18.0	34.9	14.6	10.2	15.9	10.8	22.7	21.8	11.7	56.0	54.1	48.7
35+	26.3	45.8	26.5	12.9	13.5	10.8	20.7	20.0	21.7	61.6	68.1	67.7
Race												
White	17.4	29.7*	15.6*	11.7	16.5*	9.8	23.0	25.7*	16.6	55.9*	66.1*	53.4*
Black	34.0	52.5	40.7	10.3	7.6	11.6	12.5	9.9	13.3	35.2	41.7	34.1
Hispanic	14.1	19.4	18.2	8.6	9.7	3.6	15.9	14.3	16.0	36.9	42.2	29.5
Other	19.5	30.1	23.5	8.6	14.3	14.3	18.0	19.7	18.7	45.8	44.6	59.2
Education												
No Degree	16.7	30.7	21.7	15.8	14.8	12.1	27.7	21.4	15.0	49.1	49.7*	48.6
HS/GED	19.6	33.8	19.0	9.5	10.8	11.8	18.9	17.5	20.6	51.4	48.4	48.3
Voc./Trade School	19.1	40.2	12.6	13.7	11.0	9.7	21.5	13.9	17.6	62.5	69.8	66.3
Some College	17.8	36.5	16.8	9.7	15.5	5.1	21.1	21.2	12.0	57.9	60.5	54.0
4 Year Degree +	22.2	39.9	19.6	4.9	14.3	14.0	15.5	20.9	14.0	40.0	49.2	53.0
Marital Status												
Single	18.0	32.2*	17.3	12.2	13.0	9.7	23.1	19.2	15.0*	48.3*	48.8*	45.3*
Divorced/Separated	23.6	46.3	21.5	13.8	14.1	12.0	23.1	21.3	24.5	65.8	69.7	70.0
Married	14.8	27.6	20.7	4.8	11.0	6.8	14.6	14.6	6.8	52.6	50.7	36.3
Residence Type												
House/Apartment	18.0	31.3*	17.4	9.7*	11.2*	8.0*	19.0*	17.3*	13.2*	49.5*	50.2*	47.7*
Homeless	21.5	47.8	27.9	20.3	22.5	23.1	33.6	29.0	42.6	82.9	66.3	82.2
Employment Status												
Employed	14.1*	31.4*	13.0*	6.5*	10.1*	4.8*	15.9*	15.4*	12.2*	45.9*	48.7*	44.4*
Unemployed	24.3	38.9	23.4	17.2	16.5	14.4	28.4	23.5	20.4	58.8	58.1	56.2

[a] Urinalysis results do not differentiate between Crack and Powder Cocaine use. Urinalysis results in this table contain both. In order to be detected in urinalysis assay, cocaine must have been used within past 2-3 days. * Within site differences statistically significant at $p < .05$.

Heroin

Table 4.10 presents a comprehensive account of heroin use among Snohomish County arrestees. In addition to describing overall rates of use, this table also describes use across different demographic groups. ADAM data on heroin use in both the King County and Spokane County sites are also presented for comparison.

Below is a summary and discussion of the findings in this table:

- In Snohomish County, approximately 1 in 10 arrestees reported using heroin during the past 30 days.

- Heroin use occurred in approximately 10% of Snohomish County arrestees during the past 12 months.

- **Lifetime use** of heroin was the lowest among the 5 illicit substances that were specifically asked about.

Age

Figure 4.9 indicates the consistent relationship between arrestee age and testing positive for opiates[54] that were found across sites.

Figure 4.9: **Percentage of Arrestees Testing Positive for Opiates by Age Group and Site**
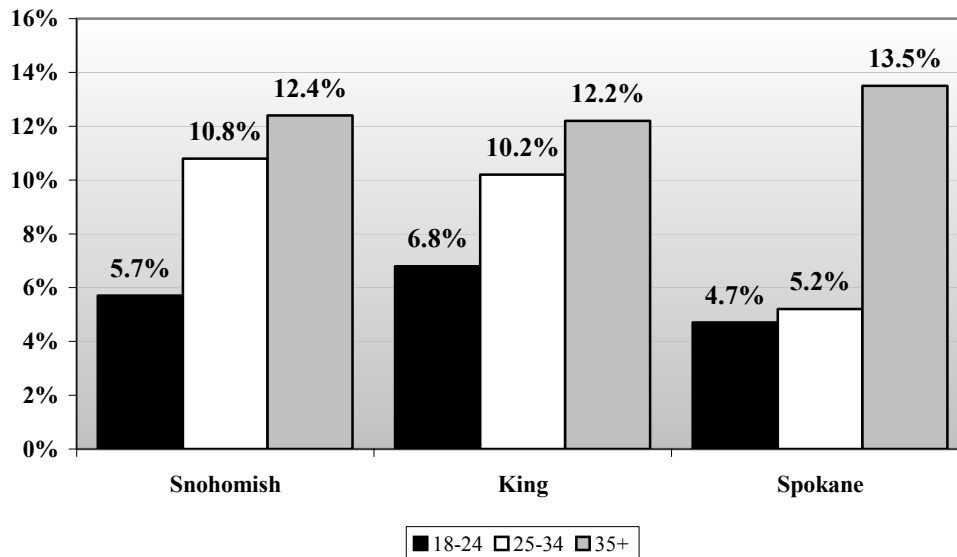
- A trend toward greater use of opiates among older arrestees appears to be indicated in Figure 4.9. However, this result did not obtain statistical significance in the Snohomish

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[54] EMIT testing does not distinguish among drugs in the opiate family. Heroin, however, is by far the most commonly used opiate.

County sample.[55] Significant associations between testing positive for opiates and age were found at both the King County and Spokane County sites.[56]

- Regardless of site or reporting period, self-reports of heroin use differed by age group. Consistently, younger arrestees less frequently reported using heroin than did older arrestees.

Race

- In Snohomish County, White arrestees tested positive for opiates more frequently than other racial groups.

- Among Snohomish County arrestees, reports of **lifetime heroin use** are significantly different between racial groups.[57]

  - Post hoc examination revealed that Whites were more likely to report **ever using** heroin compared to arrestees from all other racial groups.[58]

- At each of the three sites, reports of **lifetime heroin use** were lowest among African Americans.

Education

- Among Snohomish County arrestees, heroin use was not dependent upon education level.

Marital Status

- Among Snohomish County arrestees, self-reports of heroin use in the past year were significantly different between marital status groups.[59] Similarly, in Snohomish County positive tests for opiates differed by marital status.[60]

  - In both instances, use was lowest among married arrestees.

Residence Type

- In Snohomish County, no statistically significant difference in frequency of opiate use was found between homeless arrestees and arrestees living in a house or apartment; however, small sample size limits the validity of this result.

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[55] $\chi^2(2, \underline{N} = 517) = 4.60, \underline{p} = .10$
[56] For King County, $\chi^2(2, \underline{N} = 1283) = 7.13, \underline{p} < .05$. For Spokane, $\chi^2(2, \underline{N} = 436) = 10.07, \underline{p} < .01$
[57] $\chi^2(3, \underline{N} = 560) = 13.87, \underline{p} < .05$
[58] $\chi^2(1, \underline{N} = 560) = 10.35, \underline{p} < .01$
[59] $\chi^2(2, \underline{N} = 557) = 9.08, \underline{p} < .05$
[60] $\chi^2(2, \underline{N} = 513) = 6.42, \underline{p} < .05$

- This finding was inconsistent with self-report data. Regardless of site or reporting period, arrestee self-reports indicate that significantly more homeless arrestees used heroin than did arrestees living in a house or apartment.

Employment Status

- In Snohomish County, no statistically significant difference in frequency of opiate use was found between employed and unemployed arrestees.[61]

- This finding was inconsistent with self-report data. Regardless of site or reporting period, arrestee self-reports indicate that significantly more unemployed arrestees used heroin than did employed arrestees.

Income

The chart below describes the relationship between income and heroin use (both positive EMIT test for opiates and self-report of heroin use in the past year).

Figure 4.10: **Heroin Use by Income Level**
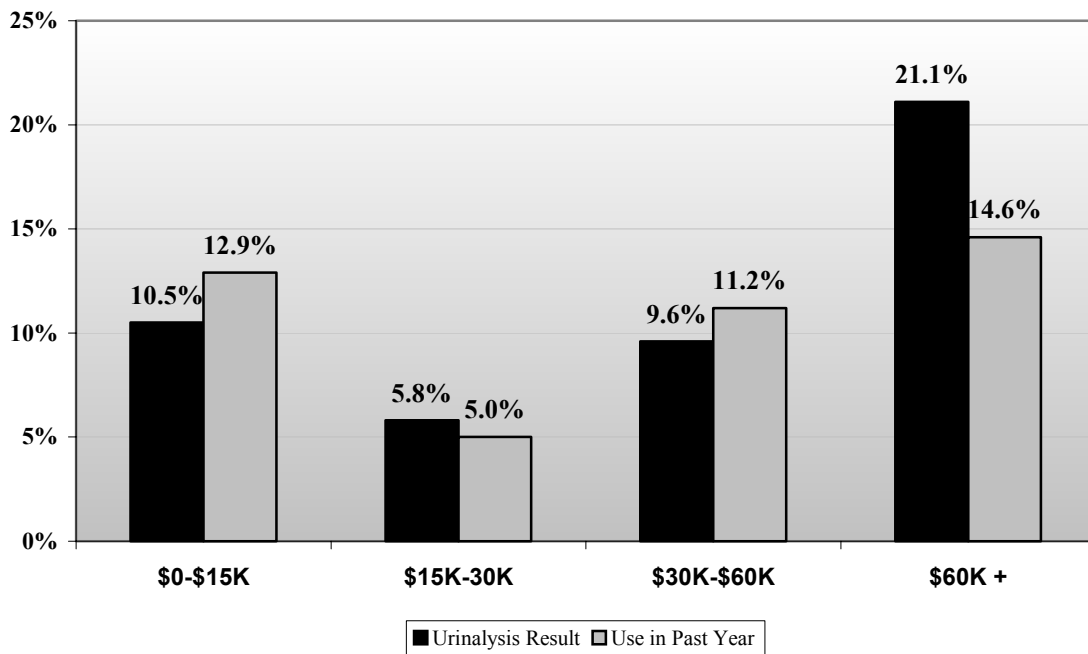
- Positive tests for opiates were statistically independent of annual income.[62] Similarly, use of heroin during past year was statistically independent of annual income level.[63] That is, use of heroin during the past year was as likely to occur in any income group.

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[61] $\chi^2(1, \underline{N} = 504) = 3.45$, $\underline{p} = .06$
[62] $\chi^2(3, \underline{N} = 471) = 7.17$, $\underline{p} = .07$
[63] $\chi^2(3, \underline{N} = 508) = 7.23$, $\underline{p} = .07$

Table 4.10: Percent of Arrestees Using Heroin by Demographic Groups, Site, and Reporting Period

	Urine			Past 30 Days			Past Year			Lifetime		
	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County
Overall Use	9.9	10.2	8.1	8.1	11.4	7.2	10.9	14.2	10.2	22.5	25.8	20.1
Age												
18-24	5.7	6.8*	4.7*	2.7*	9.2*	2.9*	4.5*	9.4*	7.4*	11.2*	13.6*	13.2*
25-34	10.8	10.2	5.2	8.0	8.5	3.5	12.0	13.3	4.7	27.8	23.2	9.8
35+	12.4	12.2	13.5	12.6	15.1	14.0	15.0	18.4	17.1	27.2	36.4	34.4
Race												
White	11.5*	14.1*	8.1	9.3	14.2*	7.8	12.5	19.0*	11.0	25.3*	32.3*	20.9
Black	0.0	5.0	8.8	2.2	7.1	7.9	2.2	7.6	6.9	4.4	16.5	10.1
Hispanic	1.4	7.2	8.0	0.0	9.4	3.6	1.5	10.2	6.0	7.1	23.8	16.5
Other	7.4	9.0	7.8	5.5	11.0	5.4	7.1	13.8	10.3	20.2	23.7	23.1
Education												
No Degree	10.1	12.7	6.5*	7.1	15.2	7.4*	10.7	18.9	8.1*	22.6	27.7	16.3*
HS/GED	9.3	9.6	10.3	7.8	10.1	10.6	10.6	13.7	14.8	24.1	22.0	22.1
Voc./Trade School	5.0	9.5	6.7	6.5	6.9	9.7	10.5	9.0	23.1	23.1	30.8	46.3
Some College	12.3	9.2	4.1	9.3	11.2	0.0	10.9	12.6	1.1	18.1	28.7	14.1
4 Year Degree +	16.0	8.5	25.7	14.7	10.5	14.0	14.7	11.9	14.0	25.3	25.3	19.6
Marital Status												
Single	11.6*	9.2	6.3	8.0	10.7	5.0	9.8*	13.3	7.8*	21.8	22.0*	15.9*
Divorced/Separated	9.0	10.6	10.7	10.5	12.3	11.6	17.4	16.1	16.0	28.7	36.9	30.8
Married	2.9	14.7	7.8	4.7	13.4	4.6	5.1	15.9	4.6	16.4	27.1	13.9
Residence Type												
House/Apartment	9.5	8.4*	7.6	7.0*	8.7*	5.1*	9.0*	10.7*	7.1*	18.5*	20.9*	16.0*
Homeless	12.1	24.2	14.3	21.1	25.8	28.8	24.9	34.4	29.4	60.2	44.8	51.8
Employment Status												
Employed	7.5	6.9*	3.7*	5.6*	7.0*	1.5*	7.0*	9.3*	3.8*	18.3*	19.0*	10.1*
Unemployed	12.5	13.8	11.2	10.8	16.4	11.1	15.3	19.8	14.7	27.1	33.5	27.6

The urinalysis assay detects opiates, not heroin. While the vast majority of opiate use is heroin, opiates use can also include other substances (e.g., morphine). In order to be detected in urinalysis assay, opiates must have been used within past 2 to 3 days.
* Within site differences statistically significant at p < .05.

