

**Idaho State Police
Forensic Services**

**TOXICOLOGY
PROGRAM TRENDS
(1998-2002)**





Idaho State Police

Service since 1939




Director E.D. Strickfaden

Governor Dirk Kempthorne

MEMORANDUM

TO: Ralph Powell, Major

FROM: Don Wyckoff, Laboratory Manager 

DATE: November 2, 2002

SUBJECT: Four- and Five-Year Trends in the Toxicology Program (1998-2002)

Overview¹

This report includes information on the latest five-year trend in toxicology analyses by Forensic Services. The information in this report will include the data that has been collected over the given time frame using categories consistent throughout the time period. Table 1 provides a breakdown of the samples by type, as submitted to the laboratory, during FY2002.

<u>Sample Type</u>	<u>Count</u>	<u>Percent</u>
DRE		
Juvenile	6	0.5
Adult	154	13.7
NJDT	26	2.3
DUID		
Juvenile	25	0.2
Adult	274	26.4
Probation & Parole		
Juvenile	257	22.9
Adult	132	11.7
Other Criminal	182	16.2
Other Non-criminal	64	5.6
Accident Victims	4	0.4
Total	1124	100

Table 1: Breakdown of Toxicology Samples Received by ISP-FS in FY2002

¹ Information other than toxicology data reflects information found in the 2001 Crime in Idaho and the USDOJ, Drug Enforcement Administration Annual Report.

Although this report deals with toxicology trends within Idaho, some correlation should be made to trends in drug use in Idaho, the western United States, and to some extent in the U.S., as a whole. Cannabis/THC and methamphetamine are the two most abused drugs within Idaho and the western U.S. Although the overall size/weight of the samples tested may not nearly be equivalent (marijuana is much higher), the number of cases submitted on each drug is very nearly the same. In the western U.S. methamphetamine is far and away the drug most submitted in cases within the region (39% methamphetamine versus 23 % cannabis/THC). Cocaine runs a distant third to these two drugs of abuse in Idaho; however, its abuse appears to have increased during the last couple of years. Other abused drugs of note are the club or “rave” stimulants (i.e., MDMA and MDA), certain narcotic analgesics (i.e., hydrocodone and oxycodone), and the benzodiazepines (tranquilizers such as alprazolam and diazepam).

Figure A depicts the types of all toxicology samples and their relative percentage during the last five years. Although the overall percentage of DRE/NJDT samples has been declining during the previous three years, the percentage of total samples encompassing this group showed a slight rise during 2002.

Figure B depicts the relative numbers of samples submitted. Although the number of samples is down from the last year (22%), juvenile probations samples showed a slight increase (6%) during the same period. For the first time, we have included accident victim fatalities in the review. Although this comprised a small number of samples during this year, the analytical work associated with this group could be much more substantial during upcoming years.

Figure C depicts the trend in the number of toxicology samples over time. During the last four years the number of submitted samples has remained nearly constant at around 1200 samples/year.

NJDT Trends

Figures 1 through 5 summarize the results of NJDT samples since 1998. The number of samples dropped off during the last year to a five-year low of only 26 samples. However, the percentage of positive samples was substantially greater than at any time in the past (92% versus 72%). Whether this is a result of better training or experience, is not certain.

Cannabis still remains the most abused drug within this age group, whether alone or used in combination with other drugs. Nearly all of the samples originated from school districts in population areas greater than 15,000.

Juvenile Trends

Figures 6 through 9 provide the results of all juvenile samples (including NJDT) since 1999. As evidenced with the NJDTs, THC is the most abused drug, alone or in

combination. A disturbing trend becoming more prevalent is the abuse of combinations of drugs in a greater percentage of samples tested from this population, even though the relative percentages remain fairly small (less than 10%). Approximately 30% of the population was found to be negative at the time of testing.

DRE Trends

Figures 10 through 14 provide the four-year results for DRE samples beginning in 1999. This group continues to have the fewest negative samples (it has remained around 12% for the last four years) from all of the groups submitted. Given the training and experience of DRE officers and the period of time that this program has been in existence, this isn't surprising and reflects nation-wide trends. Unfortunately, more DRE officers are advancing through the ranks quicker than they can be replaced. This is probably the single most important reason that the laboratories are seeing fewer samples submitted than in the past.

Eighty percent of the samples within this group have THC and/or a CNS stimulant present. There was very good correlation between the laboratory results and the conclusions reached by officers doing a DRE evaluation.

Adult Trends

Figures 15 through 18 depict the results of adult toxicology samples since 1999. During 2002 the number of negatives totaled 29 percent of the sample population. Of the total adult population sampled 60 percent had THC and/or a CNS stimulant present. The samples with only THC present have tended constant at around 30 percent of the population during the last five years. At the same time, CNS stimulant use has been around ten percent of the samples with the exception of FY2000, when it peaked at 26 percent.

The variability exists in the multi-drug users that comprise roughly the 20-40 percent of all other samples, depending on a given year. Four years ago this group could be broken down into just five categories where multi-drug abuse occurred. During this FY multi-drug users were broken down into thirteen different categories. It therefore appears that the adult population may be doing its own remediation on the affects of one drug of abuse by abusing yet another.

It also appears that the abuse of CNS stimulants is still on the rise. Whereas four years ago, CNS stimulant use was present in 25 percent of the samples, during the latest year it had risen to 31 percent. This is borne out by the increase in cocaine, MDMA, and ketamine submissions into the laboratories during the past two years.

Accident Victim Trends

This year the laboratory started compiling information on the accident victims that are submitted as part of LE investigations (versus samples submitted by coroners). Only four were submitted during the year with two being negative for any drugs, with one each positive for alcohol and THC.

Summary

Figures 19 through 22 depict the results of all samples submitted to the laboratories broken down into the variety of categories. Figures 23 through 26 depict the breakdown of results based only on whether a sample is negative, a single drug is present, or multiple drugs are present. Over the four years the percentage of negative samples has remained about 30 percent, single drug usage has remained approximately 50 percent, and the multiple drug usage is approximately 20 percent.

The greatest change over the four years has been the growing variety in the 20 percent of the samples that have multiple drugs present. In 1999 the multiple drug categories could be broken down into just three categories, while the most recent year's multiple drug use categories totaled eleven.

Mixing substance may be desirable among abusers, as drug combinations can have complimentary effects. However, combining some substances can greatly increase the potential lethality of these substances. Forensic Services has little or no information on hospital admissions related to drug abuse and therefore cannot correlate information at this time.

Across the U.S. and within the western States THC and cocaine are the most abused combination, with heroin and cocaine a very close second. Idaho varies from this with THC and methamphetamine being the combination most abused; however, the classes of drugs are the same (i.e., cocaine and methamphetamine are both considered stimulants).

The most unusual aspect of all toxicology samples is the approximate one percent of casework where an individual has been found to have all or nearly all of the seven categories of drugs on-board. Every one of these samples has arisen from a DUI arrest.

Finally, the information here provides only a small snapshot of what has occurred in Idaho during the last five years. Post 9-11 there has been a dramatic change in the scope of law enforcement work. Although there has been a dramatic decline in the samples submitted to our laboratories during this year, most of this may be attributable to the redirection of many large agencies' workload. Personnel that were initially designated to programs such as DRE were shifted into other areas as a response to the possibility of terrorist activity or may never have been hired due to the downturn in the economy. There does however, appear to be an increasing trend in the crime rate, reflecting this

downturn in the economy and therefore the FS expects toxicology analyses to grow in the near-term.

