

## MEMORANDUM

TO: Ralph Powell, Major

FROM: Don Wyckoff, Laboratory Manager

DATE: September 2, 2004

SUBJECT: Toxicology Program Trends (2000-2004)

### Overview

This is the synopsis of the five-year trend in toxicology analyses by the Forensic Services. The information also includes data that has been collected over the last year from State and federal sources and attempts to correlate the trends observed.<sup>1</sup> Table 1 provides the breakdown of the samples, by type, as submitted to the laboratory during FY2004. This year the samples were also separated as to the total each of blood and urine. A slight rise (5%) was noted between the numbers of samples submitted during this fiscal versus FY2003. Juvenile samples, at a minimum, constituted 19 percent of all

<u>Sample Type</u>	<u>Blood samples</u>	<u>Urine samples</u>	<u>Total</u>	<u>Percent</u>
DRE				
Adult	12	143	155	10.5
Juvenile	0	14	14	0.9
NJDT	0	29	29	2.9
DUID				
Adult	183	308	491	33.5
Juvenile	29	66	95	6.5
Probation & Parole				
Adult	13	65	78	5.3
Juvenile	6	124	130	8.7
Other criminal	52	261	313	21.3
Non-criminal	50	30	80	5.5
Accident Victims	52	19	71	4.9
<b>Total</b>	<b>397</b>	<b>1059</b>	<b>1456</b>	<b>100.0</b>

Table 1: Breakdown of Toxicology Samples Received by ISP-FS in FY2004.

<sup>1</sup> From the 2003 Crime in Idaho, Drug Enforcement Administration 2003 Annual Report, and the Drug Abuse Warning Network 2003 Report.

samples submitted.

Nationally, approximately eight out of ten toxicology submissions (81%) during the last year came from only seven categories: alcohol-in-combination, cocaine, marijuana, heroin, benzodiazepines, antidepressants, and analgesics. Collectively the benzodiazepines, antidepressant, and analgesics constituted nearly 30 percent of samples analyzed, with amphetamine/methamphetamine accounting for approximately 5% of submissions. Alcohol-in-combination with a drug and marijuana comprised 60% of all submissions (roughly 30% each). Unfortunately, again these national numbers do not define any samples having multiple drugs present, which is a large percentage of Idaho's drug abuse population. On the bright side, there does appear to be a decreasing trend in the use of stimulants, nationally.

Methamphetamine is still the drug in greatest demand in the western US, with cannabis and cocaine following in relative order. ISP-FS still mostly analyzes methamphetamine samples (in quantities equivalent to nearly all other drugs); however, our seizures of clandestine laboratories continue to drop and, with it the corresponding clandestine laboratory casework.

Overall, the amount of drugs seized in the US is up only for cocaine. Seizures of heroin, methamphetamine, and marijuana are down dramatically during the last year. At the same time that drug seizures are down, there is a general upward trend in the use of all categories of drugs and with it increased emergency department admissions at US hospitals.<sup>2</sup>

Figures A1 through A3 and B1 through B3 depict the trends in the types and numbers of samples that have been submitted during FY2000 through FY2004. DUIDs continue to comprise (40%) the largest number of samples submitted. Probation and parole and non-criminal samples decreased slightly during the last year. This is due to their increased use of on-site testing devices and not requiring confirmation of drugs detected in the screening process.

### **NJDT Trends**

During FY2003 the Forensic Services received twenty-nine NJDT samples. This is more than a sixty percent increase from FY2002. Agencies submitting these samples were: Shoshone Bannock School District (22), Payette DPS (3), Emmett PD (1), Sandpoint PD (1), Lewiston PD (1), and Franklin CSO (1). The NJDT samples submitted represent slightly less than three percent of all samples submitted with 76% of these total samples being positive for at least one drug. Figures C1 through C5 depict this data.

Cannabis, whether alone or used in combination with other drugs, is the most abused drug within this population sampling. There is no way of gauging the numbers in the student population who are suspected of alcohol-only consumption. These subjects

---

<sup>2</sup> DEA National Factsheet, "2003 Briefs and Backgrounds on Drug Trafficking and Abuse" and NFLIS "Midyear Report 2003."

would most likely be tested on breath testing devices and would not be part of ISP-FS caseload.

Counselors at the Shoshone-Bannock School submitted the largest number of samples due to the fact that counselors at the school are working hard to set up a program to deal with the perceived problem of substance abuse by children with this ethnicity. The positives from this group came to 90 percent.

Obviously, most of the samples during this FY did not come from LE agencies. In part, this may be due to a fewer number of SROs in the districts, statewide, but there is also reluctance on the part of school districts to embrace the NJDT program.

It is interesting to note that according to the latest DHHS<sup>3</sup> information approximately 7 percent of Idaho's school age children above the age of 12 reports having dependence on or using some form of illicit drug during the year. Yet, the total number of juvenile samples tested for drugs during this past school year represents less than 0.03 percent of this same population.

### **Juvenile Trends**

Figures D1 through D6 summarize the results of all juvenile samples (including NJDT) since 2000. Figures D1 and D2 are a breakdown of FY2004 results in urine and blood samples, respectively. Overall the number of samples submitted to the laboratory during FY 2004 rose moderately (10%) from the previous year.