Methamphetamine

Table 4.11 presents a comprehensive account of methamphetamine use among Snohomish County arrestees. In addition to describing overall rates of use, this table also describes use across different demographic groups. ADAM data on methamphetamine use in both the King County and Spokane County sites are also presented for comparison.

Below is a summary and discussion of the findings in this table:

- Use of methamphetamine in Snohomish County **during the past 30 days** was reported by better than 1 in 5 arrestees.

- Use of methamphetamine was reported by over 1/4 of Snohomish County arrestees **during the past 12 months**.

- **Lifetime use** of methamphetamine is reported by nearly half of Snohomish County and Spokane County arrestees.

Age

Figure 4.11 describes the relationship between the EMIT test for methamphetamine an arrestee age.

Figure 4.11: **Percentage of Arrestees Testing Positive for Methamphetamine by Age and Site**
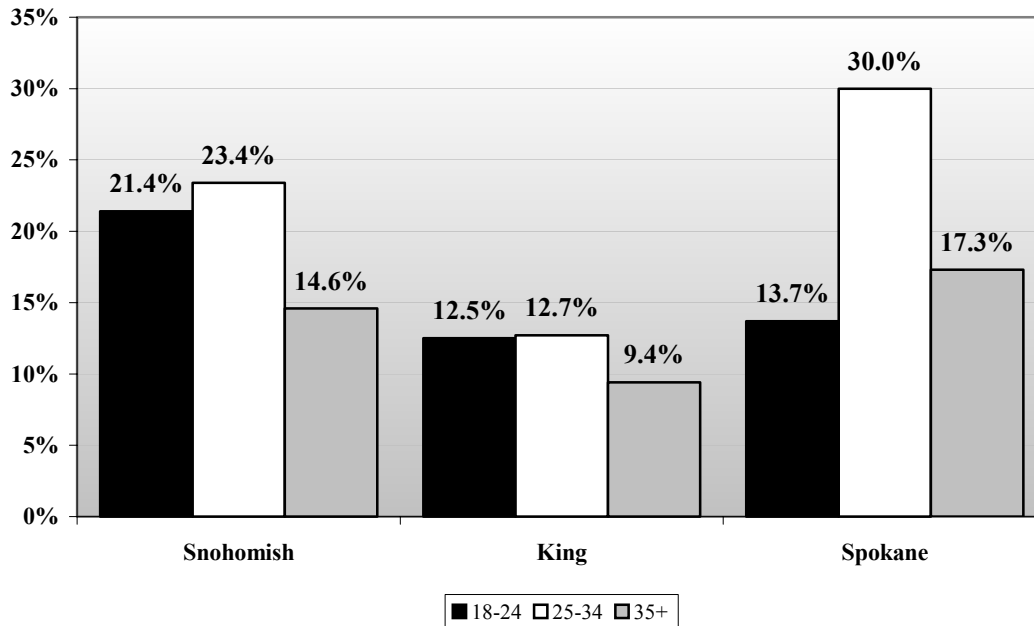
- Testing positive for methamphetamine was only statistically dependent with age among arrestees from Spokane County.[64]

- Among Snohomish County arrestees, self-reports of lifetime methamphetamine use and use during the past year were dependent upon age. It appears that arrestees 35 and older were less likely to report using methamphetamine in the past year compared with other arrestees. Arrestees between the ages of 25 and 34 were most likely to report using methamphetamine in their lifetime.

Race

- Among Snohomish County arrestees, self-report of lifetime methamphetamine use and use during the past year were statistically dependent upon race. In both instances, White arrestees reported using methamphetamine most frequently.

  - Post hoc examination revealed that Whites were more likely to report **ever using** methamphetamine compared with arrestees from all other racial groups.[65]

Education

- In Snohomish County, self-report of lifetime methamphetamine use were statistically dependent upon level of education. Here, use appeared highest among those arrestees reporting no formal degree and lowest among those with college educations.

Marital Status

- Among Snohomish County arrestees, tests for and self-reports of methamphetamine use were not significantly different between marital status groups.

Residence Type

- Regardless of site, tests for methamphetamine use were higher for homeless arrestees than arrestees living in a house or apartment.[66]

- Similarly, regardless of site or reporting period, methamphetamine use was higher among homeless arrestees than among arrestees living in a house or apartment.

Employment Status

- Among Snohomish County arrestees, positive tests for methamphetamine did not differ by employment status.

- Regardless of site or reporting period, self-reports of methamphetamine use were higher among unemployed than employed arrestees.

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[64] $\chi^2(2, \underline{N} = 436) = 12.20, \underline{p} < .01$
[65] $\chi^2 (1, \underline{N} = 559) = 10.35, \underline{p} < .01$
[66] In Spokane, this result did not obtain statistical significance, $\chi^2 (1, \underline{N} = 406) = 3.20, \underline{p} = .07$.

Income

Figure 4.12 describes the relationship between methamphetamine use, assessed by both self-report over the past year as well as by EMIT drug testing, and income level.

Figure 4.12: **Methamphetamine Use by Income Level**
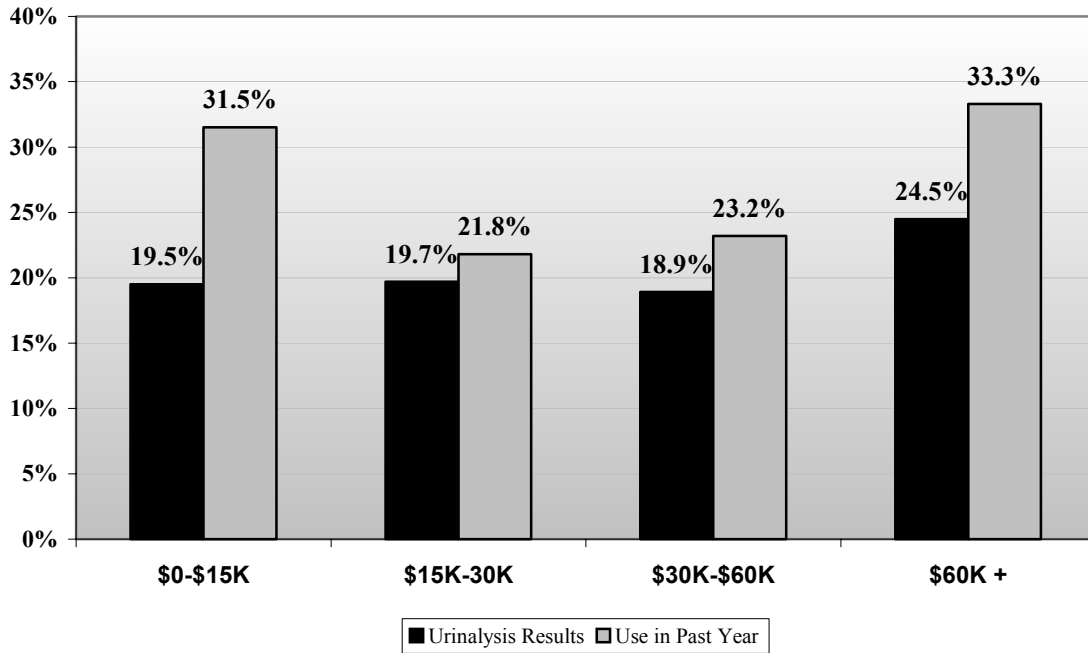
- No relationship between testing positive for methamphetamine and income level was found.[67]

- Similarly, use of methamphetamine during the past year was statistically independent of annual income level.[68] That is, use of methamphetamine did not appear to differ by arrestee income.

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[67] $\chi^2(3, \underline{N} = 471) = 0.47$, $\underline{p} = .92$
[68] $\chi^2(3, \underline{N} = 506) = 5.76$, $\underline{p} = .12$

Table 4.11: **Percent of Arrestees Using Methamphetamine by Demographic Groups, Site, and Reporting Period**

	Urine			Past 30 Days			Past Year			Lifetime		
	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County
Overall Use	19.5	11.2	19.6	21.7	14.3	22.4	26.5	18.4	29.6	45.4	37.5	47.7
Age												
18-24	21.4	12.5	13.7*	23.6	14.5	16.3*	29.3*	17.2	23.1*	42.5*	30.5*	39.3*
25-34	23.4	12.7	30.0	25.6	16.3	30.9	30.9	22.2	39.8	53.6	41.9	54.8
35+	14.6	9.4	17.3	16.8	12.8	21.8	20.6	16.7	28.1	41.1	39.5	50.2
Race												
White	21.6	19.3*	19.6	23.8	24.0*	23.2	29.0*	31.3*	30.3*	49.6*	57.6*	51.3*
Black	6.1	2.4	7.1	10.3	3.4	7.6	12.5	3.9	7.1	18.3	11.0	17.2
Hispanic	11.1	6.9	25.8	13.0	6.3	13.6	15.9	9.1	23.1	28.6	28.7	25.5
Other	15.6	6.6	22.4	12.3	10.1	29.4	17.7	12.8	40.8	35.1	30.9	55.8
Education												
No Degree	17.1	13.6	20.0	27.9	19.4*	19.8*	32.7	23.8*	31.4	55.3*	44.2*	48.3
HS/GED	24.3	11.5	23.8	22.1	15.5	30.1	26.3	19.6	35.0	43.0	33.5	51.7
Voc./Trade School	20.9	12.0	12.4	19.0	16.4	19.9	23.6	19.8	24.4	49.8	40.6	40.5
Some College	14.2	8.8	16.0	16.9	8.0	15.1	23.4	12.7	23.8	41.8	39.1	44.6
4 Year Degree +	5.3	10.9	5.6	9.8	12.9	5.6	14.7	14.5	5.6	19.6	30.0	31.4
Marital Status												
Single	20.2	11.5	21.5*	23.5	14.7	22.9	29.0	18.3	29.6*	45.6	34.5*	43.5*
Divorced/Separated	17.5	11.8	20.1	18.8	13.2	23.9	22.6	17.7	35.1	48.9	44.1	59.4
Married	18.7	8.9	4.1	19.4	13.6	11.5	23.3	18.7	12.5	40.4	40.8	37.1
Residence Type												
House/Apartment	18.5*	10.6*	18.3	19.3*	12.8*	18.7*	23.9*	16.7*	26.6*	42.8*	33.7*	46.3*
Homeless	33.5	16.6	30.8	47.6	22.8	54.6	51.4	27.6	54.5	74.8	57.7	68.4
Employment Status												
Employed	18.2	8.7*	17.3	18.1*	11.1*	17.2*	22.2*	14.4*	22.7*	38.9*	33.8*	40.1*
Unemployed	20.5	13.8	20.7	25.2	17.7	26.0	30.2	22.4	34.7	51.1	41.3	53.4

In order to be detected in urinalysis assay, methamphetamine must have been used within past 2-4 days.
* Within site differences statistically significant at $p < .05$.

Extent of Substance Use in Past 30 Days

Thus far, self-report of substance use has been limited to whether or not an arrestee has used a substance. Information also exists about the frequency of substance use. The next set of analyses examine the average number of days arrestees report using substances during the past month.

Table 4.12: **Average Number of Days Arrestees Report Using Substances by Substance and Site**

Substance	Snohomish County (a)			King County (b)			Spokane County (c)		
	N	**M**	**SD**	N	M	SD	N	M	SD
Alcohol	**292**	**8.5$_{bc}$**	**9.5**	587	10.8$_a$	10.9	218	8.9$_a$	9.8
Marijuana	**268**	**12.9$_{bc}$**	**11.9**	545	11.8$_{ac}$	11.8	203	13.1$_{ab}$	11.4
Crack Cocaine	**63**	**14.1$_{bc}$**	**11.8**	275	12.9$_{ac}$	12.6	56	10.5$_{ab}$	11.8
Powder Cocaine	**60**	**8.1$_{bc}$**	**9.8**	142	7.6$_a$	9.9	45	7.1$_a$	9.5
Heroin	**40**	**13.2$_{bc}$**	**13.4**	113	15.8$_a$	13.7	26	17.8$_a$	12.7
Meth	**109**	**13.0$_{bc}$**	**12.4**	166	11.9$_a$	11.2	88	10.0$_a$	10.0

Means in the same row with a subscript differ from the mean of that site at $p < .05$ in the Tukey honestly significant different (HSD) comparison.

- A series of one-way ANOVAs were conducted to examine whether average number of days of substance use differed across each site. Analyses indicated that for each substance significant differences existed between sites.

- Pair-wise comparisons revealed that **Snohomish County arrestees reported**:

  - significantly fewer binge drinking days than is reported in either King County or Spokane County.

  - significantly more days of marijuana use than is reported in King County but fewer than is reported in Spokane County.

  - significantly more days of crack cocaine use than is reported in either King County or Spokane County.

  - significantly more days of powder cocaine use than is reported in either King County or Spokane County.

  - significantly fewer days of heroin use than is reported in either King County or Spokane County.

  - significantly more days of methamphetamine use than is reported in either King County or Spokane County.

Other Illicit Substances

Arrestees were asked whether they had used other illicit substances:

> **"Not including alcohol and these five drugs, have you ever used any other drug, not counting drugs for which you have a prescription or over the counter drugs?"**

Those arrestees who indicated that they had used other illicit substances were asked to indicate the drug that they used **most often**.

Lifetime Use of "Other" Substances

Among Snohomish County arrestees:

- 561 arrestees responded to questions about lifetime "other" substance use, and 35.1% indicated that they had used "other" drugs in their lifetime.

- Hallucinogenic drugs, specifically LSD and mushrooms, represent the two most frequently reported substances and account for almost 2/3 of other substances.

- Among arrestees who had ever used "other" substances, ecstasy was cited by arrestees as the substance most frequently used in over 13% of the cases.