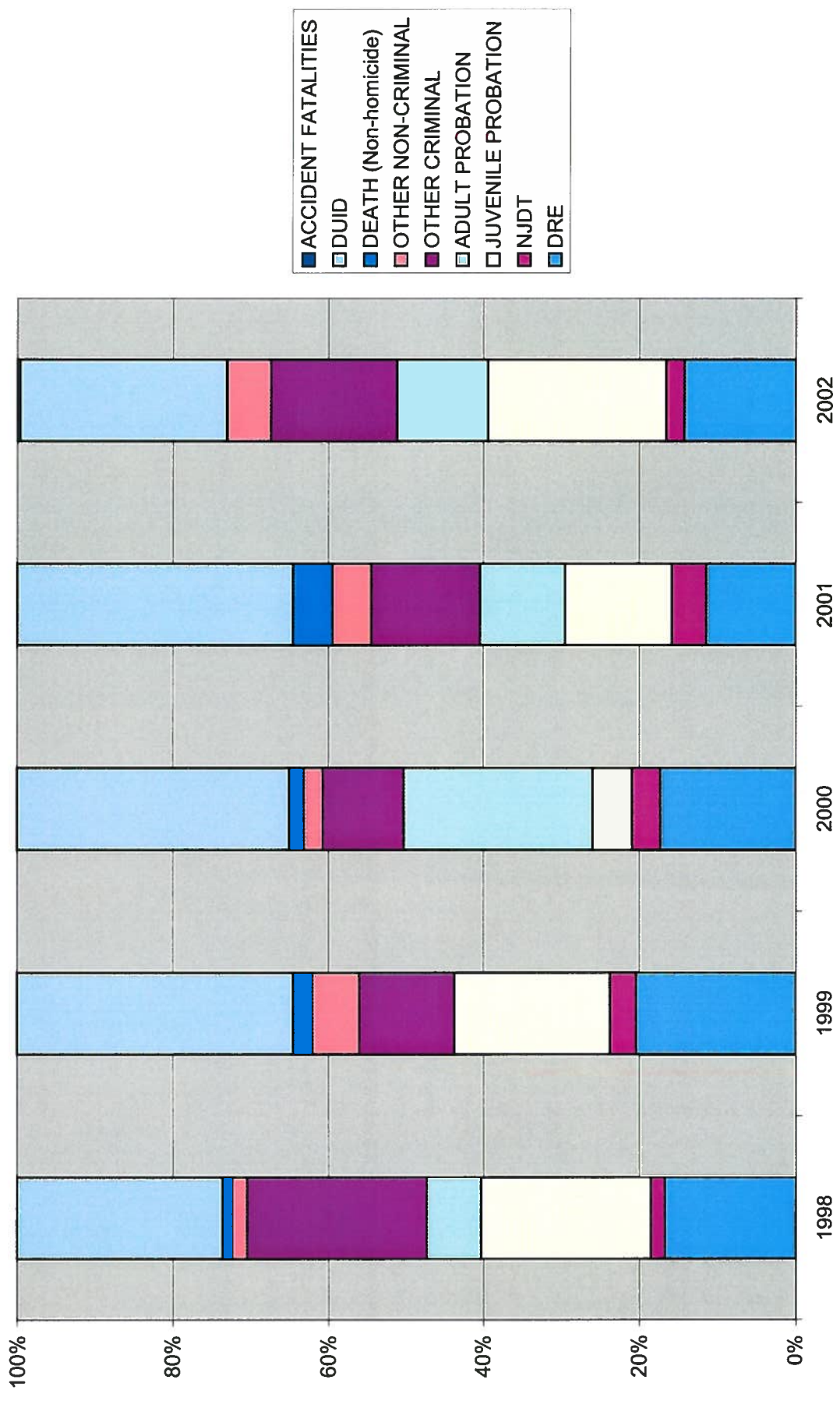


Figure A: Toxicology Cases By Type 1998-2002

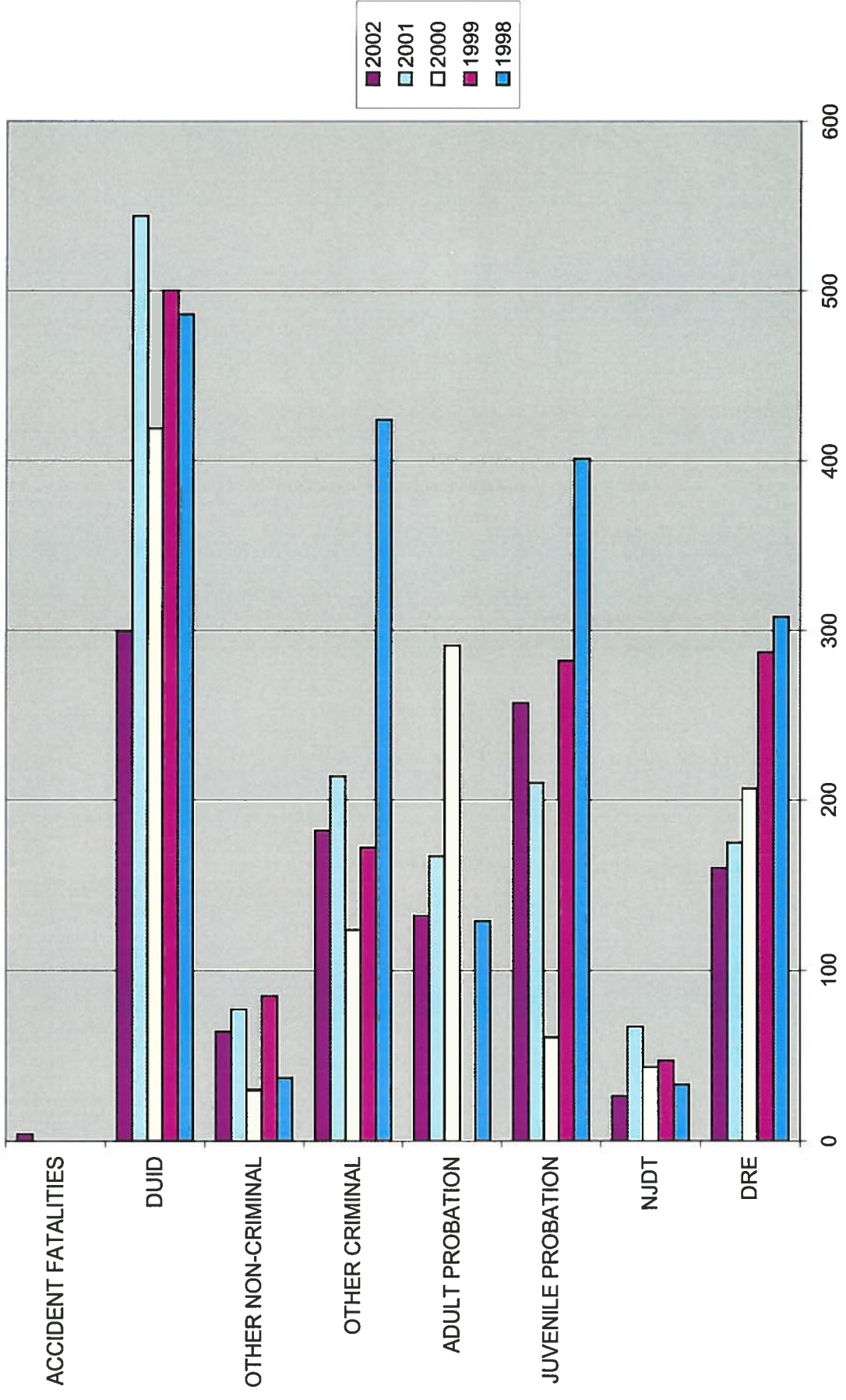


Figure B: Toxicology Cases By Type 1998-2002

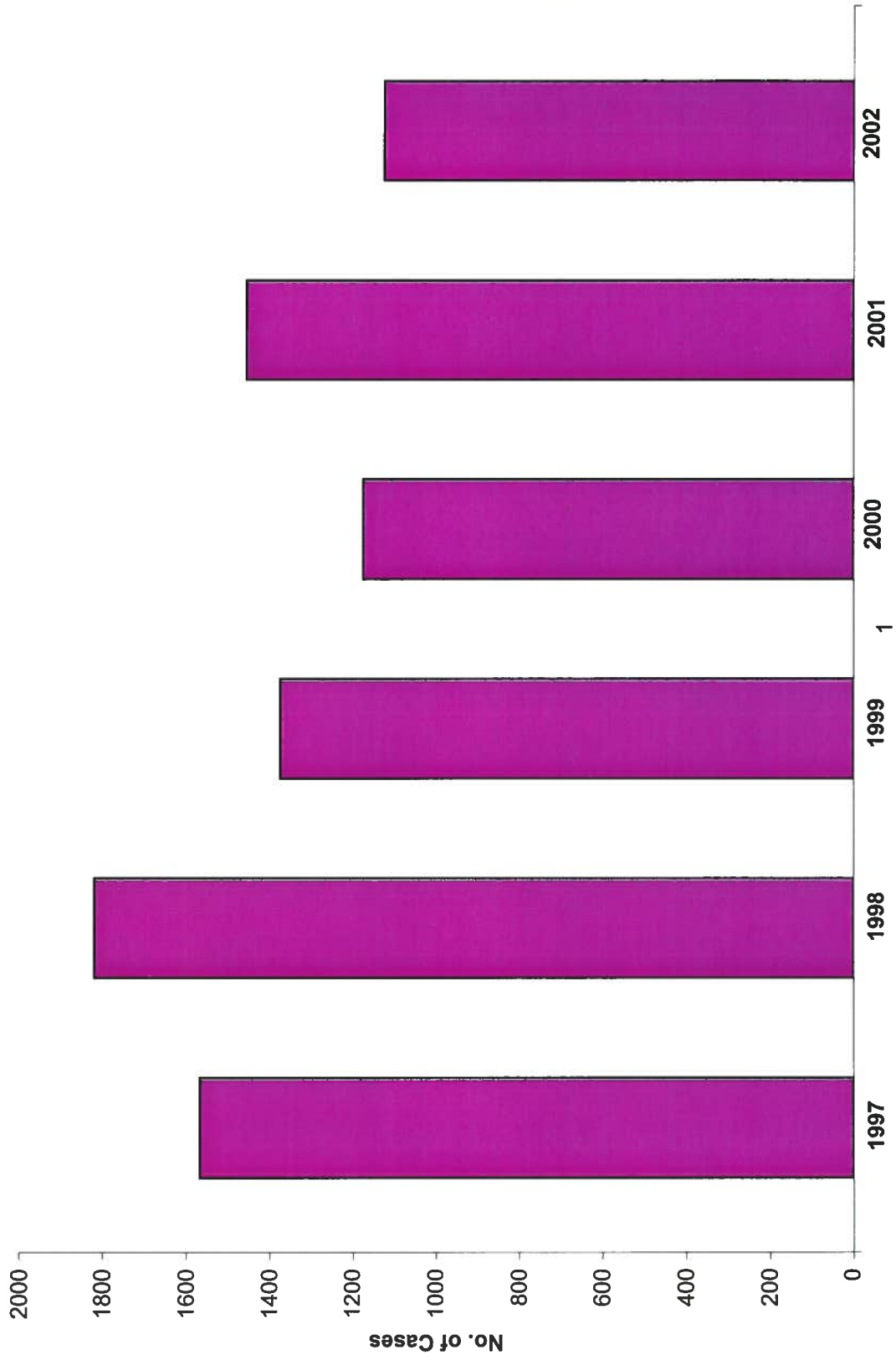


Figure C: TOTAL TOXICOLOGY SAMPLES SUBMITTED BY YEAR

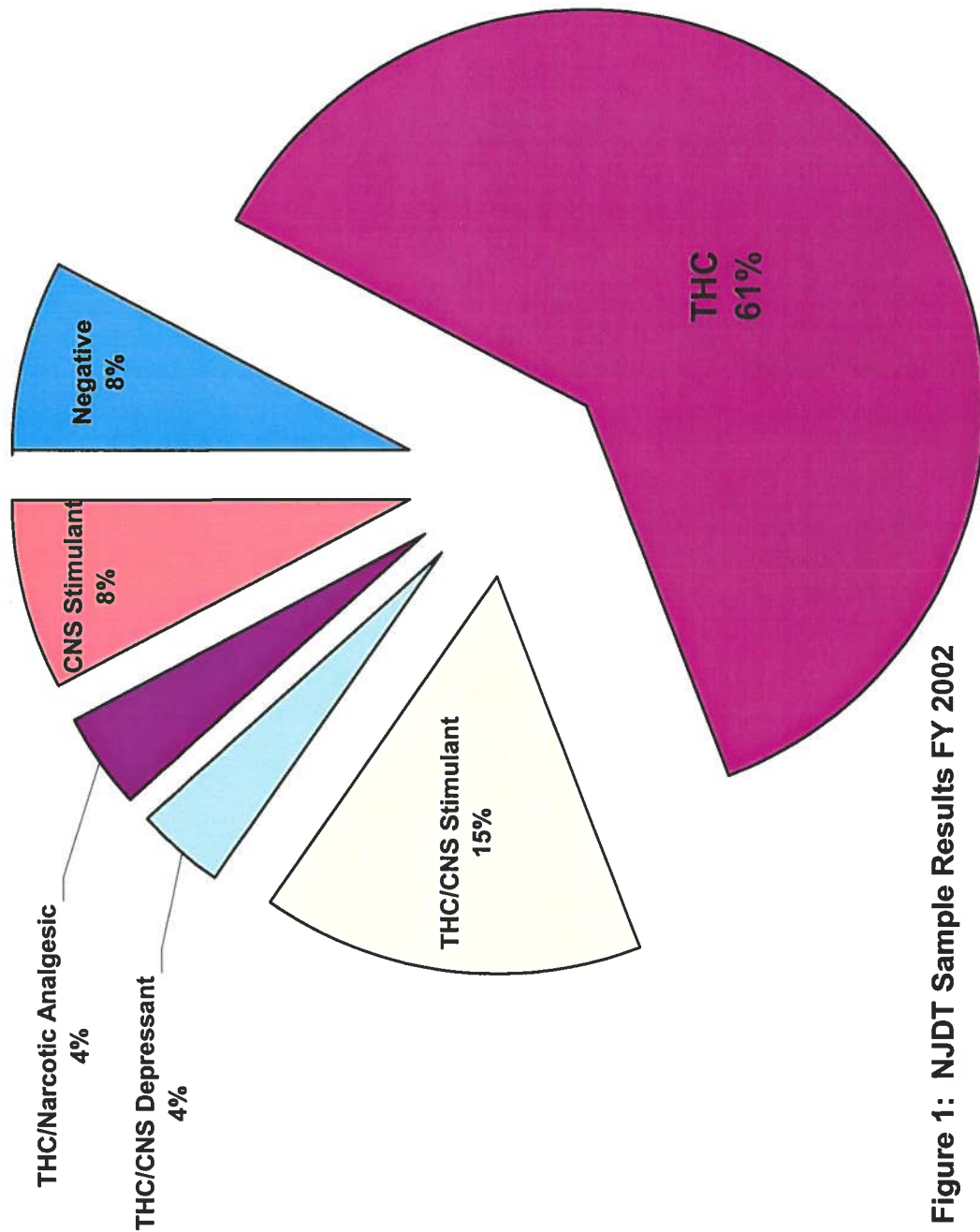


Figure 1: NJDT Sample Results FY 2002