There was a large increase in the percentage of samples containing marijuana only during the last year, but this percentage (37%) is near the five-year average. Poly-drug use still remains high, but the trend appears to be downward.

Again, according to the DHHS research, approximately seven percent of Idaho's population consists of teens with ten percent of this population reporting the use of some drug during the last year. The analyzed toxicology samples represent approximately 0.03% of Idaho's total juvenile population (between 12 and 21).

Figure I2 depicts the blood alcohol samples submitted on juveniles. Forty-one percent of the samples were negative, fifteen percent had an alcohol concentration less than 0.08%, and forty-four percent had alcohol concentrations greater than 0.08%.

### **DRE Trends**

Figures E1 and E2 are the results of DRE sample during FY2004. The number of samples submitted during FY2004 is equal to the number submitted during the last fiscal year, even though there are a declining number of DRE officers within the LE population.

---

<sup>3</sup> Department of Health and Human Services, "State Estimates of Substance Use from the 2002 National Survey on Drug Use and Health."

The total DRE samples analyzed represents approximately 0.03% of Idaho's population that is 16 yrs and older.

Overall there is little change from last year in the relative percentages of the population distributed through the various classes. Still, 26 percent of the samples show multiple drug use by the individuals. The percentage of this sampling having a central nervous system stimulant on-board was 70%, which is up from the last year.

### **Adult Trends**

Figures F1 and F2 depict the results of adult toxicology samples during FY2004. The percentage of samples having THC present was markedly lower from the past five-year average (14% versus 22%). At the same time the percentage of samples having a CNS-stimulant present also was markedly up, not only in the last year (from 16% to 46%), but also over the five-year average (14% versus 46%). The presence of THC is lower within this sample group during this fiscal year, compared to the previous and the five-year average. Whether this is a trend or an anomaly will take a few more years to determine. The number of negatives is relatively high within this population, but this is due to the fact that many crime victims are included within this sampling and also to the ISP-FS policy that blood samples are not routinely analyzed for drugs if the BAC is greater than 0.12 percent. During the year, a number of samples were submitted for gamma-hydroxybutyrate (GHB) analysis. Due to the publicity GHB has received nationally, it is often suspected in cases where individuals exhibit either unusual behavior or cannot remember recent events. However, the drug was identified in only one toxicology sample three controlled substance submissions during the year.

During 2003, there were no submissions in this population that contained narcotic analgesics only. This year, narcotic analgesics represented 6% of the population (adding urine and blood samples). Twenty-eight percent of the samples represent poly-drug use and, this is up slightly from last year. The adult population in Idaho comprises approximately 0.98 million individuals and 0.1% of the population is represented by the samples analyzed during FY2004.

Blood alcohol samples are depicted in Figure I1. Forty-six percent of the samples were negative or represented an alcohol concentration under 0.08%. Fifty-four percent of samples had alcohol concentrations greater than 0.08%.

### **Accident Victim Trends**

Seventy-one accident victim samples were submitted during FY2004. This year was the first time ISP-FS was able to break out adult and juvenile samples into the respective categories of urine and blood and, therefore also be able to report BA levels of both populations. Figures J1 and J2 provide information on the urine samples. Positive juvenile accident fatalities were found to only have CNS-stimulants on-board and consisted of 67% of all samples. The greatest number of adult accident fatalities had either marijuana or a narcotic analgesic detected. The presence of a CNS-stimulant

represented the next greatest percentage of samples, whether alone or in combination. There are a relatively high percentage of negatives in this population, but this may be due partly to passenger victims and drivers who have no drugs or alcohol on-board and to the fact that ISP-FS does not analyze samples if the BA that is taken is above 0.12 percent.

Figures K1 and K2 represent blood alcohol levels for adults and juveniles. In both populations the percentage of samples having alcohol present is approximately one-third.

### **Summary**

Figures H1 through H6 depict the results of all samples submitted to the laboratories. FY2004 differs from the others in that urine and blood samples were separately reviewed during that time where it had not been broken out previously. Overall, the percentage of negatives during the five-year trend is approximately 30 percent. Generally, somewhere around fifty percent of the samples are positive for a single drug type and twenty percent are positive for poly-drug use.

Approximately 10,500 Idahoans were arrested for DUI during 2003. This represents approximately 0.8% of the population, of which ISP-FS analyzed about 5% of all such samples. The remaining 95% of the samples were analyzed using on-site breath testing devices.

Nationally, recent reports from hospital emergency departments continue to show a steady rise in admissions for cocaine, marijuana, heroin, methamphetamine, "rave" drugs (i.e., MDMA), and certain narcotic analgesics (i.e., oxycodone). Although hospital ED admissions for benzodiazepine abuse is up, the numbers still remain below any of those listed above. However, benzodiazepines are a frequently detected drug in the toxicology samples received by ISP-FS.

Nationally, there are some emerging drugs of abuse. These are tryptamine, piperazine, and phenethylamine derivatives. During the last year, tryptamines and phenethylamine derivatives have been detected in controlled substance submissions, but neither has been detected in toxicology samples. In all likelihood, these drugs will begin to show up in future toxicology submissions and, procedures are already in place for the detection of such. All of these compounds are stimulant/hallucinogens, are usually associated with the dance party scene, and all have been placed into the Schedule I category.

If you have questions concerning this report, please feel free to contact me.