Figure 4.13: **Other Substances Most Frequently Used by Snohomish County Arrestees**
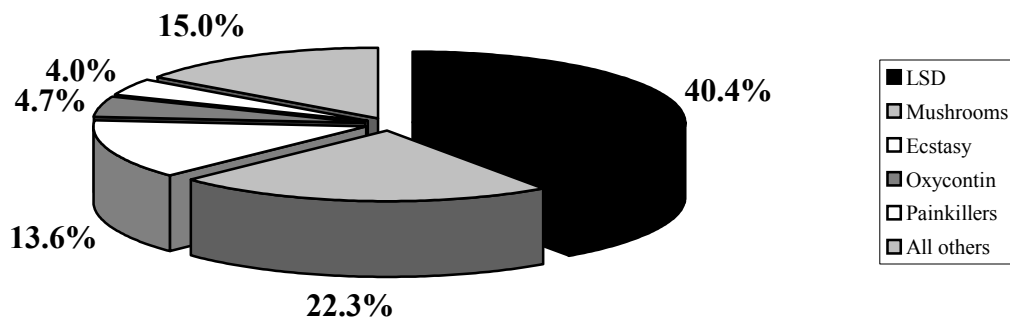
- A large proportion (15%) of "other" substances reported by those indicating lifetime use were not easily classified into one category. These included a wide variety of substances from inhalants, stimulants, depressants, and illicit prescription drug use.

Use of "Other" Substances in Past Year

- Among Snohomish County arrestees responding to questions about the use of other illicit substances during the past year ($\underline{N} = 561$), 11.4% of indicated that they had used "other" substances in the past year.

- Among those who reported using other illicit substances in the past year, Ecstasy had replaced LSD as the substance reported to be most frequently used.

Figure 4.14: **Most Commonly Used "Other" Substances
Used by Snohomish County Arrestees in the Past Year**
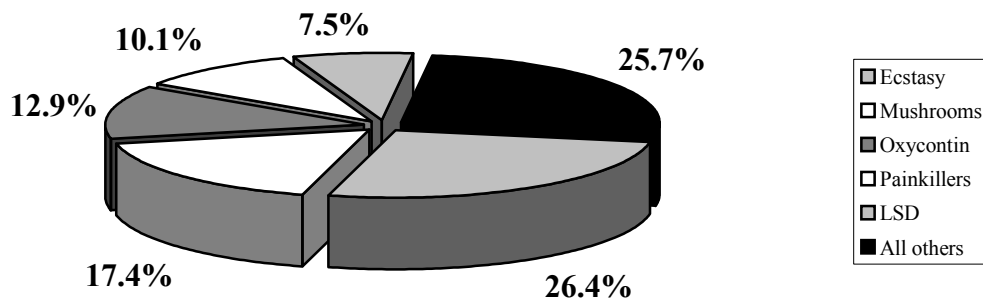
- Ecstasy constitutes the most commonly reported "other" drug among those using other drugs in the past 12 months.

- Significantly, over 1/4 of the "other" substances reported as used by arrestees in the past year were not easily classifiable into larger categories. These drugs included a wide variety of substances from inhalants, stimulants, depressants, and illicit prescription drug use.

Needle Use

Due to health issues, of particular concern to many communities is the use of needles among drug users. Figure 4.15 indicates the percentage of arrestees who ever injected drugs.

- Needle use was independent of site.[69] That is, arrestees in Snohomish County were no more or less likely to use needles than were arrestees from either the King County or Spokane County sites.

Figure 4.15: **Percent of Arrestees Indicating
They Had Ever Injected Drugs in Order to Get High**

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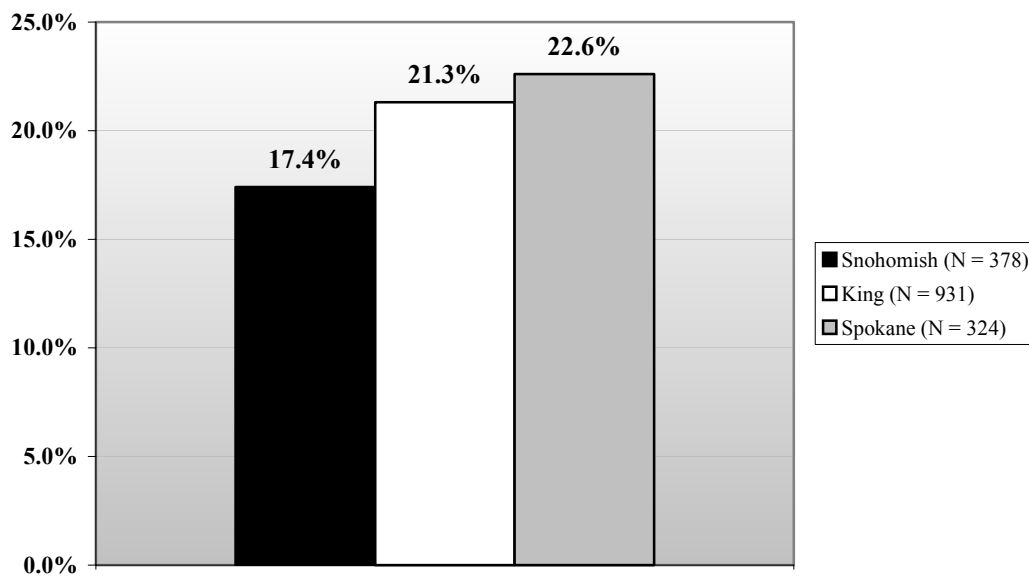
[69] χ^2 (2, $\underline{N}$ = 1633) = 3.40, $\underline{p}$ = .18

Age of Substance Use Initiation

Arrestees who indicated that they had ever used a substance were subsequently asked about the age at which they first used the substance.

Figure 4.16: **Age of First Substance Use by Substance and Site**
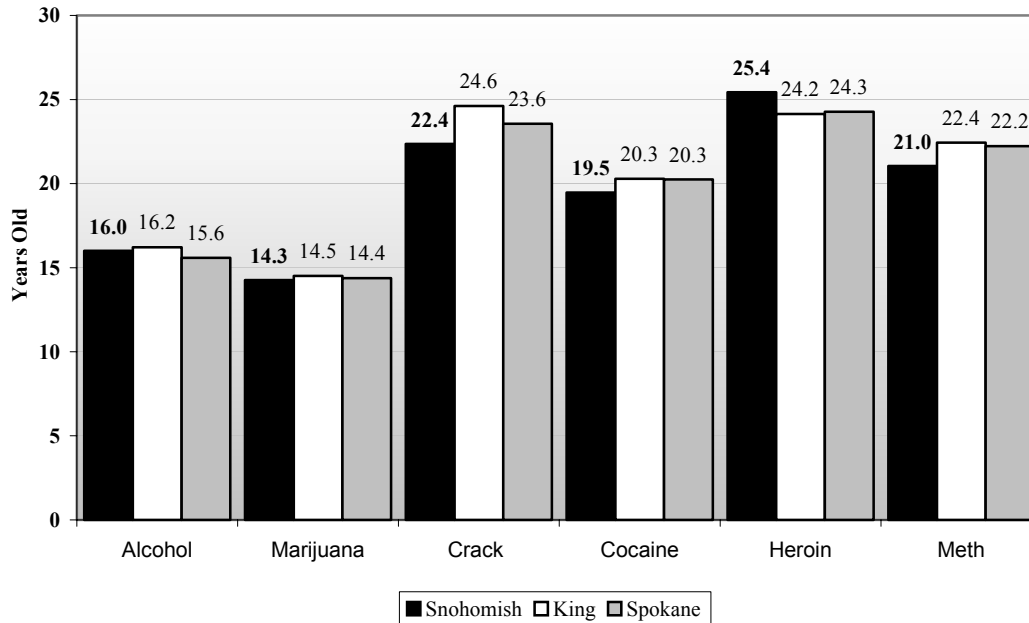
- Age of first alcohol binge is significantly different among the three sites.[70] However, post-hoc analyses revealed that age of first alcohol binge differs only between the King County and Spokane County sites. Age of first alcohol binge in Snohomish County is not significantly different from King County[71] or from Spokane County.[72]

- Age of first crack use is significantly different among the three sites.[73] Further, post-hoc analyses revealed that age of first crack use in Snohomish County was significantly lower than in King County[74] but not lower than in Spokane County.[75]

- Age of first for marijuana, powder cocaine, heroin, and methamphetamine are not significantly different among sites.

- Age of first use of alcohol and marijuana precedes that of the other "hard" drugs.

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[70] $p < .05$
[71] $p = .31$
[72] $p = .13$
[73] $p < .01$
[74] $p < .001$
[75] $p = .15$

Positive Tests for "Other" Drugs

In addition to the NIDA-5 drug assays, EMIT tests were also conducted for other substances. The rate of use for each of these substances was quite low.

Table 4.13: **Percent of Arrestees Testing Positive for Other Substances by Site**

Site	Benzodiazepenes	Propoxyphene	Methadone	Barbituates
Snohomish County (N = 512)	**2.5%**	**1.2%**	**1.4%**	**0.2%**
King County (N = 1288)	3.3%	0.1%	2.6%	0.2%
Spokane County (N = 436)	2.8%	1.6%	1.2%	0.1%

- Methaqualone was omitted from the above table as no arrestees tested positive for this substance.[76]

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[76] Testing for Methaqualone was discontinued in 2003 as ADAM instructions to the laboratory changed.

SECTION V

Substance Dependence, Use, and Need for Treatment Among Respondents

In addition to collecting data about arrestee substance use, information was also collected about arrestee substance abuse and dependence. The UNCOPE measure (described below) was used to determine whether an arrestee was at risk for abuse and dependence for alcohol use and drug use, separately.

Questions about arrestee treatment focus on treatment experiences during an arrestees' lifetime and treatment during the past year. A wide range of treatment settings were examined from self-help groups to inpatient treatment.

Classifying Dependence on Drugs and Alcohol: The UNCOPE Scale

Drug and Alcohol dependence were assessed using the UNCOPE measure. Briefly, this measure consists of 12 questions (six alcohol and six drug) which screen for dependence by assessing the following dimensions:

- **U**se
- **N**eglect of responsibilities
- Wanting to **C**ut down on use
- **O**bjection from others
- **P**reoccupation with substance
- **E**motional discomfort.

The measure allows for an approximation of the clinical substance dependence diagnosis described in the DSM-IV. For a more complete description of this measure including the specific questions asked and psychometric properties of the scale, please see **Appendix H**.

Table 5.1 lists the percentage of arrestees that endorsed each of the UNCOPE items.

- Only arrestees who indicated consuming 5 or more drinks on the same day during the past 12 months were asked UNCOPE items pertaining to alcohol use.
- Only arrestees who indicated they used illicit substances during the past 12 months were asked UNCOPE items pertaining to drug use.
  - Arrestees who reported not using alcohol during the past 12 months were coded as not being dependent on alcohol.

- Arrestees who reported not using any drugs during the past 12 months were coded as not being dependent on drugs.

***Table 5.1:* Percent of Snohomish County Arrestees Endorsing UNCOPE Items**

UNCOPE Item	Alcohol (N = 358)	Drugs (N = 379)
Use	32.6	50.2
Neglect	30.7	53.0
Cut down	42.2	65.1
Objection	34.9	51.8
Preoccupation	28.4	50.1
Emotion	47.9	54.9

- A positive response to 3 or more UNCOPE items was used to indicate abuse/dependence.

- Snohomish County arrestees who were classified as dependent on alcohol (n = 136) endorsed an average of 4.73 UNCOPE items (SD = 1.09).

- Snohomish County arrestees that were classified as dependent on drugs (n = 217) endorsed an average of 4.99 UNCOPE items (SD = 1.13).

***Figure 5.1:* Percent of Arrestees Classified as Dependent by Site**
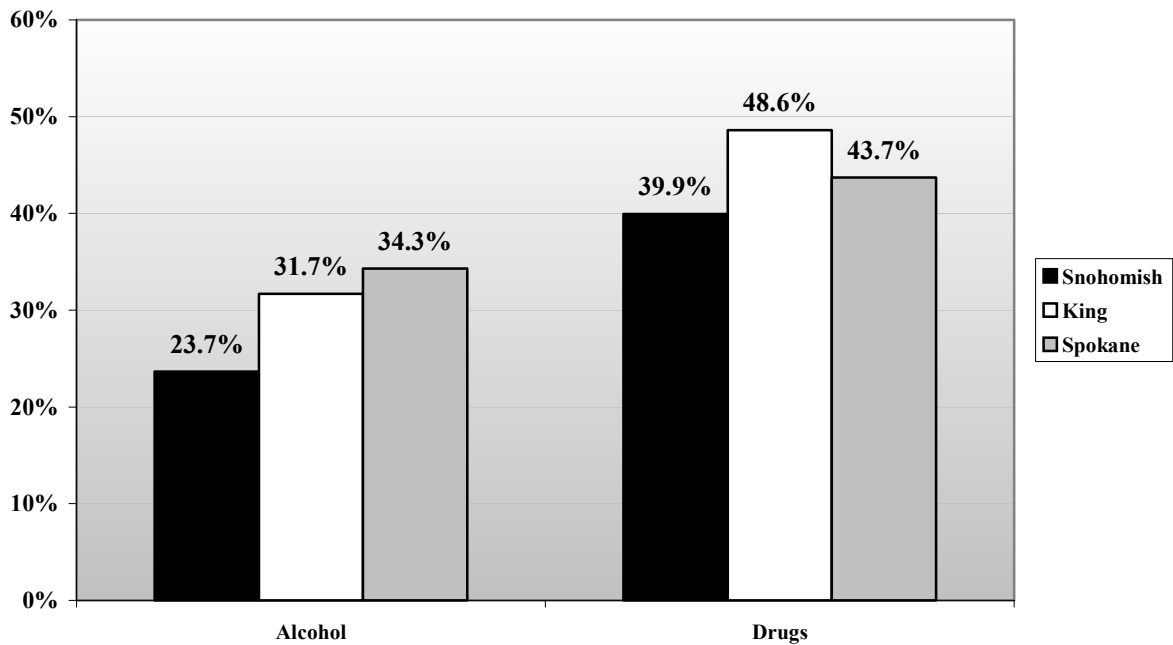
- The percentage of arrestees classified as dependent upon alcohol differed significantly by site.[77] Snohomish County arrestees were the least likely to be classified as dependent upon alcohol.