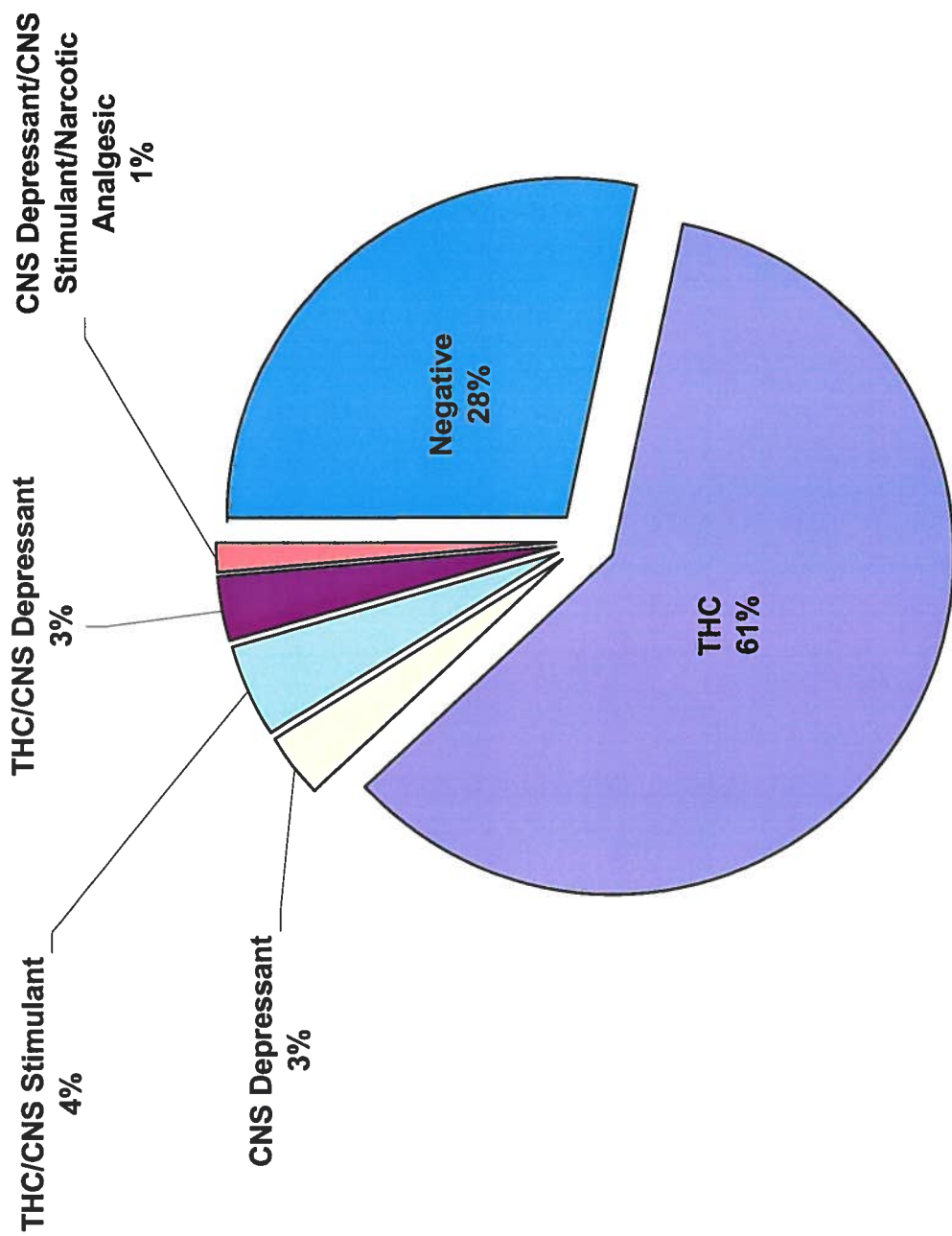


Figure 2: NJDT Sample Results FY 2001

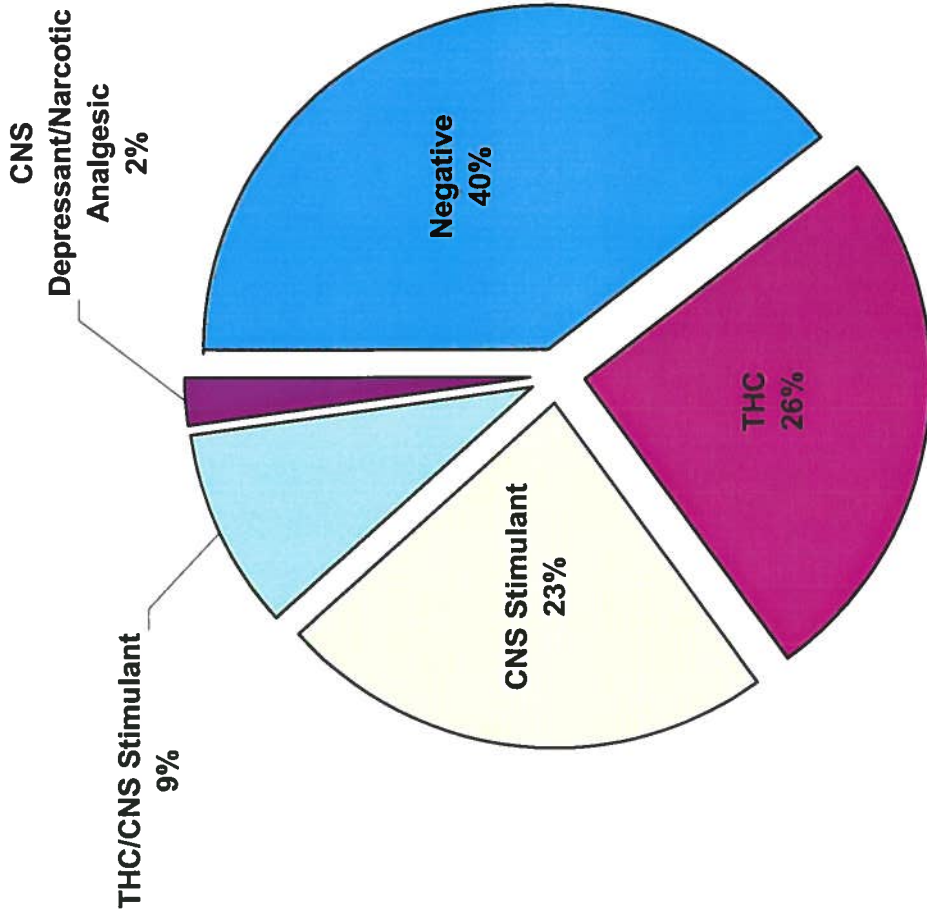


Figure 3: NJDT Sample Results FY 2000

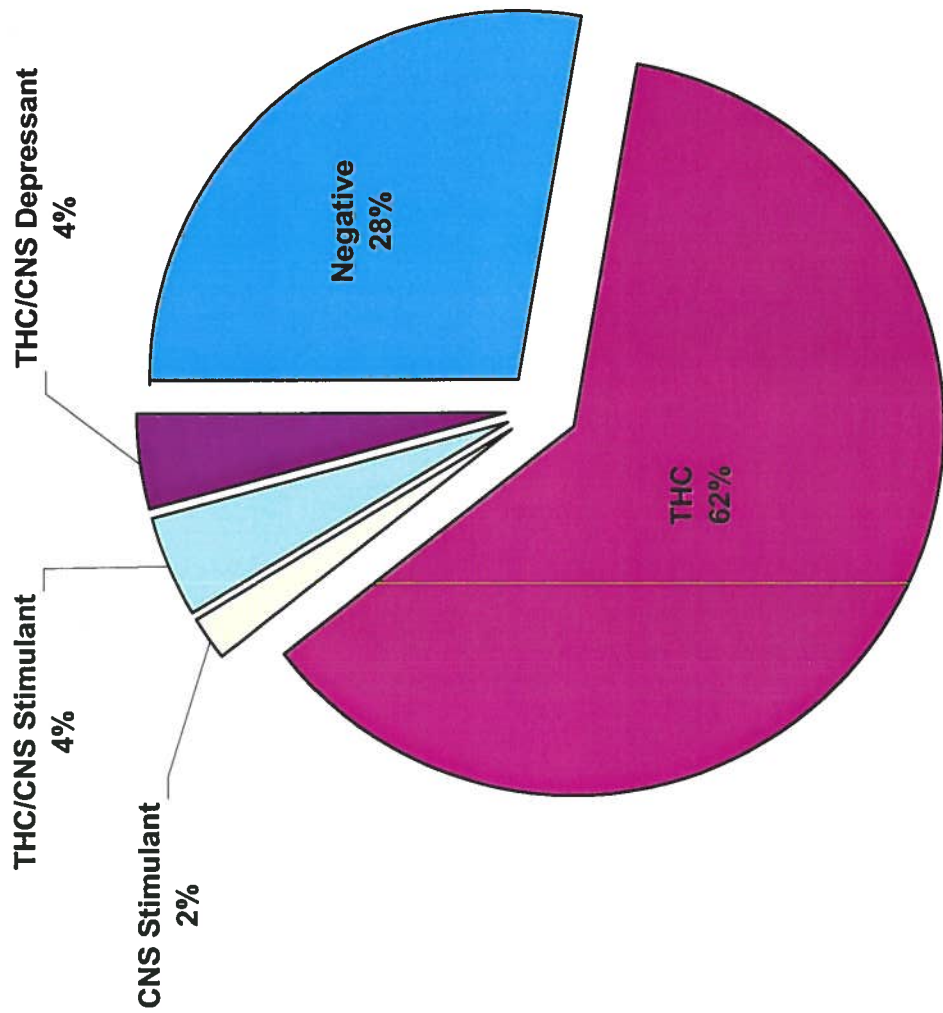


Figure 4: NJDT Sample Results FY 1999

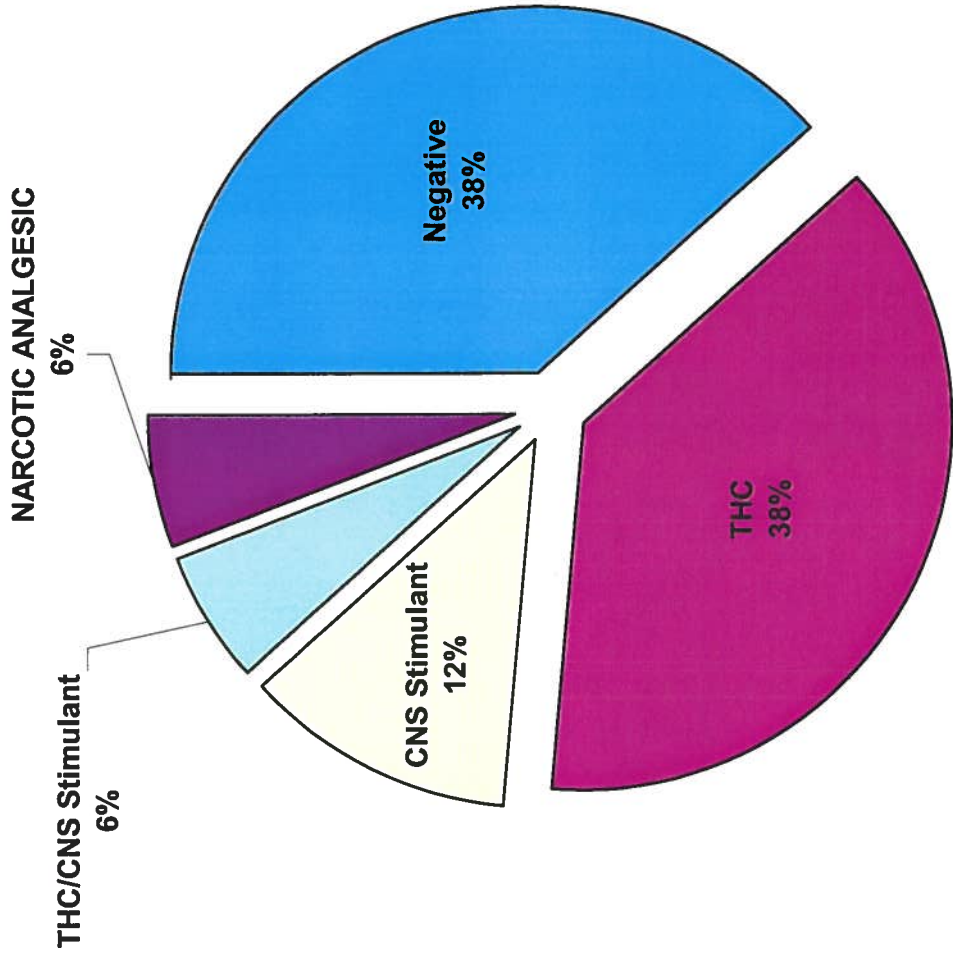


Figure 5: NJDT Sample Results FY 1998

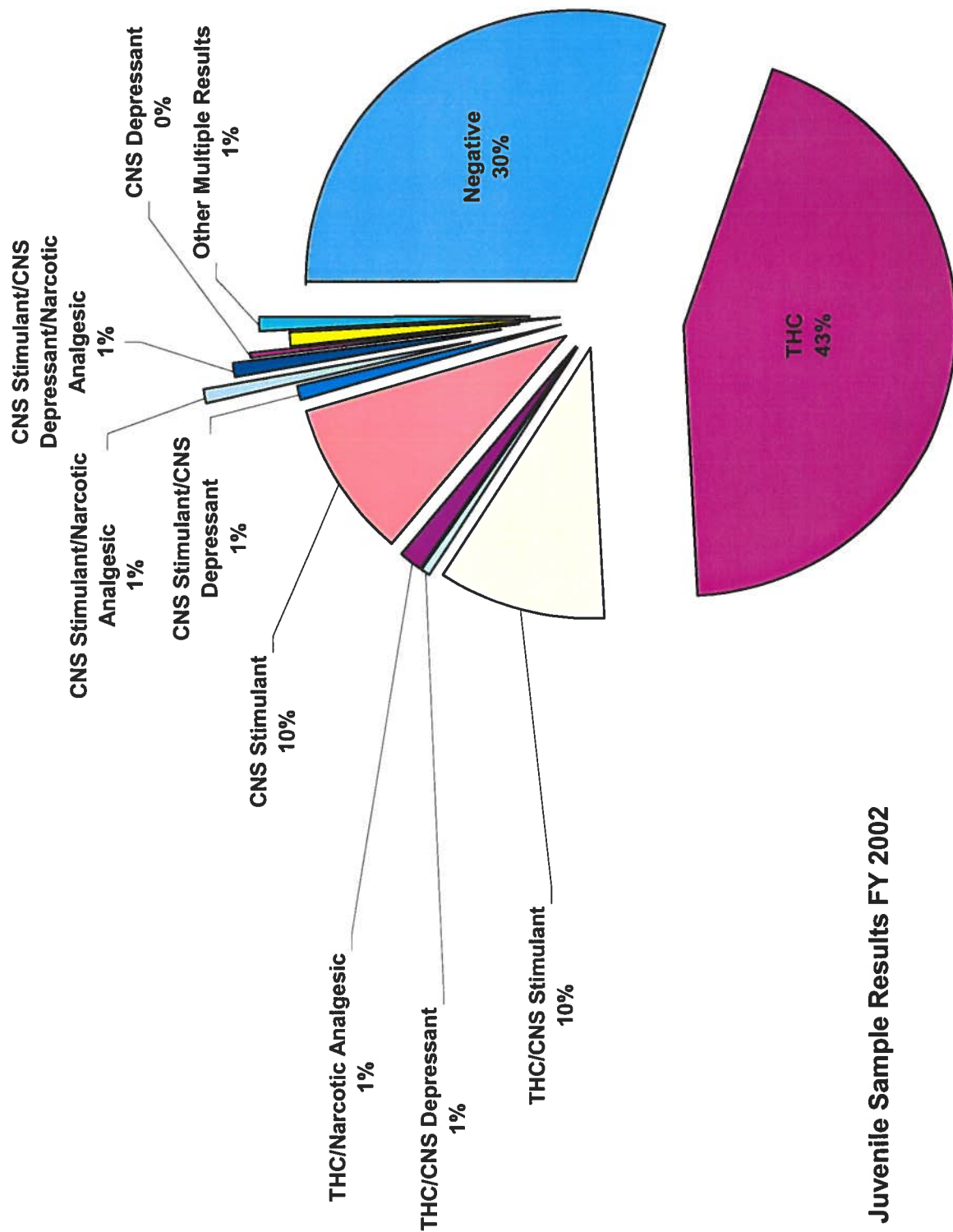