- The percent of arrestees classified as dependent upon drugs differed significantly by site.[78] Snohomish County arrestees were the least likely to be classified as dependent upon drugs.

Frequency of Dependency

Table 5.2 presents a comprehensive account of alcohol and drug dependency among arrestees from all three sites. In addition to describing overall rates of dependency, this table also describes dependency across different demographic groups.

Below is a summary and discussion of the findings presented in this table:

Age

- Among Snohomish County arrestees, alcohol dependency[79] and drug dependency[80] were both independent of age. That is, rates of dependency did not differ significantly between age groups.

- Similarly, alcohol and drug dependency were independent of arrestee age in King County. However, in Spokane County, alcohol dependency was dependent upon arrestee age.[81]

Racial Groups

- In Snohomish County, dependency on alcohol[82] and dependency on drugs[83] were independent of race. That is, rates of dependency did not differ significantly between racial groups.

- In King County, dependency on drugs were dependent upon race.[84] Here, Hispanic arrestees were less likely to be dependent on drugs than were other racial groups.

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[77] In Snohomish, the percentage of arrestees classified as dependent upon alcohol were based upon 561 responses. Classification of dependent upon drug use were based upon 560 responses. χ^2 (2, $\underline{N}$ = 2242) = 16.15, $\underline{p}$ < .001
[78] χ^2 (2, $\underline{N}$ = 2273) = 12.36, $\underline{p}$ = .001
[79] χ^2 (2, $\underline{N}$ = 561) = 2.53, $\underline{p}$ = .28
[80] χ^2 (2, $\underline{N}$ = 560) = 1.85, $\underline{p}$ = .40
[81] χ^2 (2, $\underline{N}$ = 433) = 7.29, $\underline{p}$ < .05
[82] χ^2 (2, $\underline{N}$ = 561) = 2.02, $\underline{p}$ = .57
[83] χ^2 (2, $\underline{N}$ = 560) = 5.53, $\underline{p}$ = .14
[84] χ^2 (2, $\underline{N}$ = 1277) = 32.24, $\underline{p}$ < .001

Education Level

- In Snohomish County, arrestees classified as dependent on alcohol and drugs[85] did not differ by level of education. This pattern was not observed in King County and Spokane County.

- In King County, dependency on drugs differed by education level.[86] In Spokane County, dependency upon both alcohol and drugs differed by education level.[87]

Marital Status

- In Snohomish County, dependency on drugs and alcohol were statistically independent of marital status.[88] Similarly, in Spokane County, dependency on drugs and alcohol were statistically independent of marital status.[89]

- In King County, dependency on drugs were dependent upon marital status[90]—those arrestees who were married were less likely to be dependent upon drugs.

Residence Type

- In Snohomish County, arrestees living in a house or apartment were no more likely to be dependent upon alcohol than were arrestees that were homeless.[91] Similarly, arrestees living in a house or apartment were no more likely to be dependent upon drugs than were arrestees who were homeless.[92]

- In King County, homeless arrestees were more likely to be dependent upon drugs than were arrestees who lived in a house or apartment.[93]

- In Spokane County homeless arrestees were more likely to be dependent on both alcohol[94] and drugs.[95]

Employment

- In Snohomish County, unemployed arrestees were significantly more likely to be dependent upon both alcohol[96] and drugs.[97]

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[85] Alcohol, χ^2 (4, $\underline{N}$ = 561) = 1.85, $\underline{p}$ = .76. Drugs, χ^2 (4, $\underline{N}$ = 560) = 5.35, $\underline{p}$ = .25.
[86] χ^2 (4, $\underline{N}$ = 1279) = 9.79, $\underline{p}$ < .05
[87] Alcohol, χ^2 (4, $\underline{N}$ = 433) = 10.76, $\underline{p}$ < .05. Drugs, χ^2 (4, $\underline{N}$ = 433) = 10.47, $\underline{p}$ < .05
[88] Alcohol, χ^2 (2, $\underline{N}$ = 557) = 2.55, $\underline{p}$ = .28. Drugs, χ^2 (2, $\underline{N}$ = 561) = 1.24, $\underline{p}$ = .54.
[89] Alcohol, χ^2 (2, $\underline{N}$ = 426) = 4.61, $\underline{p}$ = .10. Drugs, χ^2 (2, $\underline{N}$ = 427) = 0.68, $\underline{p}$ = .71.
[90] χ^2 (2, $\underline{N}$ = 1253) = 9.29, $\underline{p}$ < .01
[91] χ^2 (1, $\underline{N}$ = 518) = 2.46, $\underline{p}$ = .11
[92] χ^2 (1, $\underline{N}$ = 515) = 3.16, $\underline{p}$ = .08
[93] χ^2 (1, $\underline{N}$ = 1129) = 33.59, $\underline{p}$ < .001
[94] χ^2 (1, $\underline{N}$ = 403) = 7.11, $\underline{p}$ < .01
[95] χ^2 (1, $\underline{N}$ = 403) = 8.88, $\underline{p}$ < .01
[96] χ^2 (1, $\underline{N}$ = 549) = 6.79, $\underline{p}$ < .01
[97] χ^2 (1, $\underline{N}$ = 546) = 13.71, $\underline{p}$ < .001

- In both King County and Spokane County, alcohol dependency was independent of employment. Conversely, in both King County and Spokane County, drug dependency was more prevalent among the unemployed.[98]

Table 5.2: **Percent of Arrestees Dependent Upon Alcohol and Drugs by Demographic Groups and Site**

	Alcohol			Drugs		
	Snohomish County	King County	Spokane County	Snohomish County	King County	Spokane County
Overall % Dependent	23.7	31.7	34.3	39.9	48.6	43.7
Age						
18-24	19.4	28.2	30.5*	43.1	48.0	39.2
25-34	25.2	33.1	28.6	41.0	48.2	51.3
35+	25.9	33.4	42.3	36.5	49.5	42.4
Race						
White	23.1	32.2	35.2	42.0	54.1*	44.4
Black	20.4	30.2	15.5	31.6	50.9	42.9
Hispanic	31.8	29.4	34.8	23.1	28.7	30.4
Other	29.9	33.4	38.4	36.3	43.2	47.9
Education						
No Degree	26.1	33.8	39.7*	42.7	51.7*	50.7*
HS/GED	22.4	31.6	38.3	42.9	47.5	45.6
Voc./Trade School	25.6	36.6	42.0	39.7	43.9	56.8
Some College	24.4	31.2	23.8	30.5	51.9	34.1
4 Year Degree +	14.7	22.0	17.4	40.0	34.2	25.2
Marital Status						
Single	22.5	31.7	31.3	41.4	48.0*	44.1
Divorced/Separated	29.1	34.5	42.4	40.1	55.3	44.6
Married	21.0	23.8	31.1	35.2	40.0	38.6
Residence Type						
House/Apartment	22.2	30.3	30.5*	38.4	44.8*	40.5*
Homeless	33.7	37.7	52.8	53.4	70.6	66.8
Employment Status						
Employed	18.9*	30.1	34.4	32.6*	39.2*	34.7*
Unemployed	28.3	33.6	34.5	48.2	59.3	50.8

* Within site differences statistically significant at p < .05.

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[98] In King County, χ^2 (1, $\underline{N}$ = 1264) = 50.97, $\underline{p}$ < .001. In Spokane, χ^2 (1, $\underline{N}$ = 431) = 11.26, $\underline{p}$ < .001.

Dependency by Income Group

Data on arrestee income are **not** part of the ADAM questionnaire and were collected only in Snohomish County. Income analyses examine the relationship of arrestee annual income with classification as dependent upon alcohol and drugs.

Figure 5.2: **Percent of Arrestees Classified as Dependent Upon Alcohol and Drugs by Income Level**
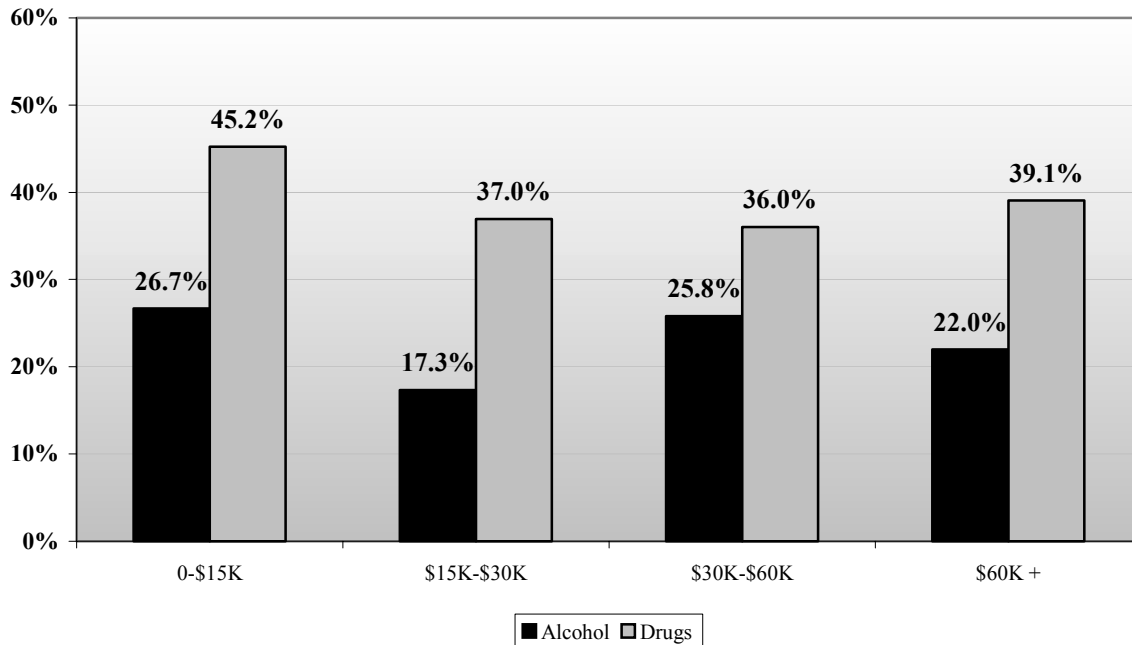
- Classification of arrestee as dependent upon alcohol was statistically independent of income level.[99] That is, arrestees from one income group were just as likely to be classified as dependent upon alcohol as arrestees from another income group.

- Similarly, classification of arrestee as dependent upon drugs was statistically independent of income level.[100]

Co-Morbidity of Alcohol and Drug Dependence

Clearly, dependence upon alcohol does not preclude dependence upon other illicit substances. Figure 5.3 describes the proportion of Snohomish County arrestees who are dependent upon alcohol only, drugs only, and who are dependent upon both drugs and alcohol.

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[99] $\chi^2(3, \underline{N} = 510) = 4.95$, $\underline{p} = .18$
[100] $\chi^2(3, \underline{N} = 507) = 3.67$, $\underline{p} = .30$

Figure 5.3: **Percentage of Snohomish County Arrestees**
Classified as Dependent Upon Substances (N = 557)
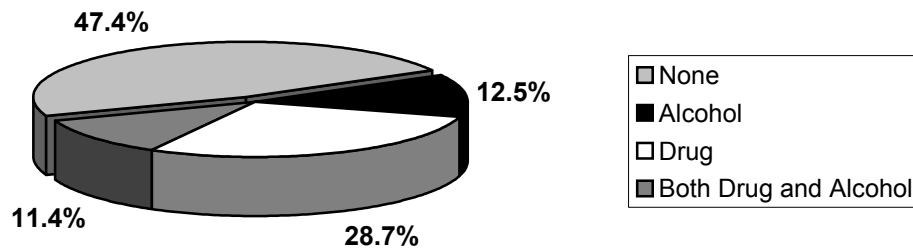
- Just over half (52.6%) of arrestees were classified as being dependent upon any substance.

- Approximately one-fifth of all Snohomish County arrestees classified as dependent (11.4% of sample) were dependent upon both alcohol and drugs.

Arrestee Reports of Substances Eliciting Dependency Symptoms

Arrestees who gave an affirmative response to any of the UNCOPE items when asked about drug use were subsequently asked to indicate all substances that produced these symptoms. As some substances were far more commonly used than other substances (e.g., marijuana vs. heroin) results were also presented as a proportion of arrestees reporting use of a particular substance.
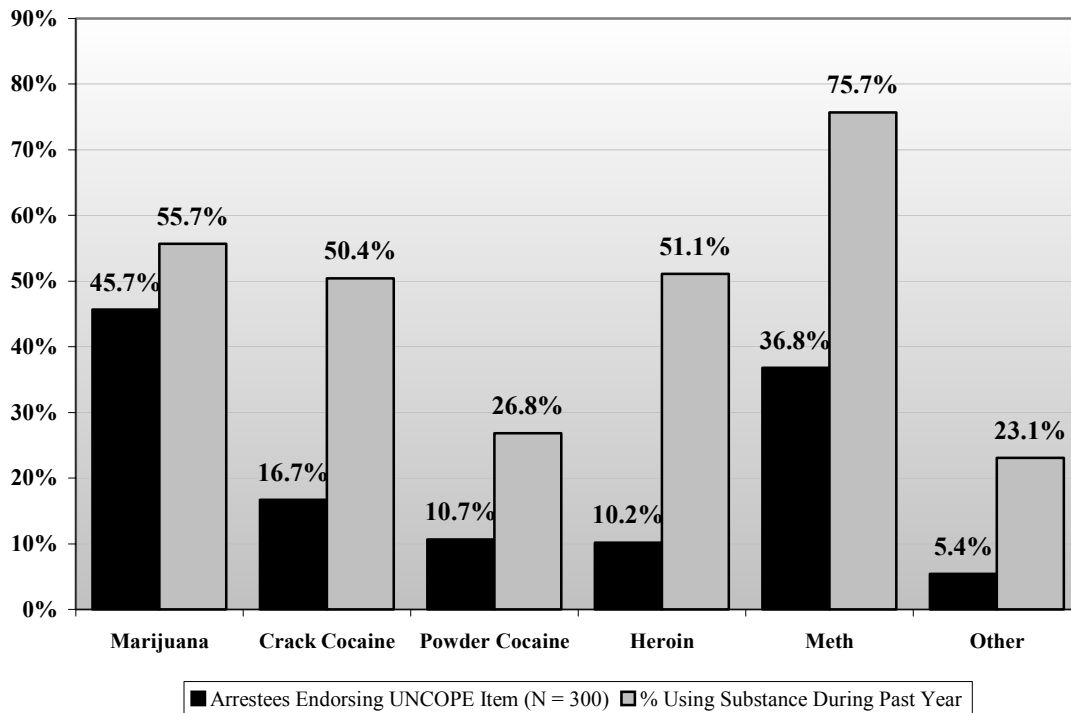
- As arrestees were free to choose more than one substance, the totals in the above chart exceed 100%.

All Reports of Drugs Causing UNCOPE Symptom:

- Marijuana, the more frequently used illicit substance, was also most commonly indicated by arrestees as causing symptoms of dependency and abuse.

- The second most commonly cited substance was methamphetamine. This substance was cited by over one-third of arrestees indicating UNCOPE symptoms.

Reports as Proportion Using Specific Substances:

- Approximately one-half of arrestees who used marijuana, crack cocaine, or heroin in the past 12 months indicated that these substances caused an UNCOPE symptom.

- Less than one-quarter of arrestees who used powder cocaine or "other" illicit substances in the past 12 months indicated that these substances caused an UNCOPE symptom.

- Over three-quarters (75.7%) of arrestees who used methamphetamine in the past 12 months reported that this substance caused an UNCOPE symptom.

Arrestee Treatment Experiences

The treatment section used in the interview administered in Snohomish County differed considerably in format and content from the treatment questions asked in the ADAM survey. Specifically, Snohomish County arrestees were asked to differentiate more finely between the types of treatment utilized. Given the discrepancies between Snohomish County and ADAM, analyses in this section will be largely restricted to Snohomish County.

Analyses in this section have two primary focuses. First, an effort is made to describe the proportion of arrestees receiving any treatment and the types of treatment received. Second, an effort is made to examine the relationship between need for treatment and treatment received.

Ever Utilized Substance Treatment

- As shown in Figure 5.5, more than half of Snohomish County arrestees reported ever being in some form of drug or alcohol treatment.

***Figure 5.5:* Percentage of Snohomish County Arrestees Indicating Ever in Drug or Alcohol Treatment (N = 538)**
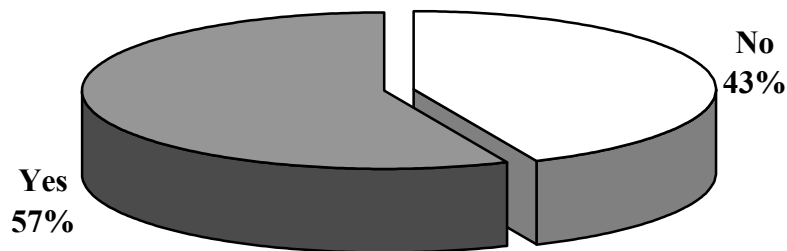
- Just under one-half of arrestees in King County (47.8%) and Spokane County (47.3%) reported ever receiving inpatient or outpatient treatment for drug or alcohol use.[101]

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[101] These figures are provided for some comparison, but it should be noted that the questions asked during the ADAM interview are more restrictive and this could contribute to the relatively lower percentages.

Substance Treatment in Past Year

- Less than one-third of Snohomish County arrestees (28.9%) reported receiving **any** treatment for drug or alcohol use during the past 12 months.

Figure 5.6: **Percentage of Snohomish County Arrestees Indicating Drug or Alcohol Treatment During the Past Year (N = 529)**
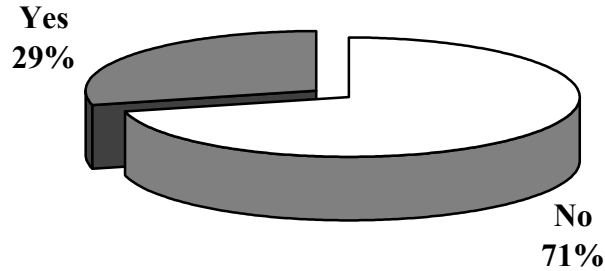
Types of Treatment Used in Past Year

Arrestees were asked a number of questions to identify the different types of treatment that had been utilized by this population in the past year.

- These analyses are based only upon arrestees who reported ever using treatment

Detoxification

Often, the first form of "treatment" for chemical dependency considered is detoxification. It should be noted that arrestees who indicated that they had received detoxification could have received this as part of another treatment program.

Figure 5.7: **Percentage of Arrestees Reporting Utilizing Chemical Detoxification (N = 305)**
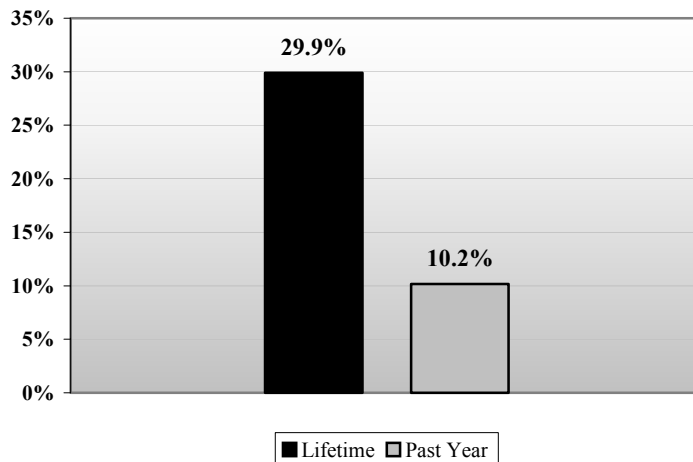
- Figure 5.7 shows that less than one-third of arrestees had ever received "detox" during their lifetime, and about 1 in 10 arrestees had received detox in the past 12 months.

- Among those arrestees reporting entering a detox facility in the past year, they reported spending an average of 10.5 days, although there was considerable variation ($\underline{SD} = 26.9$).

Treatment Programs

Figure 5.8 refers to treatment programs that occur in a number of different settings from self-help groups to inpatient treatment.

Figure 5.8: **Arrestee Reports of Types of Treatment Received for Chemical Dependency in Past 12 Months ($\underline{N} = 305$)**
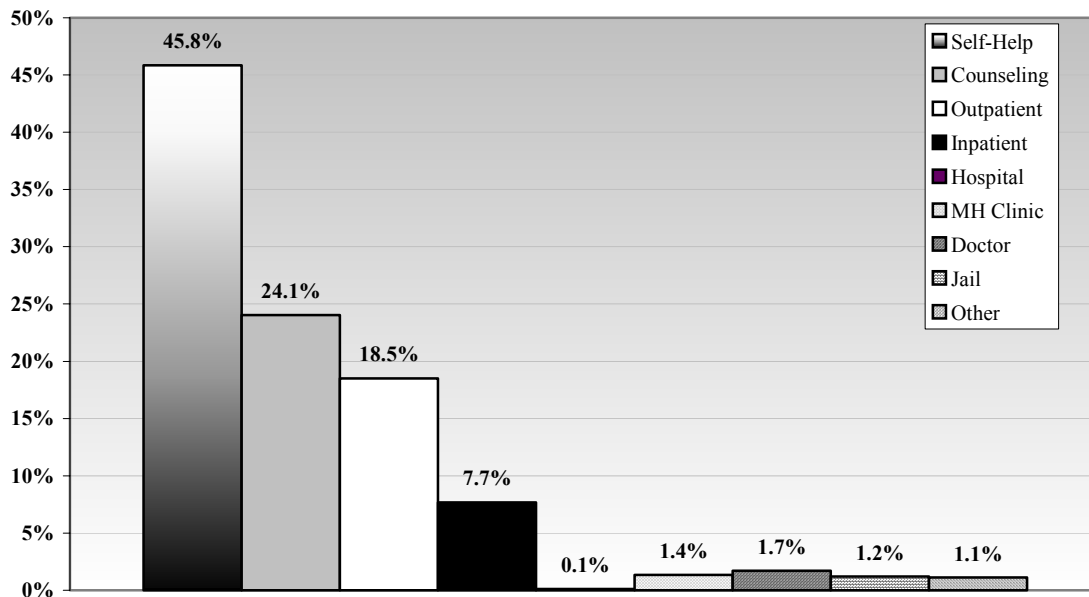
- Nearly half (48.5%) of those who reported ever receiving any treatment reported not using any treatment during the past year, and 26.8% reported using only form of treatment during the past 12 months.

- Self-help, professional counseling, outpatient treatment, and inpatient treatment accounted for the majority of all treatment during the past 12 months.

  - The average number of nights in self-help groups was 63.5 ($\underline{SD} = 80.9$).

  - The average number of days in outpatient treatment was 6.0 (SD = 39.3).

  - The average number of days in inpatient treatment was 41.1 (SD = 46.0).

Arrestees who had health insurance (47.4%) were significantly more likely to report receiving treatment during the past 12 months than were arrestees who did not have health insurance (32.9%).[102]

Assessing Need for Treatment

Three separate sets of analyses were conducted to attempt to address the issues of unmet substance treatment needs. Each has its strengths and limitations, and it is hoped that by providing all three, a better picture of treatment needs can be gathered. The three methods presented here are:

1) A straight forward analysis that looks at the arrestees classification as dependent and whether they have reported treatment.

2) Arrestees urinalysis results and whether they have received treatment in the past year.

3) Reports of "heavy" substance use in the past 30 days and arrestee treatment history in the past 12 months.

Using UNCOPE to Determine Need

The first method of approaching this question utilizes the UNCOPE measure to classify arrestees as either dependent on a substance (alcohol or drugs) or not dependent. Arrestee participation during the past twelve months can be examined comparatively as a crude measure of treatment needs that are being met. In these analyses, only formal drug or alcohol treatment received as an outpatient or inpatient were considered.

Figure 5.9 describes the results using this technique.

Figure 5.9: **Need for Treatment Based on Classification as Dependent ($\underline{N}$ = 526)**

41.8%

13.2%

45.0%

☐ No Need
■ Receiving Treatment
☐ Need Treatment

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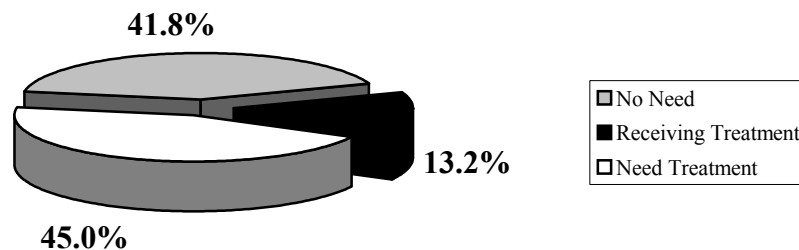
[102] $\chi^2(1, \underline{N} = 525) = 9.64, \underline{p} < .01$

There are three outcomes possible from using this technique. If an arrestee is not classified as having a substance dependence they, regardless of whether or not the reported receiving treatment, are not in need of treatment.

- In this analysis, 41.8% of the arrestees are not in need of treatment.

If an arrestee is classified as dependent and reports receiving treatment, they can be classified as receiving treatment.

- 13.2% of arrestees were classified as dependent **and** reported receiving some form of treatment in the past 12 months and thus fit in this category.

The last possibility, using this technique, is that an arrestee is classified by the UNCOPE as being dependent but does not report receiving any treatment in the past 12 months. This segment of the arrestee population can be classified as having unmet treatment needs.

- 45% of arrestees were classified as dependent **and did not** report receiving any treatment.

The strength of using this technique is that, given the UNCOPE measure's demonstrated validity, it is very liklely that arrestees classified as dependent do indeed need treatment. The weakness of this technique is that it holds that any arrestees who have reported receiving any treatment in the past 12 months are having their treatment needs met. Given that little is known about the extent and success of the treatment experiences, this assumption is not warranted and the end result is that this analysis provides a rather conservative estimate of the need for treatment in the Snohomish County facility. It can reasonably be argued that 45% represents a good number to start with in terms of discussion of unmet treatment needs.

Using Urinalysis Results to Determine Need

Another possible method of measuring treatment need among Snohomish County arrestees is to examine the proportion of arrestees testing positive for illicit substances that do not report receiving any treatment.

Figure 5.10: **Percent of Arrestees Testing Positive for Illicit Substances That Did Not Report Any Treatment in the Past Year**
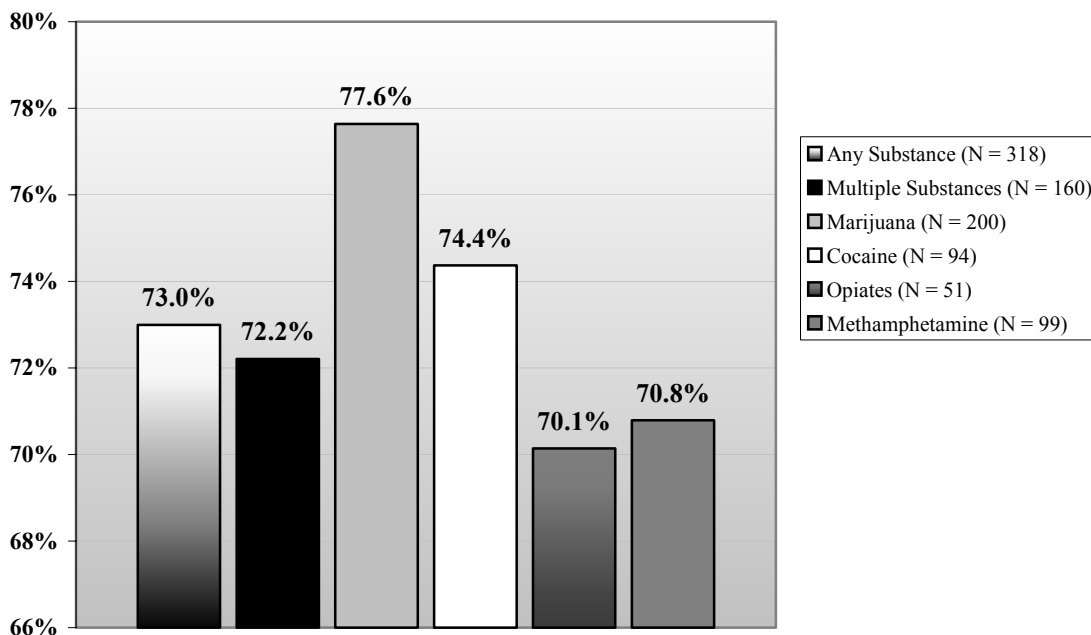
Figure 5.10 presents the percentage of positive urinalysis results for different illicit substances where the arrestee reported not receiving any treatment during the past 12 months. What is immediately evident from this chart is that, regardless of substance type, the majority of arrestees who test positive have not participated in any substance treatment.