Figure 6: Juvenile Sample Results FY 2002

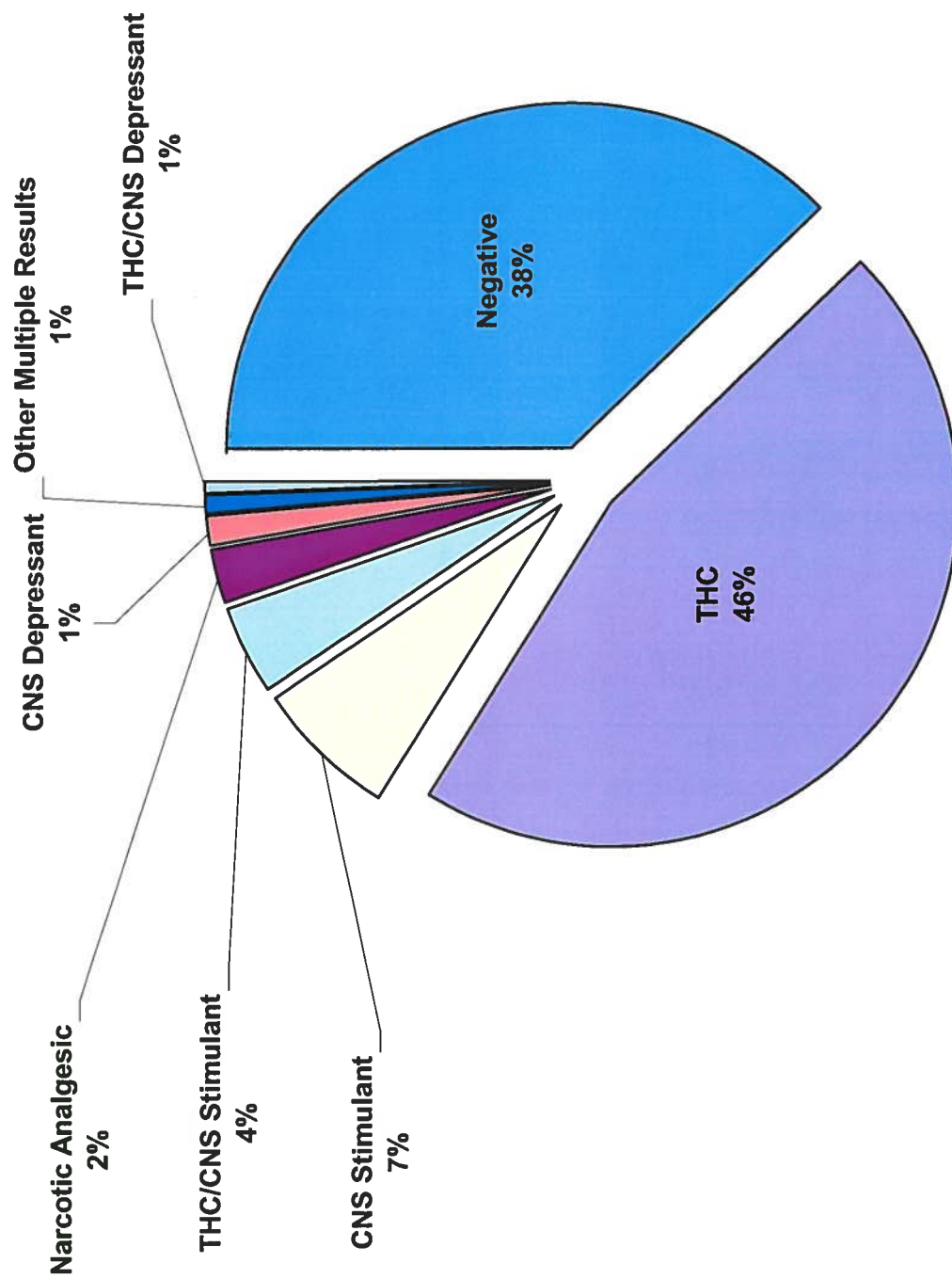


Figure 7: Juvenile Sample Results FY 2001

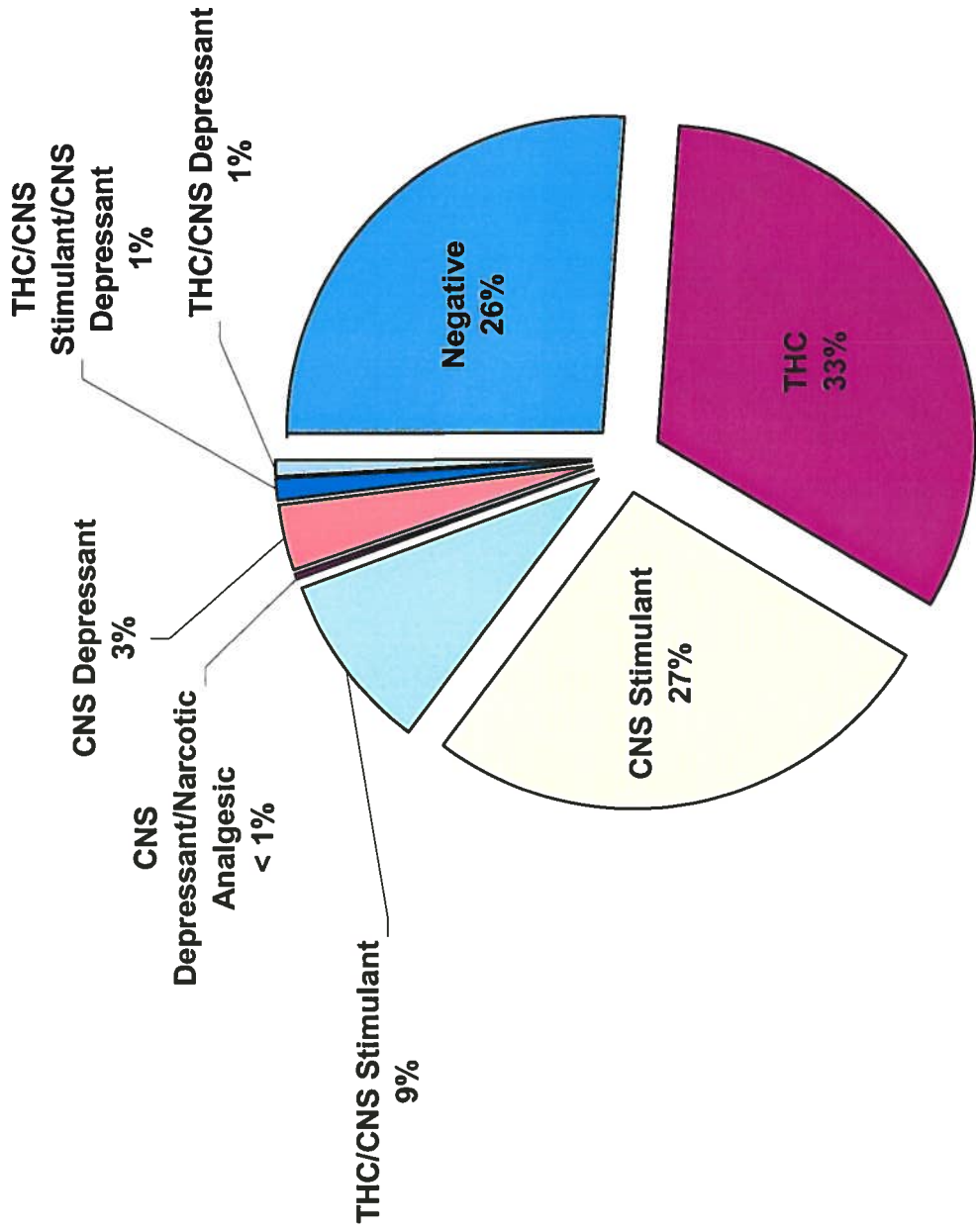


Figure 8: Juvenile Sample Results FY 2000

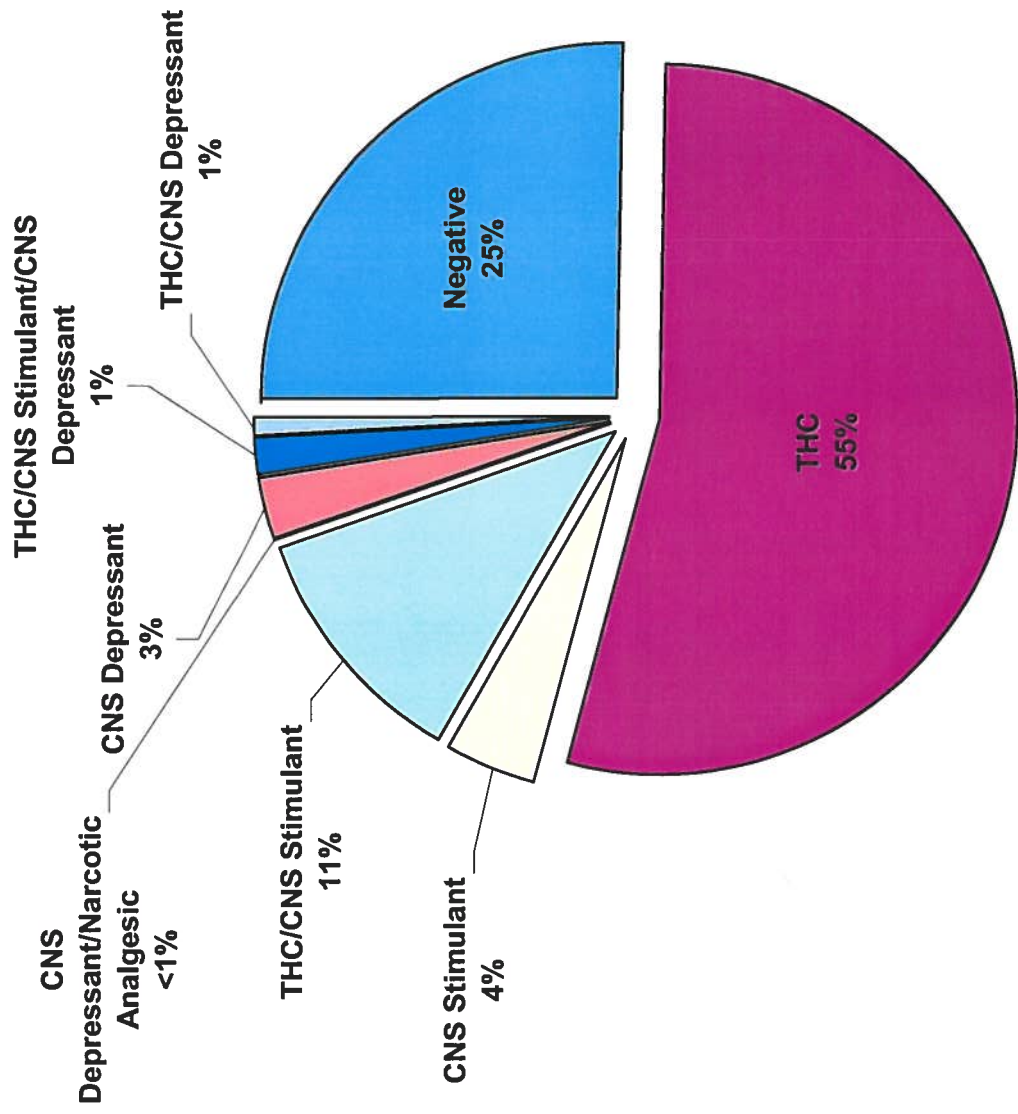


Figure 9: Juvenile Samples Results FY 1999

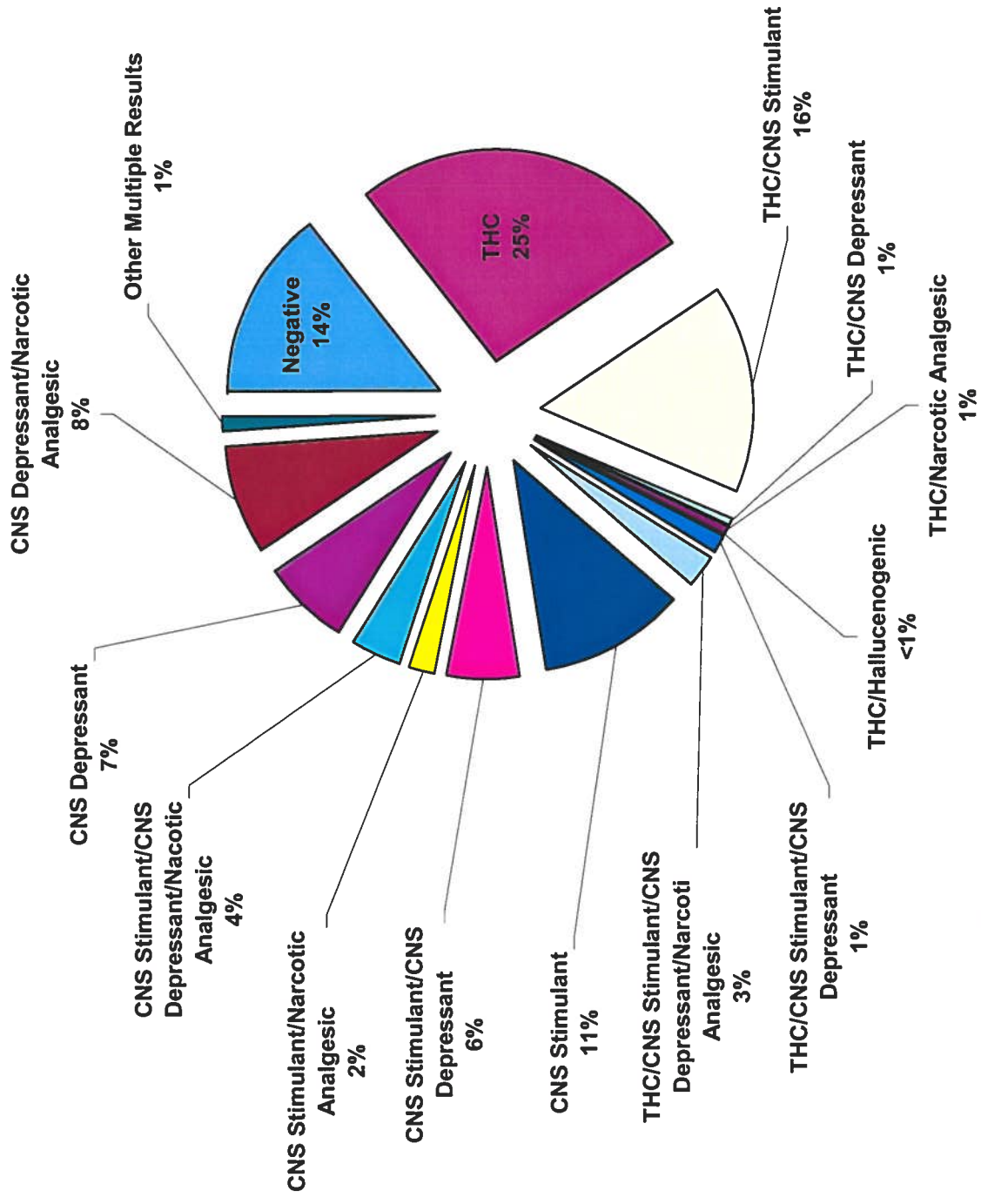