- Almost three-quarters (72.2%) of arrestees who tested positive for multiple illicit substances did not participate in treatment during the past 12 months.

Whereas the previous method for determining treatment needs was quite conservative, attempts to use this method as a means to determine treatment needs is not recommended as it is simply too liberal. Testing positive for an illicit substance does not indicate that an arrestee is dependent upon that substance. Nevertheless, this analysis may be of some value to the county in that it clearly shows that a high percentage of arrestees who use drugs do not receive treatment. Urinalysis results represent the most proximal measure of substance use available in this interview and hence the closest link between arrest and substance use.

- It should also be noted that another limitation of this technique is the lack of testing for alcohol use.

"Heavy" Substance Use to Determine Needs

Another technique that can be employed to determine treatment need is to examine the proportion of arrestees who report heavy substance use and do not report receiving any treatment.

- "Heavy" use represents substance use that occurs more than three days per week or more than 13 days per month. This level of use is the highest level of use assessed on the ADAM questionnaire

Figure 5.11: **Percent of "Heavy" Substance Users Who Did Not Receive Any Treatment in the Past Year**

Substance	Percent
Any Substance (N=220)	73.1%
Multiple Substances (N=54)	74.8%
Alcohol (N=77)	67.8%
Marijuana (N=105)	82.0%
Crack Cocaine (N=32)	72.0%
PowderCocaine (N=15)	82.5%
Heroin (N=20)	73.8%
Methamphetamine (N=48)	65.1%
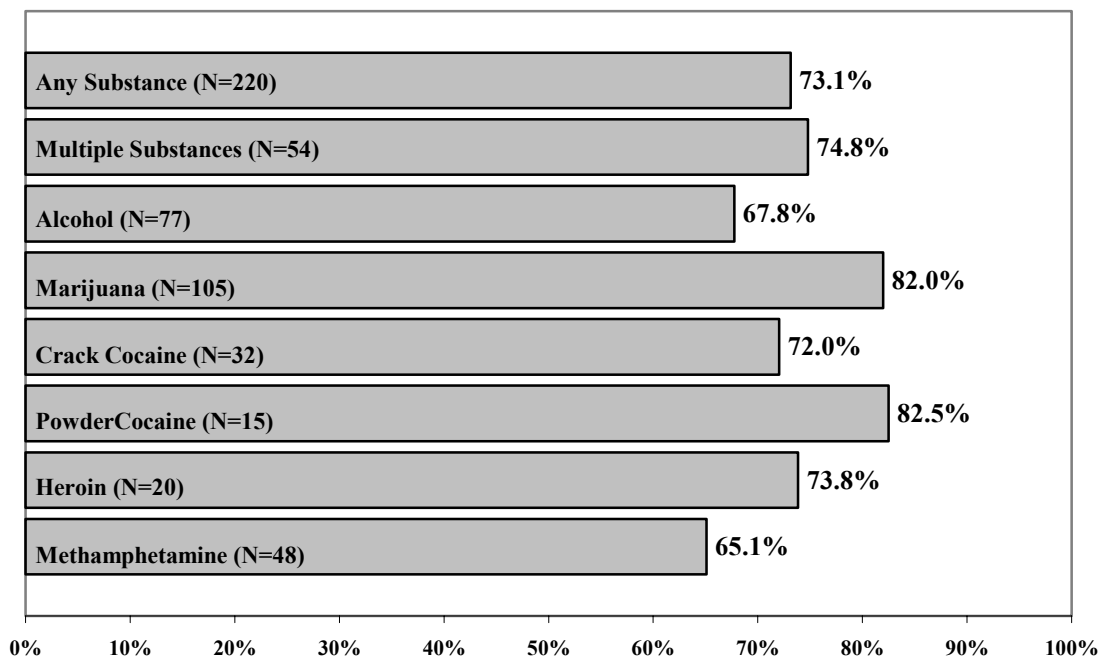
Figure 5.11 describes the proportion of heavy substance users who did not receive any treatment during the past year. From this chart that, as in the previous analysis, regardless of substance type, the majority of heavy users do not report receiving any treatment.

- Nearly three-quarters (74.8%) of arrestees who were heavy users of 2 or more substances did not report any treatment.

The advantage of this analysis over the previous analysis is that, here, use of a particular substance is not an isolated event and represents more of a chronic pattern of use. Again, it would be hard to argue that heavy use is sufficient to demonstrate dependence. While heavy use may not represent dependence, it does indicate a pervasive pattern of use and is more characteristic of chronic use than recreational use.

SECTION VI

Criminal History and Substance Use Among Respondents

This section of the report is concerned with describing the criminal histories of the arrestees in Snohomish County, examining criminal histories by demographic groups, and, finally, examining the relationship between criminal history and substance use.

Table 6.1 describes arrestees' reports of times arrested in the past 12 months.

Table 6.1: **Snohomish County Arrestee Reports of Times Arrested in Past Year ($\underline{N}$ = 557)**

Arrests in Past 12 Months	Percent
No Previous Arrests	45.5
1 to 2 Previous Arrests	38.3
3+ Previous Arrests	16.3

- Over half of arrestees had been arrested in the past 12 months
- Reports of number of arrests in the past year ranged from 0 to 20.
- The average number of arrests during the past 12 months was 1.59 ($\underline{SD}$ = 2.45).

The table below describes arrestees' reports of times arrested during their lifetime.

Table 6.2: **Snohomish County Arrestee Reports of Times Arrested in Lifetime ($\underline{N}$ = 544)**

Previous Arrests	Percent
No Previous Arrests	13.2
1 to 4 Previous Arrests	29.1
4 to 10 Previous Arrests	32.4
11+ Previous Arrests	25.3

- The majority (86.8%) of arrestees had ever been arrested prior to their current arrest.
- One-quarter of arrestees indicated that they had been arrested more than 10 times during their lifetime.
- Reports of number of lifetime arrests ranged from 0 to 97.
- The average number of lifetime arrests was 10.6 ($\underline{SD}$ = 15.65).

The table below describes arrestees' reports of number of days spent in jail during their lifetime.

Table 6.3: **Snohomish County Arrestee Reports of Time Spent in Jail or Other Correctional Facility During Their Lifetime ($\underline{N}$ = 547)**

Time in Jail	Percent
No Time in Jail	13.7
1 to 30 Days	31.0
30 Days to 6 Months	17.2
6 Months to 1 Year	11.8
Over 1 year	26.2

- The majority of arrestees (86.3%) reported they had spent at least spent 24 hours in jail prior to their current arrest.

- Over half of arrestees (55.3%) reported they had spent more than one month in a jail or other correctional facility.

- Arrestees reports of time spent in jail ranged from 0 to 8195 days (over 22 years).

- The median number of days spent in jail was 60 days.

Demographic Characteristics and Criminal History

The next table looks at arrestee criminal history by different demographic groups. For this table, the three variables that were described above (arrested in past year, arrested in lifetime, time spent in jail) were transformed to dichotomous yes/no variables. Thus, the percentages listed in the table describe the percent that had that form of criminal history.

Below is a summary and discussion of the findings in this table.

Arrested in Past Year

- The percentage of arrestees who had been arrested in the past 12 months **decreased** with age.[103] Older arrestees were less likely to report being arrested in the past 12 months.

- No significant relationship was found between being arrested in the past year and race.[104]

- The percentage of arrestees that had been arrested in the past year was statistically **independent** of age.[105] Older arrestees were less likely to report being arrested in the past 12 months.

- Being arrested in the past 12 months was statistically dependent upon arrestee marital status.[106] Married arrestees were the least likely to report having been arrested in the past year.

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[103] χ^2(2, $\underline{N}$ = 557) = 7.75, $\underline{p}$ < .05
[104] χ^2(3, $\underline{N}$ = 557) = 2.18, $\underline{p}$ = .54
[105] χ^2(4, $\underline{N}$ = 557) = 1.40, $\underline{p}$ = .84
[106] χ^2(2, $\underline{N}$ = 553) = 6.83, $\underline{p}$ < .05

- Homeless arrestees were more likely than arrestees who lived in a house or apartment to report having been arrested in the past 12 months.[107]

- Unemployed arrestees were significantly more likely than employed arrestees to report having been previously arrested in the past 12 months.[108]

- Arrestees who were classified as dependent upon alcohol were significantly more likely than arrestees not classified as dependent upon alcohol to report having been arrested in the past 12 months.[109]

- Arrestees who were classified as dependent upon drugs were significantly more likely than arrestees not classified as dependent upon drugs to report having been arrested in the past 12 months.[110]

Ever Arrested

- The percentage of arrestees who had ever been previously arrested **increased** with age.[111]

- No significant relationship was found between having ever been previously arrested and race.[112]

- The percentage of arrestees who had ever been previously arrested was significantly related with level of education.[113] College graduates were the least likely to report having been previously arrested.

- Having ever been previously arrested was statistically dependent upon arrestee marital status.[114] Arrestees who were divorced or separated were more likely to have been previously arrested.

- Homeless arrestees were significantly more likely than arrestees who lived in a house or apartment to report ever having been previously arrested.[115] **All** homeless arrestees reported having been previously arrested.

- Unemployed arrestees were significantly more likely than employed arrestees to report having ever been previously arrested.[116]

- Arrestees who were classified as dependent upon alcohol were significantly more likely than arrestees not classified as dependent upon alcohol to report ever having been previously arrested.[117]

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[107] $\chi^2(1, \underline{N} = 512) = 5.37, \underline{p} < .05$
[108] $\chi^2(1, \underline{N} = 543) = 8.62, \underline{p} < .01$
[109] $\chi^2(1, \underline{N} = 556) = 8.52, \underline{p} < .01$
[110] $\chi^2(1, \underline{N} = 557) = 20.23, \underline{p} < .001$
[111] $\chi^2(2, \underline{N} = 544) = 28.85, \underline{p} < .001$
[112] $\chi^2(3, \underline{N} = 544) = 0.96, \underline{p} = .81$
[113] $\chi^2(2, \underline{N} = 544) = 11.87, \underline{p} < .05$
[114] $\chi^2(2, \underline{N} = 541) = 11.24, \underline{p} < .01$
[115] $\chi^2(1, \underline{N} = 499) = 5.67, \underline{p} < .05$
[116] $\chi^2(1, \underline{N} = 530) = 6.72, \underline{p} < .01$
[117] $\chi^2(1, \underline{N} = 556) = 13.21, \underline{p} < .001$

- Arrestees who were classified as dependent upon drugs were significantly more likely than arrestees not classified as dependent upon drugs to report ever having been previously arrested.[118]

Ever in Jail

- The percentage of arrestees who had spent 24 hours or more in jail **increased** with age.[119]

- No significant relationship was found between ever spending 24 hours in jail and race.[120]

- The percent of arrestees who had spent 24 hours or more in jail was significantly related to level of education.[121] College graduates were the least likely to report having spent time in jail.

- Marital status was statistically **dependent** with whether an arrestee had spent 24+ hours in jail.[122]

- Homeless arrestees were significantly more likely to report having spent 24+ hours in jail than arrestees who lived in a house or apartment.[123] **All** homeless arrestees reporting spending time in jail.

- Unemployed arrestees were significantly more likely to report having spent 24+ hours in jail than employed arrestees.[124]

- Arrestees classified as dependent upon alcohol were significantly more likely than arrestees not classified as dependent upon alcohol to report having spent 24+ hours in jail.[125]

- Arrestees classified as dependent upon drugs were significantly more likely than arrestees not classified as dependent upon drugs to report having spent 24+ hours in jail.[126]

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[118] $\chi^2(1, \underline{N} = 557) = 7.54, \underline{p} < .01$
[119] $\chi^2(2, \underline{N} = 547) = 21.90, \underline{p} < .001$
[120] $\chi^2(3, \underline{N} = 547) = 2.18, \underline{p} = .54$
[121] $\chi^2(2, \underline{N} = 547) = 19.53, \underline{p} < .001$
[122] $\chi^2(2, \underline{N} = 545) = 8.66, \underline{p} < .05$
[123] $\chi^2(1, \underline{N} = 502) = 6.02, \underline{p} < .05$
[124] $\chi^2(1, \underline{N} = 533) = 6.78, \underline{p} < .01$
[125] $\chi^2(1, \underline{N} = 556) = 11.75, \underline{p} < .001$
[126] $\chi^2(1, \underline{N} = 557) = 13.12, \underline{p} < .001$

Table 6.4: **Percent of Snohomish County Arrestees Arrested in Past Year, Ever Previously Arrested, and Ever Jailed by Demographic Characteristics**

	Arrested in Past Year	Ever Previously Arrested	Ever 24 hrs + in Jail
Overall	54.5	86.8	86.3
Age			
18-24	60.6*	75.3*	76.0*
25-34	57.5	91.2	91.8
35+	47.2	92.8	90.0
Race			
White	54.4	87.4	87.0
Black	60.0	85.7	83.1
Hispanic	47.2	82.0	78.0
Other	55.5	83.7	87.2
Education			
No Degree	57.5	83.5*	84.8*
HS/GED	53.3	89.8	88.5
Voc./Trade School	58.8	92.3	94.0
Some College	51.9	85.8	85.1
4 Year Degree +	51.9	68.3	59.0
Marital Status			
Single	57.7*	84.6*	85.1*
Divorced/Separated	56.0	96.5	94.2
Married	43.1	83.4	80.9
Residence Type			
House/Apartment	52.1*	85.3*	84.6*
Homeless	72.1	100.0	100.0
Employment Status			
Employed	48.0*	82.8*	82.5*
Unemployed	60.6	90.5	90.3
Alcohol Dependency			
Not Dependent	51.2*	84.2*	83.7*
Dependent	65.7	96.4	95.4
Drug Dependency			
Not Dependent	46.9*	84.0*	82.3*
Dependent	66.3	91.9	93.0

Substance Dependency was determined by UNCOPE measure.

* Differences statistically significant at $p < .05$.

Criminal History and Heavy Substance Use

Table 6.5 examines the relationship between prior criminal history and heavy substance use. This data here show a remarkably consistent pattern—any heavy substance use is associated with greater criminal history.

Table 6.5: **Percent of Arrestees Reporting Previous Arrests and Time in Jail by Heavy Substance Use**

	Any Heavy Substance Use	Multiple Heavy Substance Use
Arrests in Past Year		
No Arrests	29.3*	7.4*
1 or 2 Arrests	44.8	9.5
3 + Arrests	54.6	16.6
Lifetime Arrests		
No Arrests	20.8*	1.5*
1 to 3 Arrests	30.7	6.8
4 to 10 Arrests	45.0	10.0
11+ Arrests	48.3	17.9
Time in Jail		
No Jail Time	15.7*	0.0*
1 day to 1 Month	32.5	7.9
1 Month to 6 Months	42.5	13.3
6 Months to 1 Year	45.4	13.8
Over 1 Year	53.6	12.2

Heavy use indicates use during 13 or more days/month. Substances include alcohol, marijuana, crack cocaine, powder cocaine, heroin, and methamphetamine.
* $p < .05$.

Below is a summary and discussion of the findings in this table.

Arrests in Past Year

Arrestees reporting heavy substance use reported a greater number of arrests during the past year:

- Number of arrests in past year was dependent upon any heavy substance use.[127]

- Number of arrests in past year was dependent upon multiple heavy substance use.[128]

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[127] $\chi^2(2, \underline{N} = 547) = 34.50, \underline{p} < .001$
[128] $\chi^2(4, \underline{N} = 547) = 12.50, \underline{p} < .05$

Lifetime Arrests

Arrestees reporting heavy substance use also reported a greater number of arrests during their lifetime:

- Number of lifetime arrests was dependent upon any heavy substance use.[129]
- Number of lifetime arrests was dependent upon multiple heavy substance use.[130]

Jail Time

Arrestees reporting heavy substance use also reported spending a greater amount of time in during their lifetime:

- Time spent in jail was dependent upon any heavy substance use.[131]
- Time spent in jail was dependent upon multiple heavy substance use.[132]

Criminal History and Urinalysis Results

Table 6.6 examines the relationship between prior criminal history and testing positive for illicit substances. With the exception of marijuana, testing positive for illicit substances was generally associated with greater criminal history.

Table 6.6: **Percent of Arrestees Testing Positive for Illicit Substances by Arrest History**

	Marijuana	Cocaine	Opiates	Methamphetamine
Arrests in Past Year				
No Arrests	37.6	14.4*	9.0	11.9*
1 or 2 Arrests	43.6	18.7	9.4	22.3
3 + Arrests	37.3	27.7	12.4	33.1
Lifetime Arrests				
No Arrests	41.0	8.6*	5.1*	10.4*
1 to 3 Arrests	36.3	8.0	6.1	9.5
4 to 10 Arrests	46.3	23.7	10.6	25.7
11+ Arrests	33.9	28.5	15.9	28.1
Time in Jail				
No Jail Time	33.2	6.2*	6.3	6.8*
1 day to 1 Month	41.1	14.3	5.2	12.3
1 Month to 6 Months	42.7	19.5	12.6	23.1
6 Months to 1 Year	31.5	29.4	17.1	32.9
Over 1 Year	41.6	21.9	10.9	25.4

* $p < .05$

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[129] $\chi^2(2, \underline{N} = 557) = 22.18, \underline{p} < .001$
[130] $\chi^2(2, \underline{N} = 557) = 18.31, \underline{p} < .05$
[131] $\chi^2(3, \underline{N} = 544) = 22.35, \underline{p} < .001$
[132] $\chi^2(3, \underline{N} = 544) = 17.23, \underline{p} < .001$

Below is a summary and discussion of the findings in this table.

Marijuana

Testing positive for marijuana was not significantly related to number of arrests in past year, number of arrests during their lifetime, or time spent in jail.

Cocaine

Testing positive for cocaine was associated with criminal history. It must be remembered that EMIT testing for cocaine cannot differentiate between crack and powder cocaine.

Testing positive for cocaine was significantly associated with number of arrests in past year.[133]

- Arrestees testing positive for cocaine reported a greater number of arrests in the past year.

Testing positive for cocaine was significantly associated with number of arrests during the lifetime of the arrestee.[134]

- Arrestees testing positive for cocaine reported a greater number of arrests during their lifetime.

Testing positive for cocaine was significantly associated with time spent in jail.[135]

- Arrestees testing positive for cocaine reported a greater number of days spent in jail.

Opiates

EMIT testing for opiates includes a class of substance (e.g., morphine) rather than just heroin. However, the majority of positive tests for opiates are heroin.

Testing positive for opiates was only significantly associated with number of lifetime arrests.[136]

Methamphetamine

Testing positive for methamphetamine was consistently associated with criminal history.

Testing positive for methamphetamine was significantly associated with number of arrests in past year.[137]

- Arrestees testing positive for methamphetamine reported a greater number of arrests in the past year.

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[133] $\chi^2(2, \underline{N} = 513) = 7.34, \underline{p} < .05$
[134] $\chi^2(3, \underline{N} = 500) = 26.27, \underline{p} < .001$
[135] $\chi^2(4, \underline{N} = 503) = 13.85, \underline{p} < .01$
[136] $\chi^2(2, \underline{N} = 503) = 9.35, \underline{p} < .05$
[137] $\chi^2(2, \underline{N} = 513) = 19.49, \underline{p} < .05$

Testing positive for methamphetamine was significantly associated with number of arrests during the lifetime of the arrestee.[138]

- Arrestees testing positive for methamphetamine reported a greater number of arrests during their lifetime.

Testing positive for methamphetamine was significantly associated with time spent in jail.[139]

- Arrestees testing positive for methamphetamine reported a greater number of days spent in jail.

Severity of Criminal Charges and Urinalysis Results

The next section examines the relationship between severity of criminal charges (felony vs. misdemeanors) obtained from county booking records, and testing positive for illicit substances.

County arrest records could be matched to 488 of the 512 arrestees that provided a urine specimen (95.3%). The severity of charges is described below (Table 6.7).

Table 6.7: **Charge Severity of Arrestees
That Provided Urine Specimen (N = 488)**

Charge Group	Percentage
Felony (N = 189)	38.8
Misdemeanor (N = 299)	61.2

Table 6.8 describes the percentage of arrestees charged with misdemeanors and felonies that tested positive for illicit substances.

Testing positive for illicit substances was generally associated with a greater likelihood of felony arrest.

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[138] $\chi^2(3, N = 500) = 22.54, p < .001$
[139] $\chi^2(4, N = 503) = 22.72, p < .001$

Table 6.8: **Percent of Arrestees Testing Positive for Illicit Substances by Charge Severity (N = 488)**

Substance	Felony	Misdemeanor
Any Illicit Substance	69.5*	56.7
Multiple Illicit Substances	39.2*	30.0
Marijuana	40.5	35.7
Cocaine	20.3	18.7
Opiates[†]	11.8	8.8
Methamphetamine	26.5*	14.9

[†]The urinalysis assay detects opiates, not heroin. While the vast majority of opiate use is heroin, opiates use can also include other substances (e.g., morphine). * $p < .05$.

Below is a summary and discussion of the findings in this table.

- Significantly more arrestees facing felony charges tested positive for any illicit substance than arrestees facing misdemeanor charges.[140]

- Significantly more arrestees facing felony charges tested positive for multiple illicit substances than arrestees facing misdemeanor charge.[141]

- Significantly more arrestees facing felony charges tested positive for methamphetamine than arrestees facing misdemeanor charges.[142]

- No significant differences in the proportion of arrestees testing positive for marijuana, cocaine, opiates was found by charge severity.

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[140] $\chi^2(1, N = 488) = 7.92$, $p < .01$
[141] $\chi^2(1, N = 488) = 9.55$, $p < .01$
[142] $\chi^2(1, N = 488) = 9.58$, $p < .01$

SECTION VII

Summary and Suggestions for Further Investigation

Project Summary

The results presented in this report represent the efforts of 47 days of interviews conducted between November 2002 and January 2003. This data collection effort progressed quite well; interviewers were able to obtaining participation from a high number of arrestees. This report also contains ADAM data from King County and Spokane County that were collected during 2001 and the first two quarters of 2002.

The data collected in Snohomish County included arrestee information on demographic characteristics, drug use, treatment history, and criminal background. Most of the arrestees who participated in the interview also agreed to provide a urine sample that was subsequently analyzed for evidence of drug use.

This report provides a comprehensive description of the Snohomish County arrestee population and to describe patterns of substance use, dependence, and treatment experiences. Given the sheer quantity of data that was obtained during the interview, this report is not an exhaustive account of the information collected. Because of this, and because it is reasonable to assume that the County may desire a specific analysis that is not included in this report, an exhaustive list of the specific questions is provided at **www.lgan.com**.

Future Directions for Investigation

It is our hope that the information presented in this report will be of considerable use. There are, however, a number of additional topics or considerations that were not included in the interview that may be worthy of further consideration should time and budget permit.

Briefly, these are:

- **Market and Use:** Due to time considerations and additional programming requirements, information on the drug market was not included in the Snohomish County interview. These data include such items as: (1) whether drugs were paid for with cash or with other forms of payment; (2) how much was paid for drugs; (3) how the arrestee contacted the person who sold them drugs (e.g., phone, work); (4) where drugs were obtained (e.g., house or apartment, park); (5) how frequently drugs were purchased; (6) amount of drug that was obtained; (7) frequency of purchases; (8) any impediments to obtaining desired substance; and, (9) how substance was used (e.g., smoked, snorted, injected).

- **Female Arrestees:** Only male arrestees were considered in the current study. Given that the goal was to obtain a sample of 500 interviews, focusing solely on male arrestees was

a decision made to maximize the power available for analyses. Male and female arrestees are analyzed separately, and the inclusion of females would have reduced the power available. This decision does not mean that information on female arrestees is not valuable. In some ADAM sites, NIJ collects data on female arrestees for ADAM and female arrestees accounted for almost 1 out of 5 bookings in Snohomish County (19.5% of arrestees booked from January 2001 through March 2003 were female). A project designed to collect information on female arrestees would provide useful information on a sizeable segment of the jail population that is not addressed in the current report.

- **Larger Sample Size:** While 500 interviews is sufficient for addressing many questions, more data allows for more detailed analyses. In some instances in this report, variable categories were collapsed or omitted from some analyses because they did not contain sufficient numbers to be of use (e.g., arrestee housing). Further, in some instances behaviors are relatively rare—for example, roughly 10% of arrestees tested positive for opiates (heroin). This means that the sample of 500 is reduced to 50 when one is interested in characteristics of heroin users. When the sample is further disaggregated to examine heroin use among specific groups (e.g., by race) one is left with smaller numbers. As the sample size becomes smaller, it is increasingly at risk for being influenced by a single arrestee who is not representative of the population. Increasing the sample size would allow for greater confidence when considering relatively rare behaviors.

- **Multiple Data Points:** There are two benefits to collecting data at multiple times. The first of these concerns the ability to track changes. One of the strengths of the ADAM program is that data are collected four times (soon to be reduced to three) per year. This allows for sites to monitor trends and to perhaps observe effects of programs that are initiated. The second benefit of collecting data at multiple times is that it increases the likelihood of accurately reflecting the arrestee population. There are myriad ways that data can be influenced by the time of year that it is collected. For example, it is commonly recognized that violent crime increases with high temperatures and thus data collection during summer would indicate greater violence than is actually observed across the year. In another example, agricultural areas that depend upon migrant farmers may experience higher rates of crime and drug use when seasonal workers are unemployed. For these reasons, it is recommended that additional data collection periods be considered.

APPENDIX A

Weighting of Snohomish County Arrestee Sample

Actual Sample Surveyed

Age Group	White	African American	Hispanic	Other	**Total**
18 to 24	125	10	16	36	**187**
25 to 34	107	15	24	26	**172**
35 +	157	16	15	20	**208**
Total	**389**	**41**	**55**	**82**	**567**

Sample Weights

In order to ensure that the sample interviewed reflects the population served by Snohomish County, the surveyed sample was compared with booking records in terms of age and race. Data were stratified into three age groups and four racial categories. The survey sample stratification is reflected in the table above and the booking population is reflected in the table below.

Age Group	**White**	**African American**	**Hispanic**	**Other**	**Total**
18 to 24	11176	1276	1121	875	**14448**
25 to 34	12328	1182	833	833	**15176**
35 +	15710	1277	474	775	**18236**
Total	**39214**	**3735**	**2428**	**2483**	**47860**

Weights were assigned based upon the relative representation of the 12 (3 Age Groups × 4 Races) groups. Weights of less than 1.0 indicate that the surveyed population contained a relatively greater proportion of that segment of the booking population (e.g., Hispanics aged 35 and over). Weights greater than 1.0 indicate that that the survey underrepresented a particular segment of the booking population (e.g., African Americans between the ages of 18 and 24).