Figure 10: DRE Sample Results FY 2002

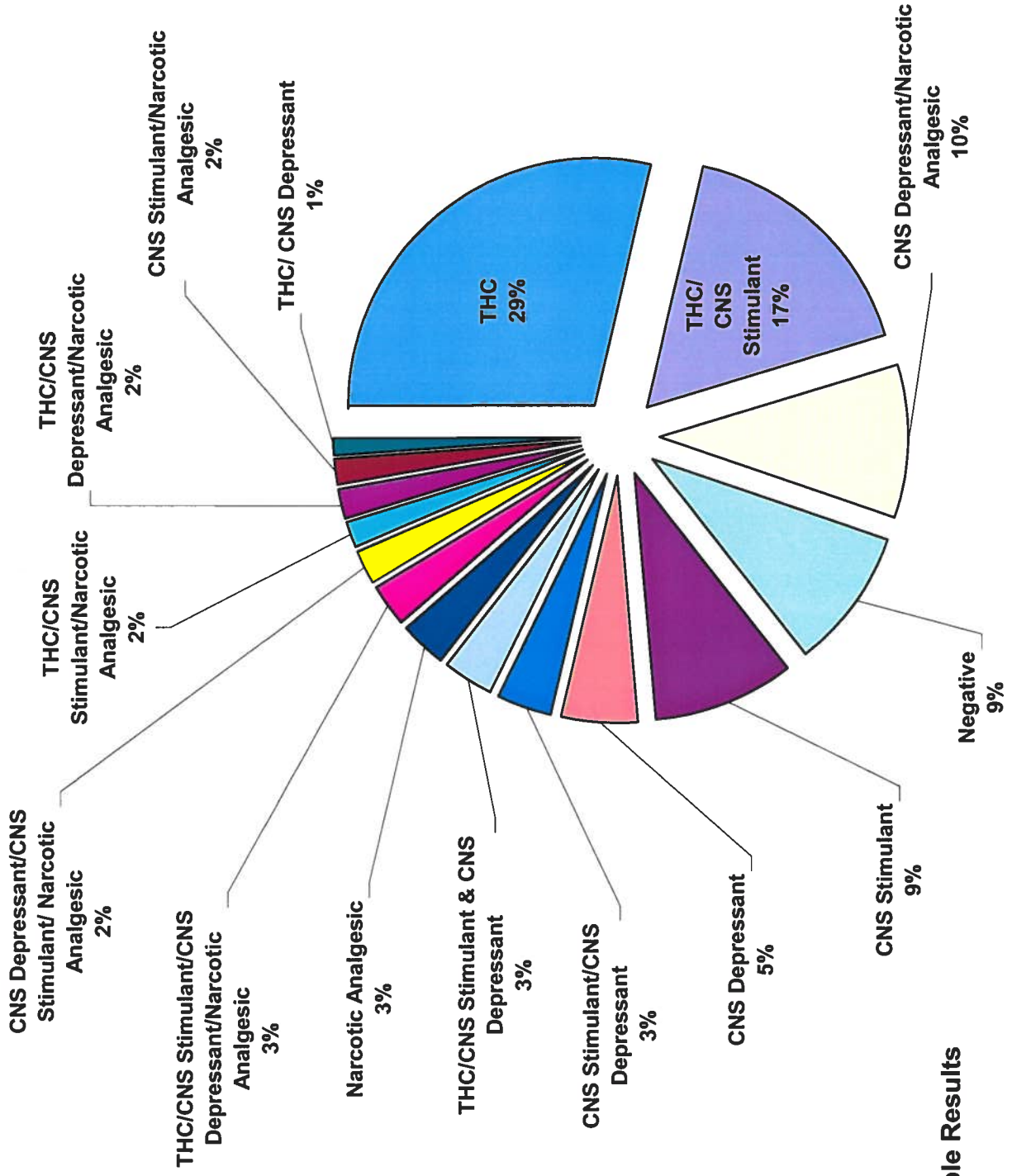


Figure 11: DRE Sample Results
FY 2001

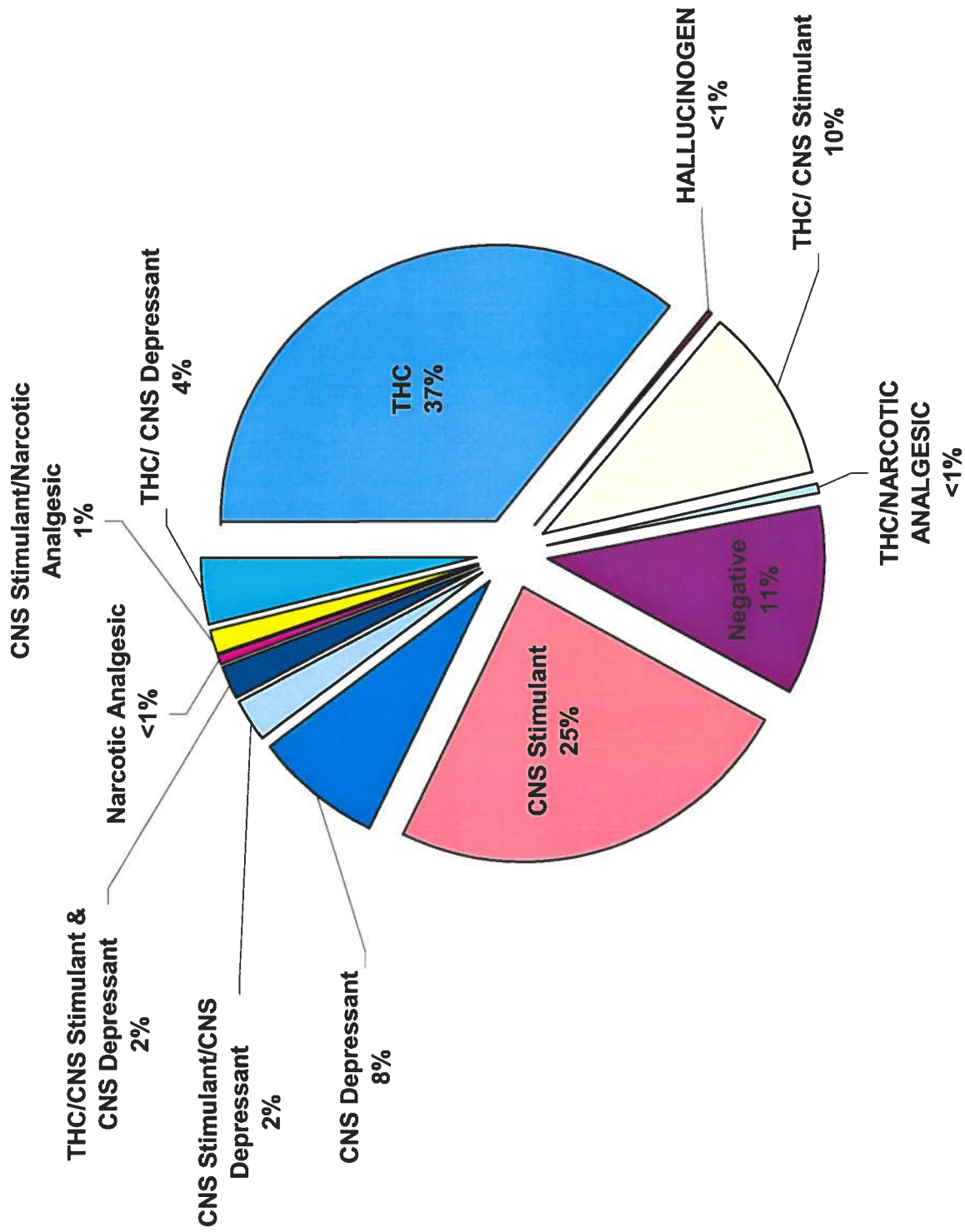


Figure 12 : DRE Sample Results FY 2000

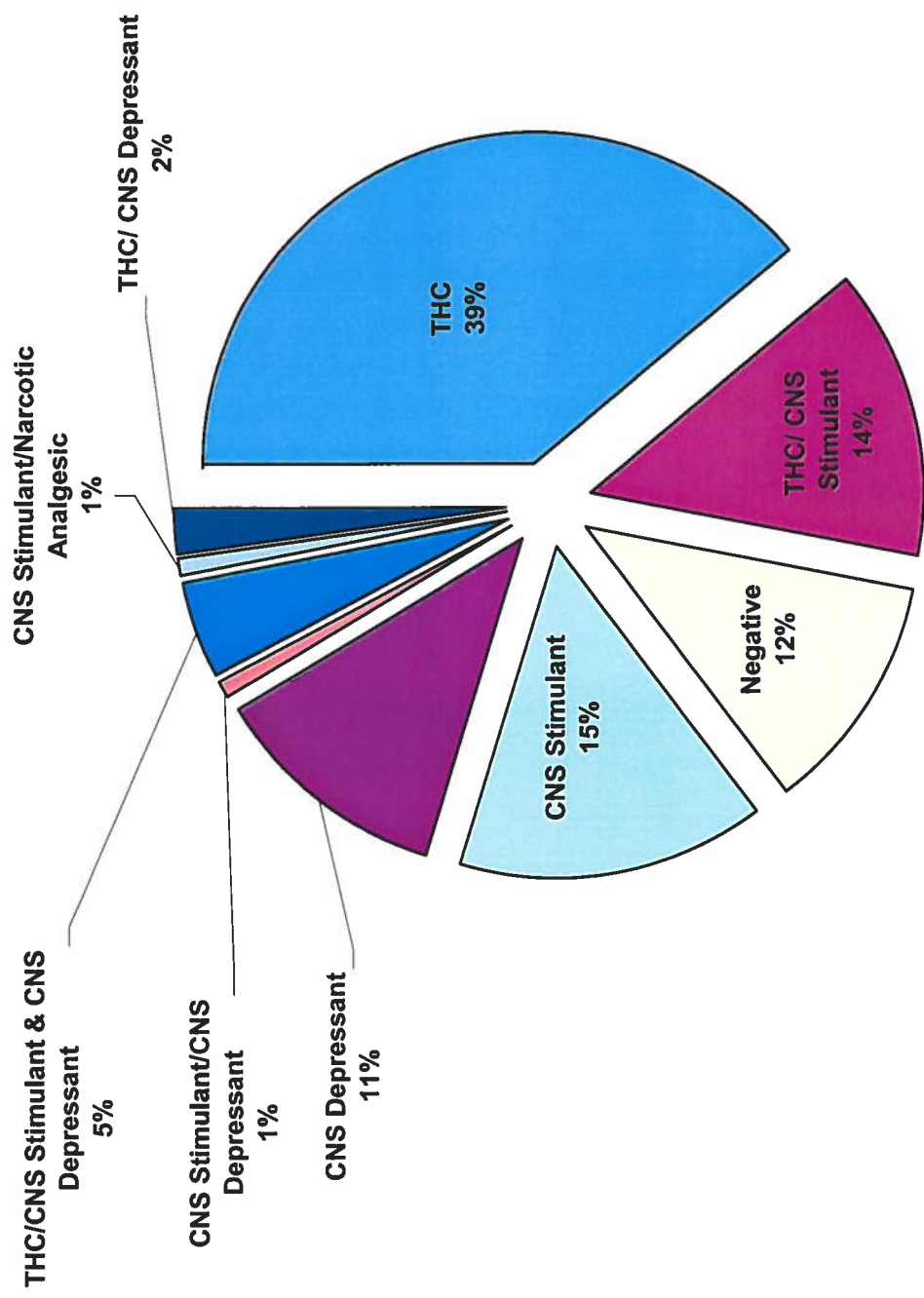


Figure 13 : DRE Sample Results FY 1999

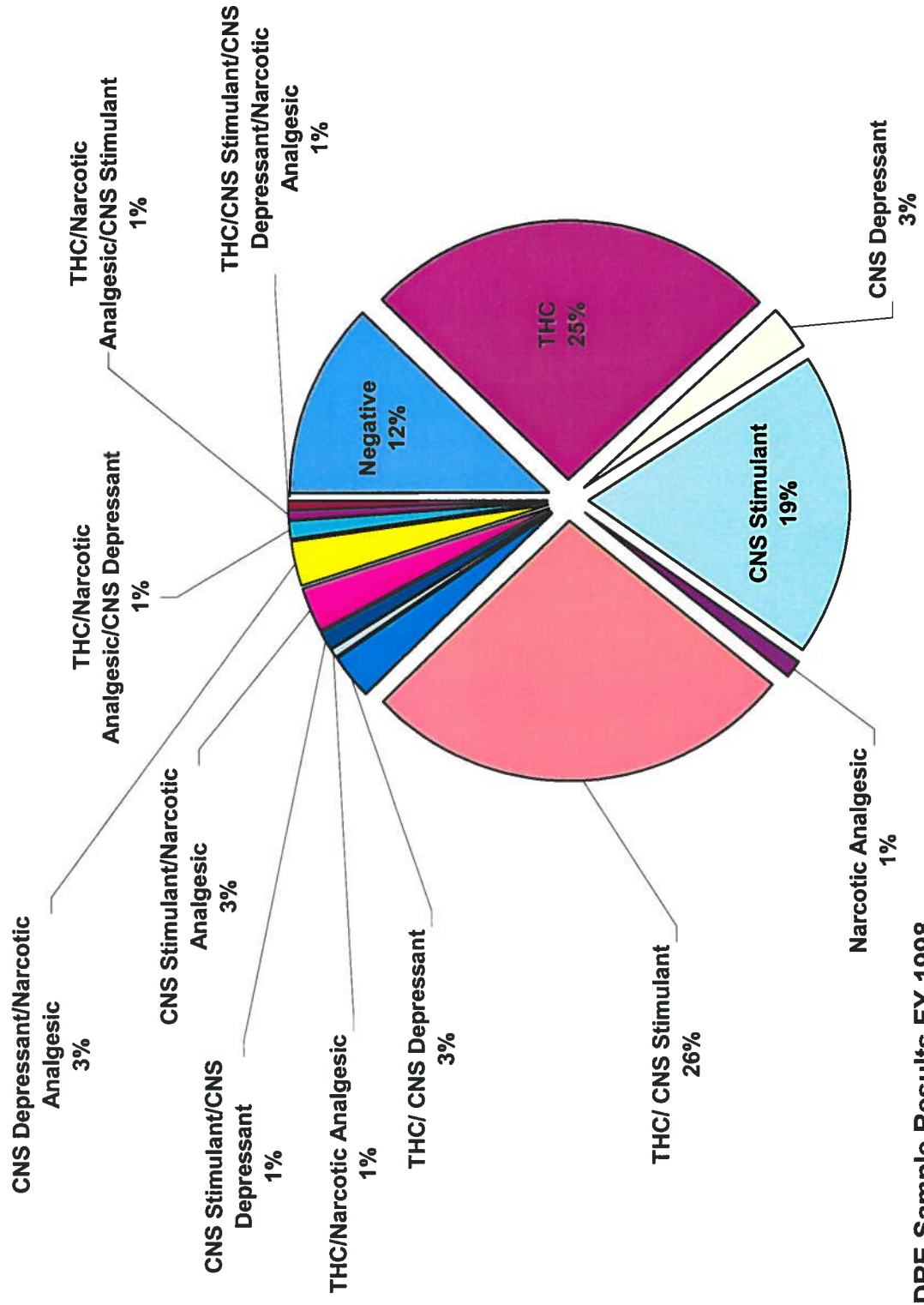


Figure 14 : DRE Sample Results FY 1998

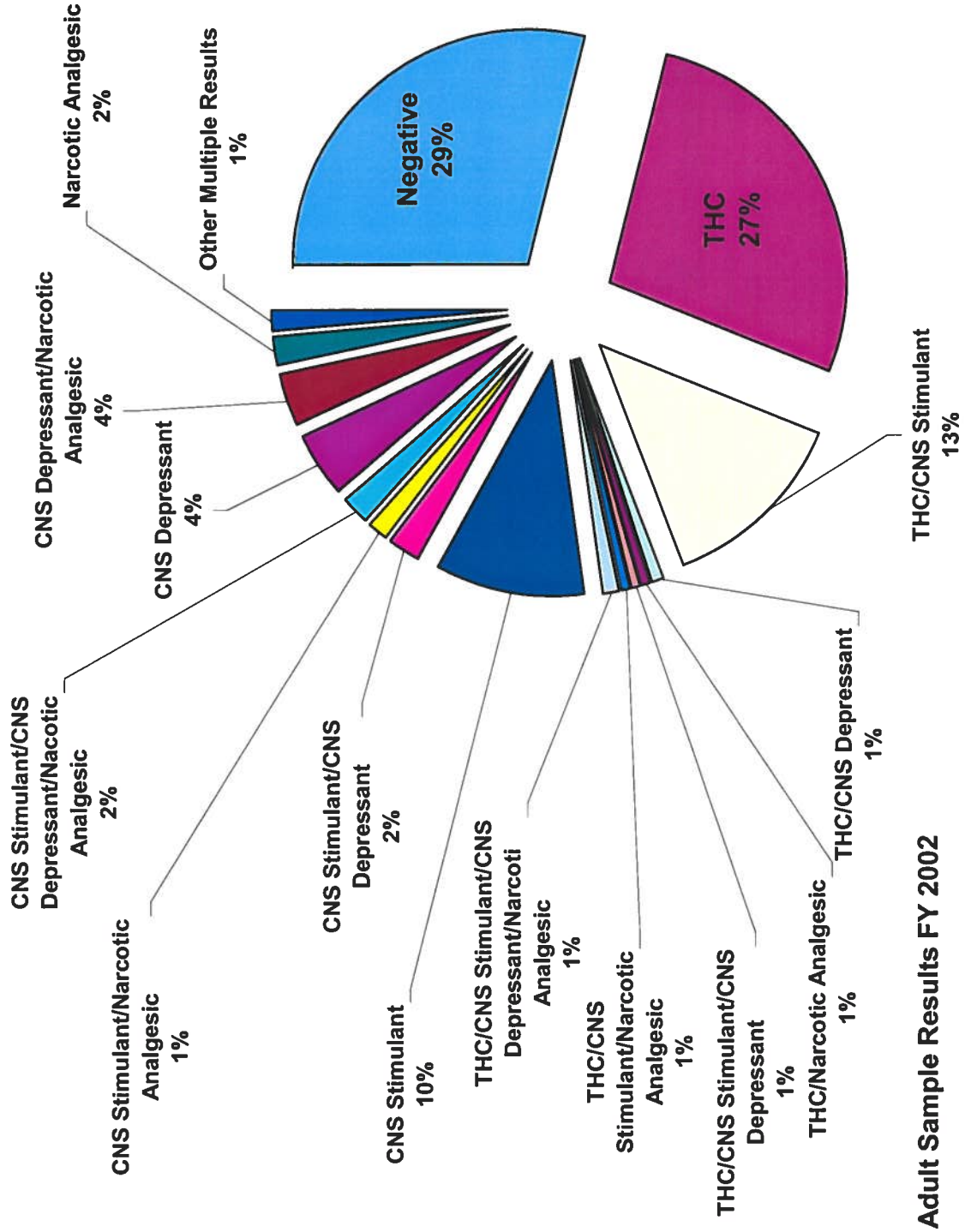


Figure 15: Adult Sample Results FY 2002

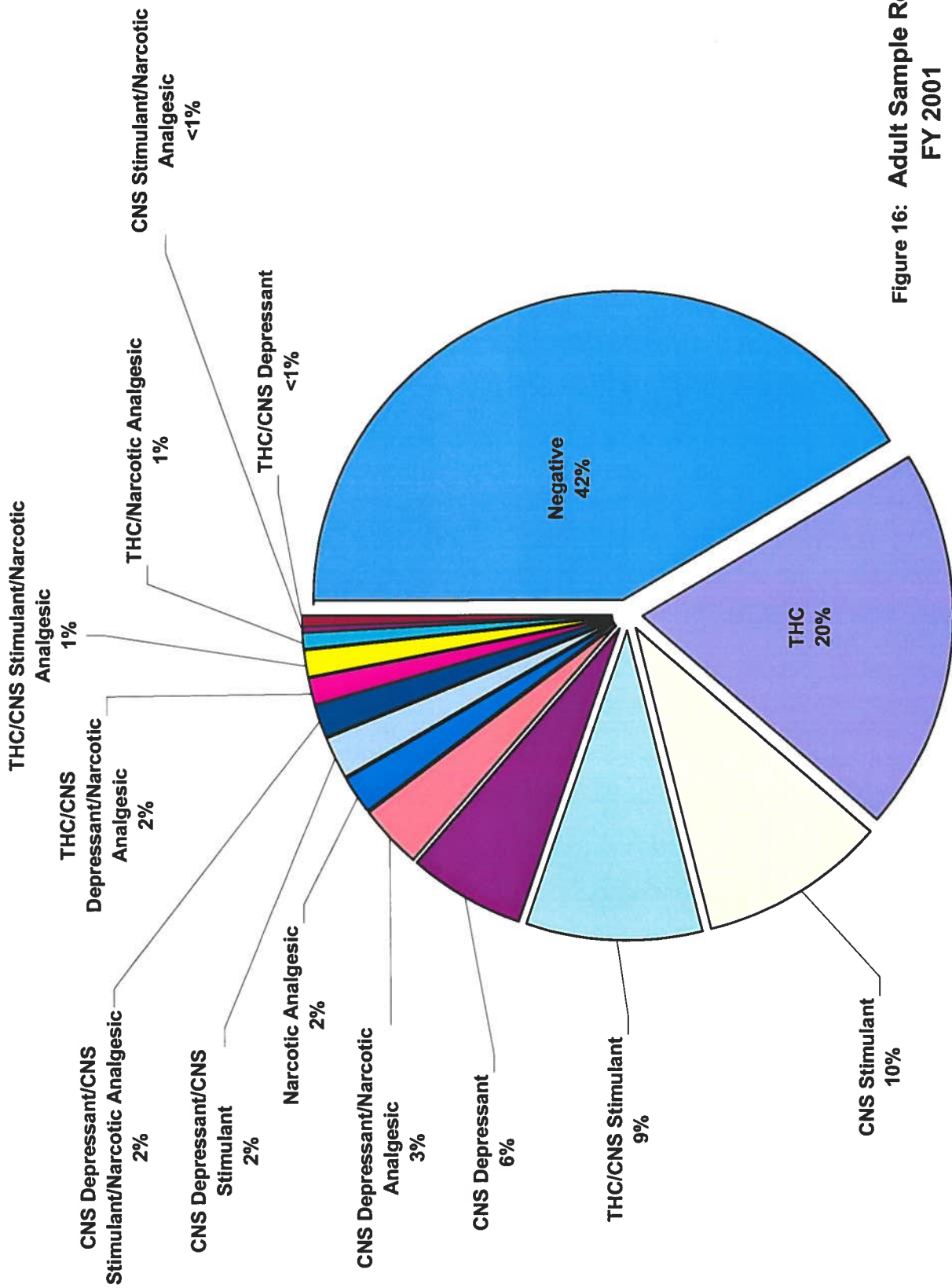


Figure 16: Adult Sample Results
FY 2001

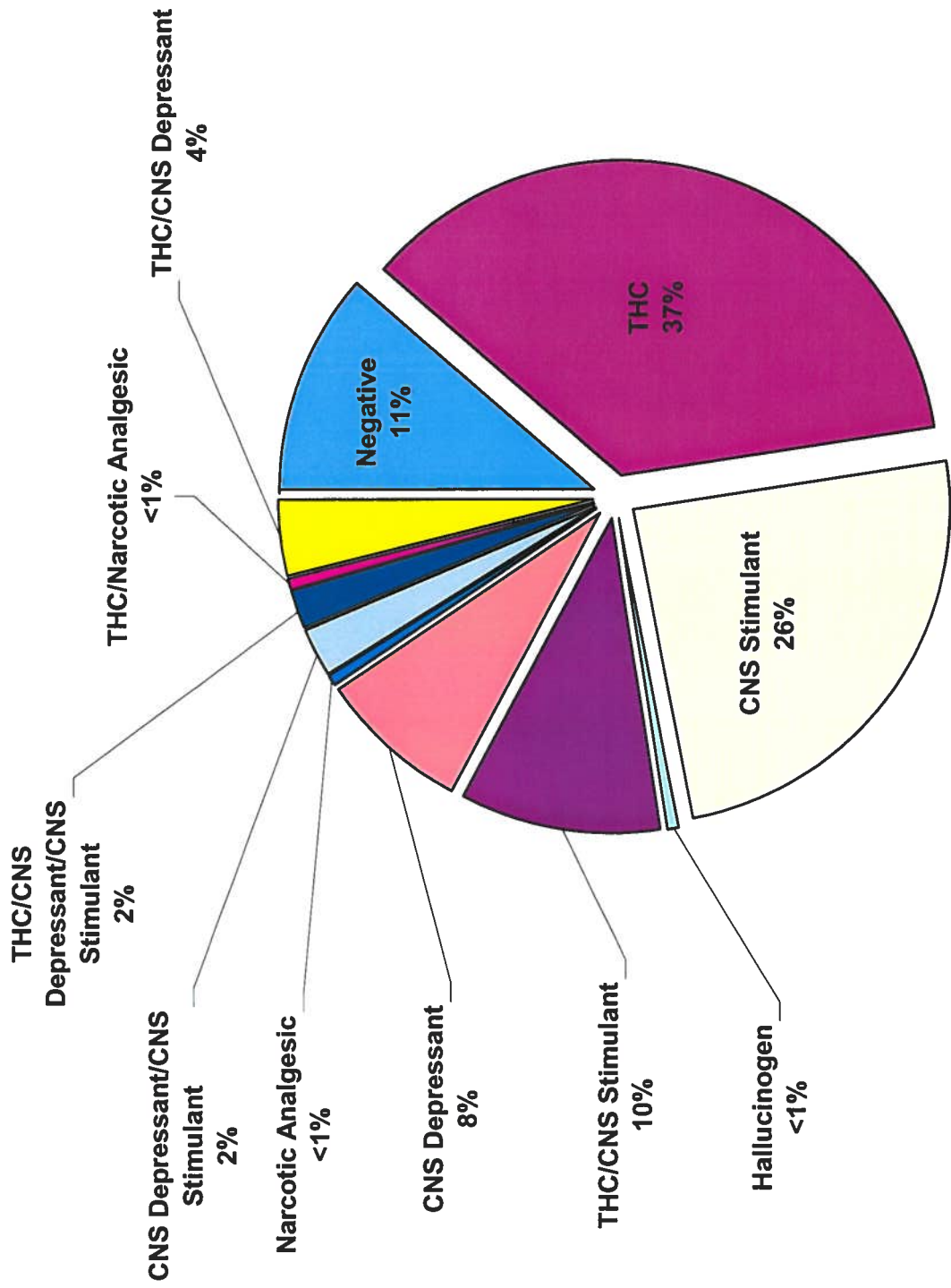


Figure 17 : Adult Sample Results FY 2000

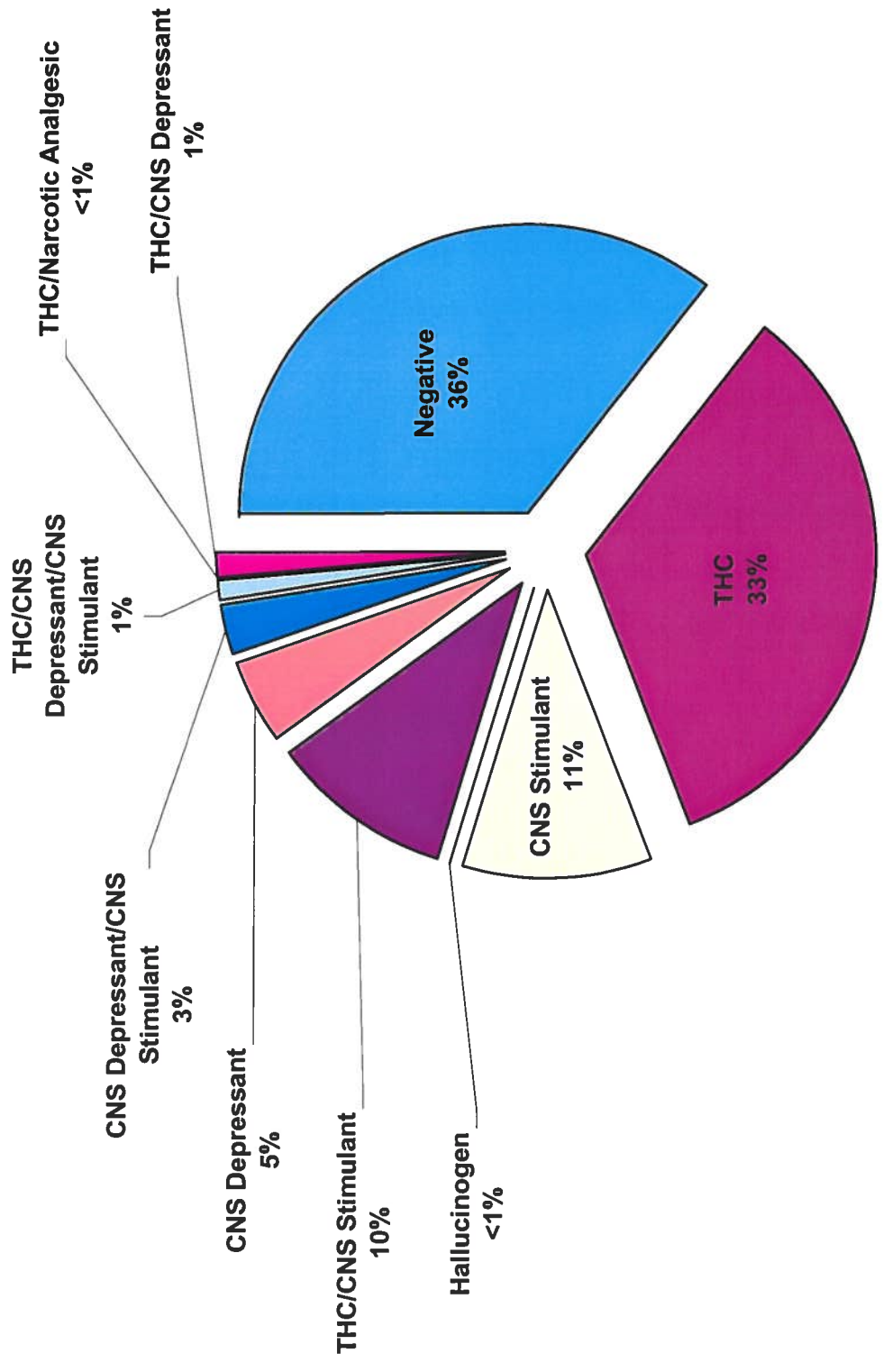


Figure 18 : Adult Sample Results FY 1999