Weights were calculated for each arrestee surveyed through the application of this simple formula:

[(Age Group Booked * Race Group Booked)/ Age Group Surveyed * Race Group Surveyed)] / (Total Number Bookings/Total Number Surveyed)

e.g., For white arrestees between the ages of 18 and 24, the weight was derived from the following calculation: [(11176)/(125)] / (47860/567) = 1.06

Weights are listed in the table below:

Age Group	**White**	**African American**	**Hispanic**	**Other**
18 to 24	1.06	1.51	0.83	0.29
25 to 34	1.36	0.93	0.41	0.38
35 +	1.19	0.95	0.37	0.46

APPENDIX B

Chi-Square Test of Independence

A simple example will be used to explain the logic behind the chi-square test of independence.

If you flip a "fair" coin it is reasonable to **expect** that the coin would come up heads 50% of the time and tails 50% of the time. Of course, flipping a coin rarely turns out the *exact* result that is expected. A realistic result of flipping a coin 100 times might be that you **observe** 45 heads and 55 tails. Observed frequencies and expected frequencies are presented in the table below:

	Heads	Tails	Total
Observed	45	55	100
Expected	*50*	*50*	*100*

The chi-square test of independence is concerned with the extent observed frequencies deviate from expected frequencies. From the sample (in the above example the sample is 100 coin tosses) we can *infer* to the overall population whether or not observed frequencies are significantly different from expected frequencies—perhaps indicating a trick coin that does not randomly land as heads or tails.

The chi-square is expressed with the following general notation: $\chi^2(df, \underline{N}) = X, \underline{p}$.
- df = degrees of freedom. In the chi-square statistic df = (# of Rows – 1)*(# of Columns –1)
- $\underline{N}$ = number in sample
- X = value of chi-square statistic
- $\underline{p}$ = probability value

We can fill in some of the values from the information available in the above table.

- Our degrees of freedom (2-1)*(2-1) = 1
- $\underline{N}$ = 100 (tosses of the coin)

We must perform a calculation to obtain X. A simplified formula for calculating the chi-square statistic is:

$$\chi^2 = \sum [(O - E)^2 / E]$$

- O = the observed frequency in each category
- E = the expected frequency in each category

Using this formula, we obtain the value of $\chi^2 = [(45\text{-}50)^2 /50] + [(55\text{-}50)^2 /50] = 1$

We must consult a table of the χ^2 distribution to obtain the p value. In this case, the value is 0.32.

Based upon the work done in this sample, we can say that the observed result of the coin tosses were <u>not</u> significantly different than the expected results, $\chi^2(1, \underline{N} = 100) = 1.00, \underline{p} = .32$.

- By convention, when $\underline{p} < .05$ we say that the result is statistically significant.

- It is important to remember that just because a test statistic is statistically significant it does not mean that a practical and meaningful difference exists. A statistically significant result of a 10% difference between two groups may be more important for some questions than for others. It is the responsibility of the policy maker to determine whether a statistically significant result has practical implications.

APPENDIX C

Cumulative Arrestee Participation in Study Across Days of Interviews

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
———	Agree	18	33	45	61	80	93	104	119	135	150	164	175	187	206	226	233	244	263	271	286	299	299	318	328	341	348	353	364	378	391	401	410	418	432	442	459	470	481	485	498	512	522	531	540	548	559	570
–·–·–	Provided	15	28	38	52	70	83	93	106	121	135	149	159	169	187	204	210	218	234	241	255	267	267	282	292	303	310	314	323	334	346	353	362	367	376	386	401	410	420	424	436	450	459	467	475	482	492	503
- - - -	Refused	2	4	10	18	24	28	33	33	38	43	47	51	54	65	76	79	86	97	102	105	105	105	109	115	121	121	121	125	130	132	139	140	145	150	156	157	159	170	170	171	176	183	184	185	186	195	196

Day

APPENDIX D

Characteristics of Arrestees who Participated and Those Who Refused

Of the 776 arrestees approached for the interview, 579 (74.6%) agreed to participate in the interview. This appendix, using data obtained from county records, describes the characteristics of the arrestees that refused to participate.

**Characteristics of Arrestees Refusing and Agreeing
to Interview Obtained from County Records ($\underline{N}$ = 716)**

Arrestee Characteristic	Refused Interview ($\underline{N}$ = 178)	Agreed to Interview ($\underline{N}$ = 538)
Age		
18 to 24	27.0%	32.5%
25 to 34	34.8	32.3
35 +	38.2	35.1
Race		
White	78.1%	79.6%
Black	11.8	9.3
Hispanic	2.8	5.4
Other	7.3	5.8
Charge Severity		
Felony	47.8%	37.9%
Misdemeanor	52.3	62.1

Data are based upon county records and not self-report. Thus, it is possible that figures described here may differ somewhat from those provided elsewhere in the report.

- Rates of refusal did not differ between age groups.[143]

- Rates of refusal did not differ between racial groups.[144]

- Severity of charges was associated with participation.[145] Specifically, arrestees charged with felonies were more likely to refuse than participate.

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[143] χ^2(2, $\underline{N}$ = 716) = 1.93, $\underline{p}$ = .38
[144] χ^2(3, $\underline{N}$ = 716) = 3.28, $\underline{p}$ = .35
[145] χ^2(1, $\underline{N}$ = 716) = 5.37, $\underline{p}$ < .05

APPENDIX E

Sociodemographic Characteristics of Arrestees Interviewed in Snohomish County Compared With 2001 ADAM Data

Table F-1

Primary City	Age (%)						Race/Ethnicity (%)				Employed (%)	H.S. Diploma (%)
	Under 20	21-25	26-30	31-35	36+	Mean Age	White	Black	Hispanic	Other		
Snohomish (N = 568)	13.0	20.8	14.3	16.4	35.4	31.8	81.9	7.8	5.1	5.2	51.2	76.1
Multnomah (N = 820)	9.2	19.1	15.6	17.6	38.5	33.1	63.9	25.0	8.4	2.7	41.6	77.3
King County (N = 836)	15.1	18.2	14.4	15.1	37.2	32.3	61.2	30.2	1.6	7.0	56.1	78.5
Spokane County (N = 436)	16.2	22.2	14.0	13.0	34.6	31.2	81.2	10.2	2.4	6.2	45.8	76.7
National Median [a]	16.2	20.7	14.7	14.7	34.8	31.7	37.7	30.2	5.5	3.3	63.5	71.1

ADAM data are from "Drug Use and Related Matters Among Adult Arrestees 2001"; http://www.adam-nij.net/files/adam2001.PDF. [a] National data represent medians from across 33 ADAM sites.

APPENDIX F

List of Drugs and Drug Classes Detected

Amphetamines: A group of stimulant drugs that increase activity in the central nervous system. Drugs that will result in an amphetamine-positive screen include:
- Amphetamine
- Methamphetamine
- Methylenedioxyamphetamine (MDA)
- Methylenedioxymethamphetamine (MDMA)

Barbiturates: The barbiturate screen detects related drugs in the barbiturate drug group, a class of depressants that affect the central nervous system. The EMIT screen detects metabolites of this drug group. While it is most efficient at detecting secobarbital, the assay also detects other commonly used barbiturates including phenobarbital.

Benzodiazepines: A class of tranquilizers that include a variety of drugs such as valium and klonopin. In addition to detecting the common metabolite of oxazepam, the EMIT assay detects the presence of a number of drugs including:
- Rohypnol
- Halcion
- Lorazepam
- Diazepam

Cocaine: The primary metabolite of cocaine is benzoylecgonine, and this is easily identified in a urine specimen. The EMIT assay for cocaine is specifically designed to detect benzoylecgonine.

Marijuana: Delta-9-tetrahydrocannabinol, or THC, is the primary psychoactive ingredient in marijuana. Practically no THC is excreted in the urine; the EMIT assay relies on a number of metabolites to indicate marijuana use.

Methadone: Methadone is a narcotic analgesic. Methadone is a synthetic narcotic unrelated to morphine, but similar in effect. The EMIT assay is specific to methadone.

Methaqualone: Introduced in 1965 under the name "Quaalude" as a barbiturates substitute. The EMIT assay detects:
- Methaqualone
- Macloqualone

Opiates: A broad class of drugs that include heroin, morphine, codeine, and semisynthetic derivatives of morphine. In addition to the substances mentioned, the EMIT assay also detects:
- Dihydrocodeine
- Hydrocodone
- Hydromorphone
- Levallorphan

Phencyclidine (PCP): A general anesthetic introduced in the 1950s that has become a major drug of abuse because of its potent psychological and behavioral effects. Previously available under such street names as "angel dust" and "hog." In addition to PCP, the EMIT assay also detects a number of metabolites.

Propoxyphene: A narcotic analgesic used for pain relief and includes the trade name of the drug Darvon. The EMIT assay detects:
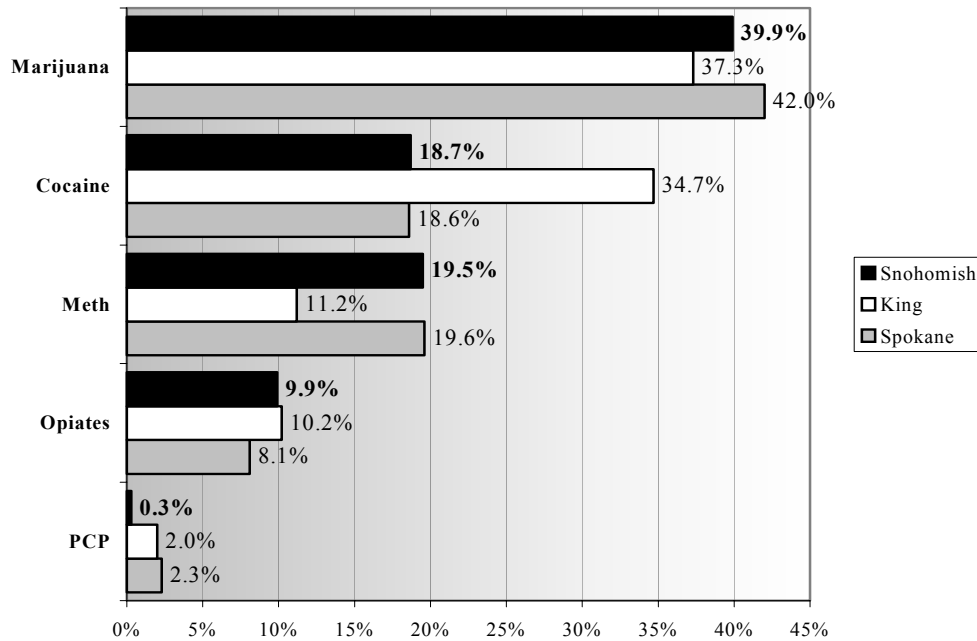- Propoxyphene
- Norpropoxyphene

APPENDIX G

Positive Urinalysis Results for NIDA-5 Drugs in Snohomish, King, and Spokane Counties

The figure below presents the percentage of arrestees that test positive for each of the NIDA-5 drugs.[146]

Percentage of Arrestees Testing Positive for NIDA-5 Drugs by Drugs and Site

- Consistent with self-reports, marijuana was the most prevalent substance.

- Less expected, cocaine was far more prevalent in King County than might be anticipated from self-report.

- Testing positive for marijuana was independent of site,[147] and testing positive for opiates was independent of site.[148]

- Testing positive for cocaine was statistically dependent upon site.[149] Clearly positive cocaine results were more common in King County.

- Testing positive for methamphetamine was statistically dependent upon site.[150] While positive tests for methamphetamine in Snohomish and Spokane Counties were nearly identical, positive tests in King County were significantly lower.

- Use of PCP was quite low at all three Washington sites. Given these low rates, a chi-square statistic was not calculated.

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[146] Crack cocaine cannot be distinguished from powder cocaine. While a positive test for opiates can indicate a number of illicit substances besides heroin, the large majority of opiate use is heroin.
[147] $\chi^2(2, \underline{N} = 2241) = 3.47$, $\underline{p} = .18$
[148] $\chi^2(2, \underline{N} = 2241) = 1.63$, $\underline{p} = .44$
[149] $\chi^2(2, \underline{N} = 2241) = 69.98$, $\underline{p} < .001$
[150] $\chi^2(2, \underline{N} = 2239) = 30.03$, $\underline{p} < .001$

APPENDIX H

Alcohol and Drug Dependence

The Snohomish County interview, like the ADAM questionnaire, uses the UNCOPE measure to assess dependence to alcohol and drugs (Zywiak, Hoffmann, Floyd, 1999).

The UNCOPE consists of 12 questions (six alcohol and six drug) which screen for dependence by assessing:

- **U**se
- **N**eglect of responsibilities
- Wanting to **C**ut down on use
- **O**bjection from others
- **P**reoccupation with substance
- **E**motional discomfort.

Two or more positive responses (out of six) indicate abuse or possible dependence. Four or more positive responses strongly indicate dependence.

- In the analyses used in this paper, a cut score of three is used. This cut score is consistent with that used in ADAM reports and has been supported by an NIJ validity study.

Using a cut score of two produces sensitivities in clinical populations for alcohol, cocaine, and marijuana of 93%, 94%, and 82%, respectively.[151] Specificities for this cut-off are 97%, 99%, and 97%, respectively.[152]

The following are the 12 UNCOPE questions:

Alcohol	Drugs
In the last 12 months, did you spend more time using drinking than you intended?	In the last 12 months, did you spend more time using drugs than you intended?
Did you neglect some of your usual responsibilities because of using alcohol?	Did you neglect some of your usual responsibilities because of using drugs?
Did you want to cut down on your drinking?	Did you want to cut down on your drug use?
In that last 12 months, did anyone object to your alcohol use?	In that last 12 months, did anyone object to your drug use?
Did you frequently find yourself thinking about drinking?	Did you frequently find yourself thinking about using drugs?
Did you use alcohol to relieve feelings such as sadness, anger, or boredom?	Did you use drugs to relieve feelings such as sadness, anger, or boredom?

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[151] Sensitivity is the proportion of dependent individuals (true positives) correctly identified as being dependent (positives).
[152] Specificity is the proportion of nondependent individuals (true negatives) correctly identified as not being dependent (negatives).