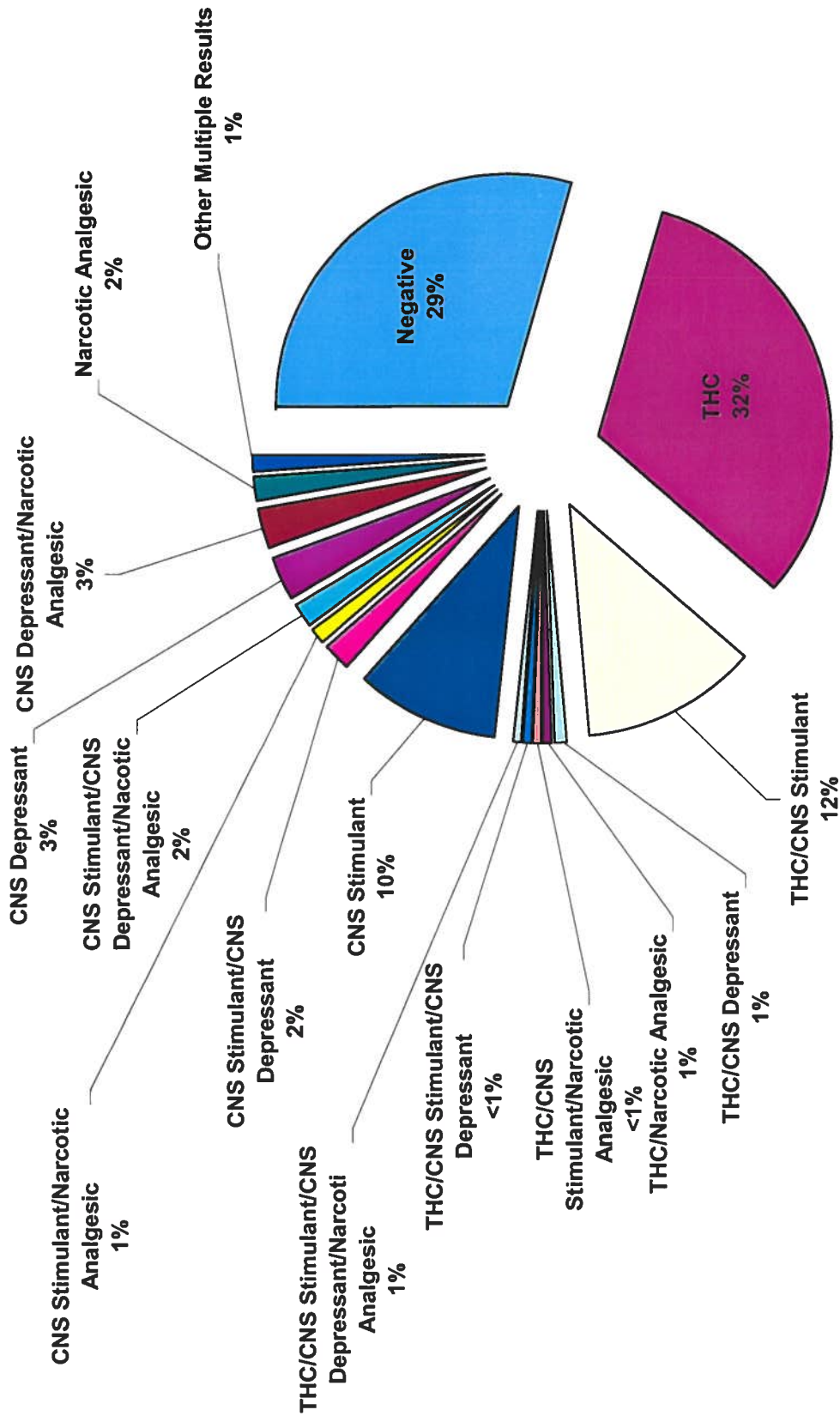


Figure 19: All Toxicology Sample Results FY 2002
N=1124

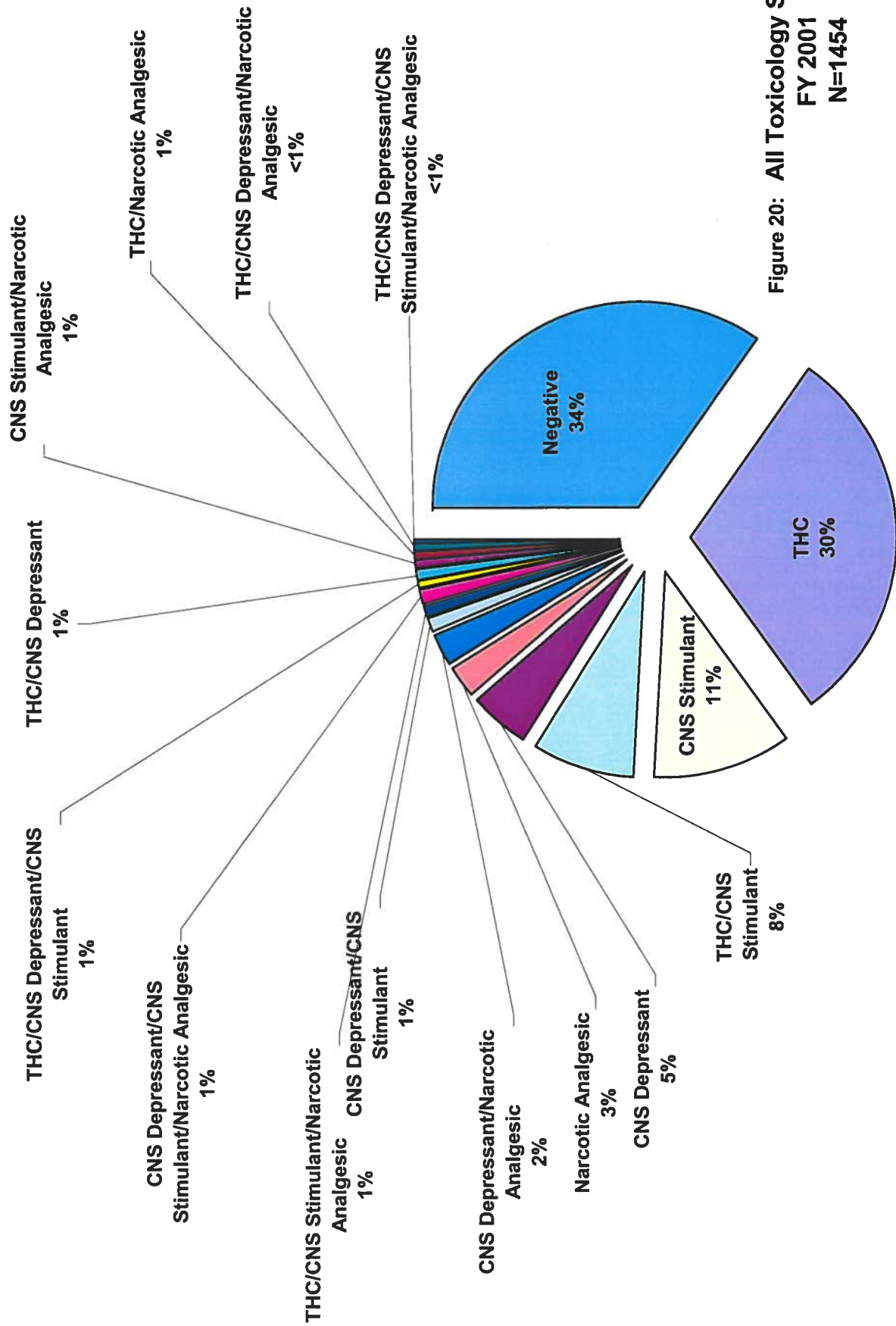


Figure 20: All Toxicology Sample Results
 FY 2001
 N=1454

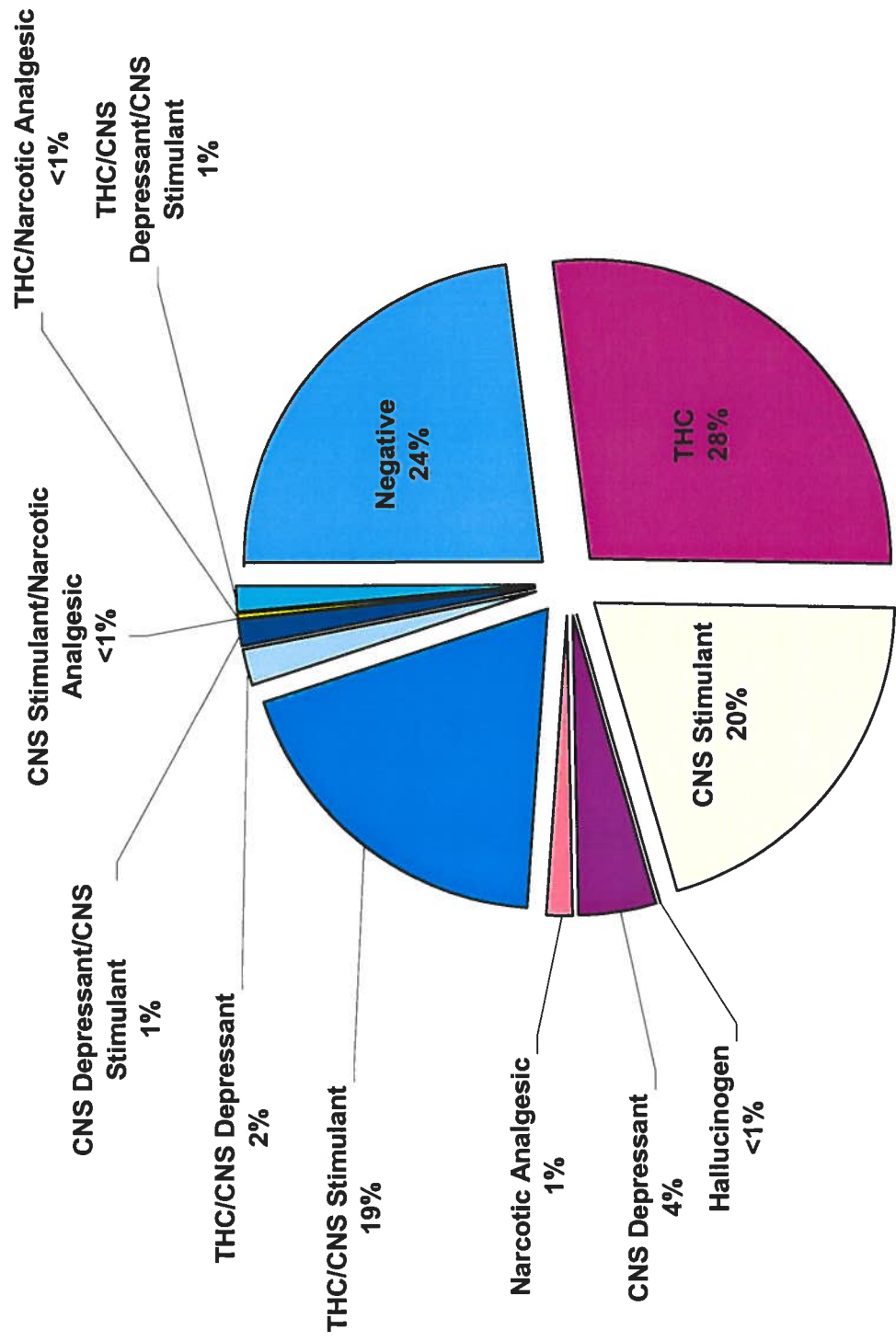


Figure 21: All Toxicology Sample Results FY 2000

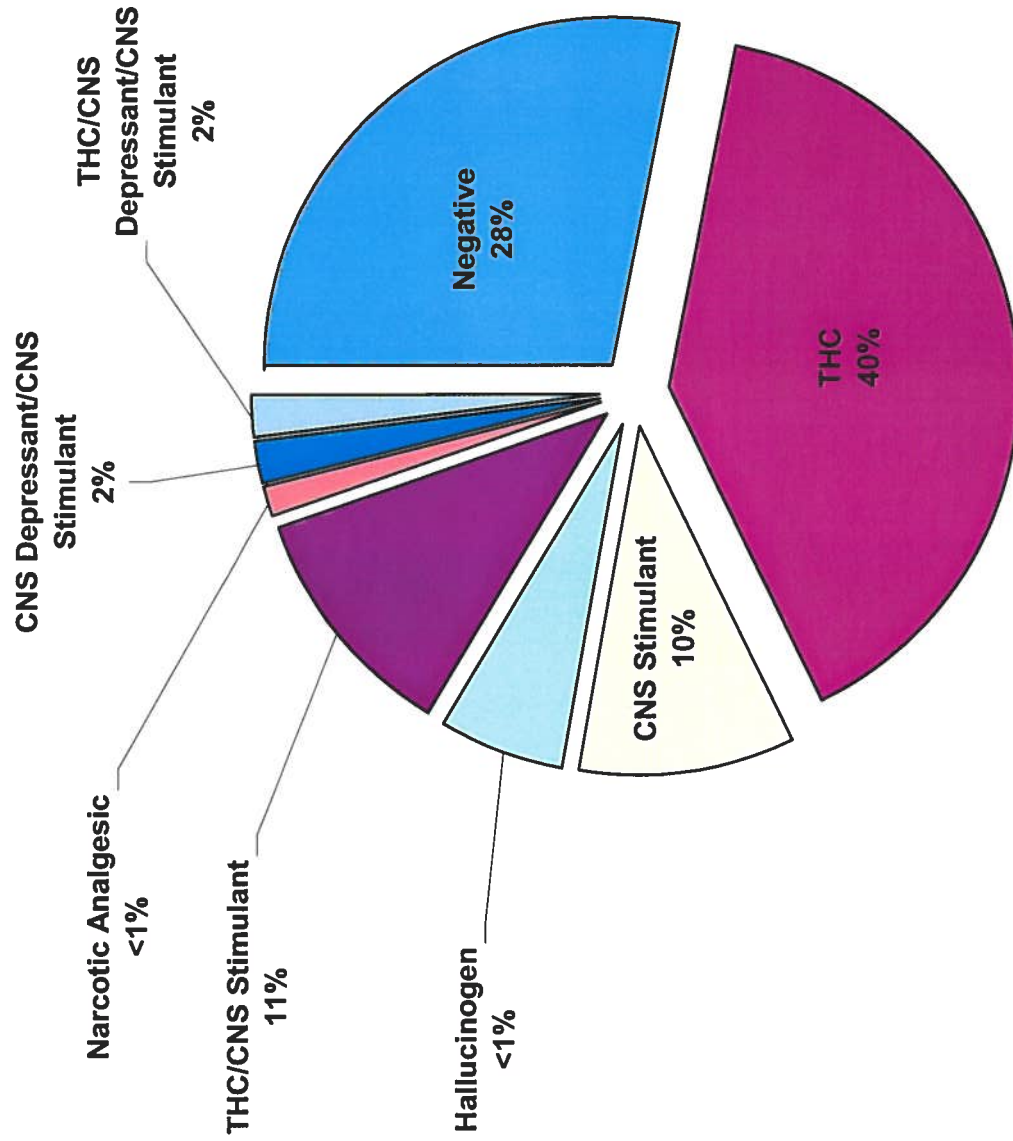
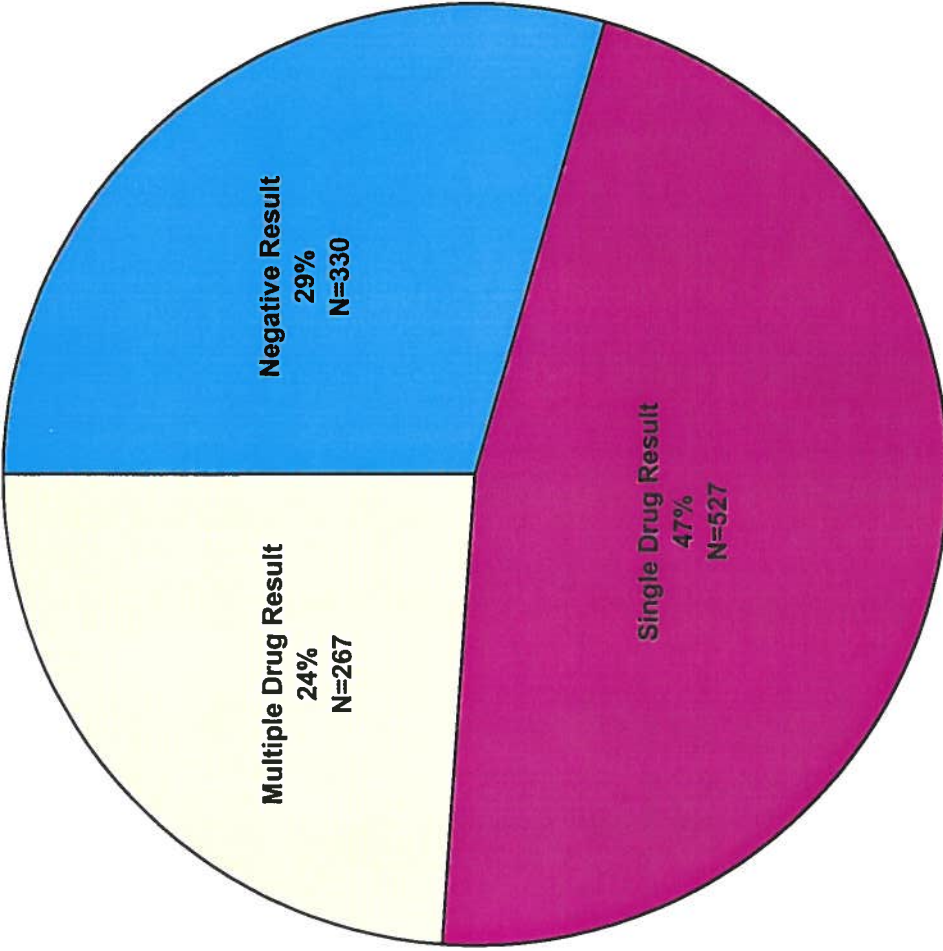
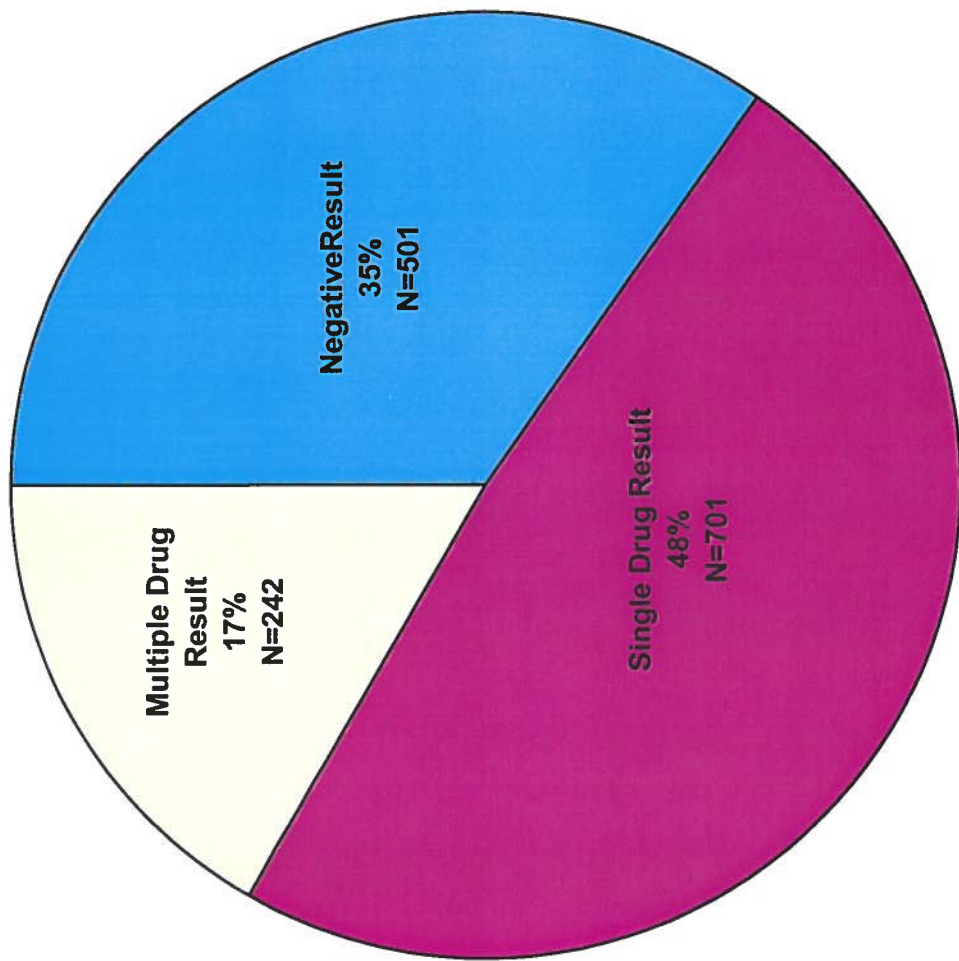


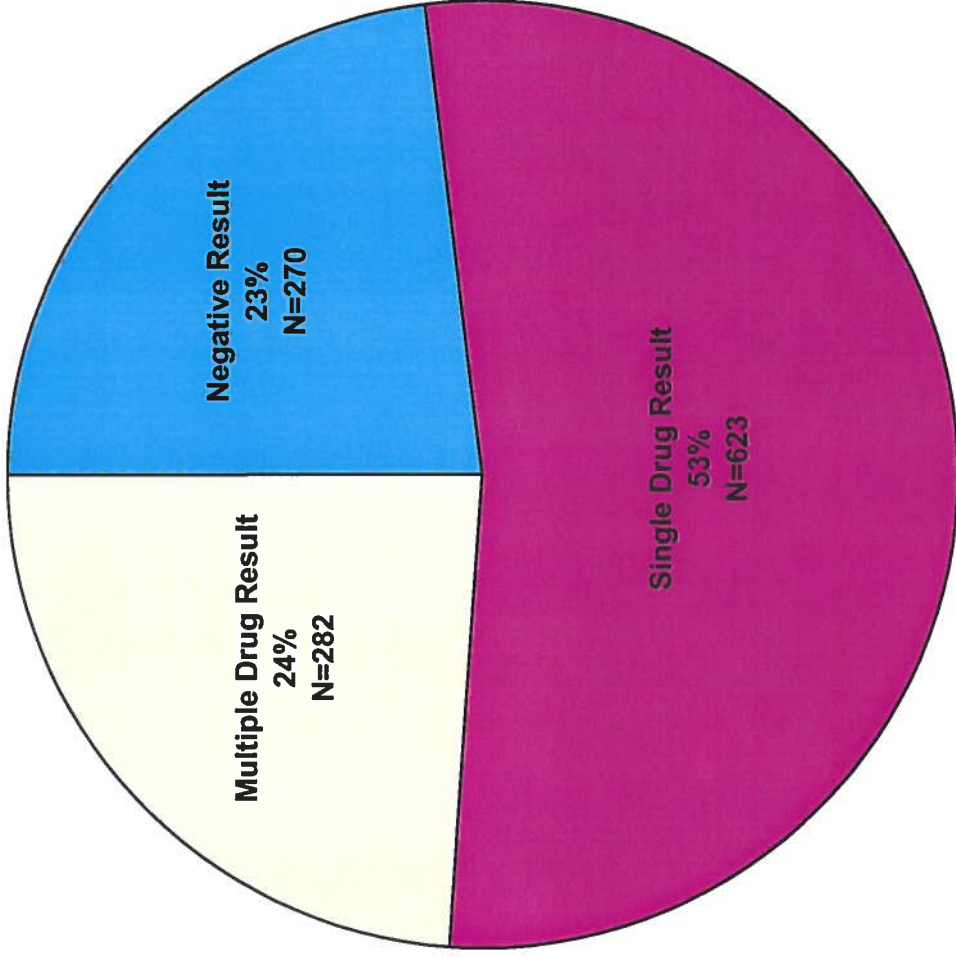
Figure 22: All Toxicology Sample Results FY 1999



**Figure 23: All Toxicology Sample Results FY 2002
N=1124**



**Figure 24: All Toxicology Sample Results FY 2001
N=1444**



**Figure 25: All Toxicology Sample Results FY 2000
N=1175**

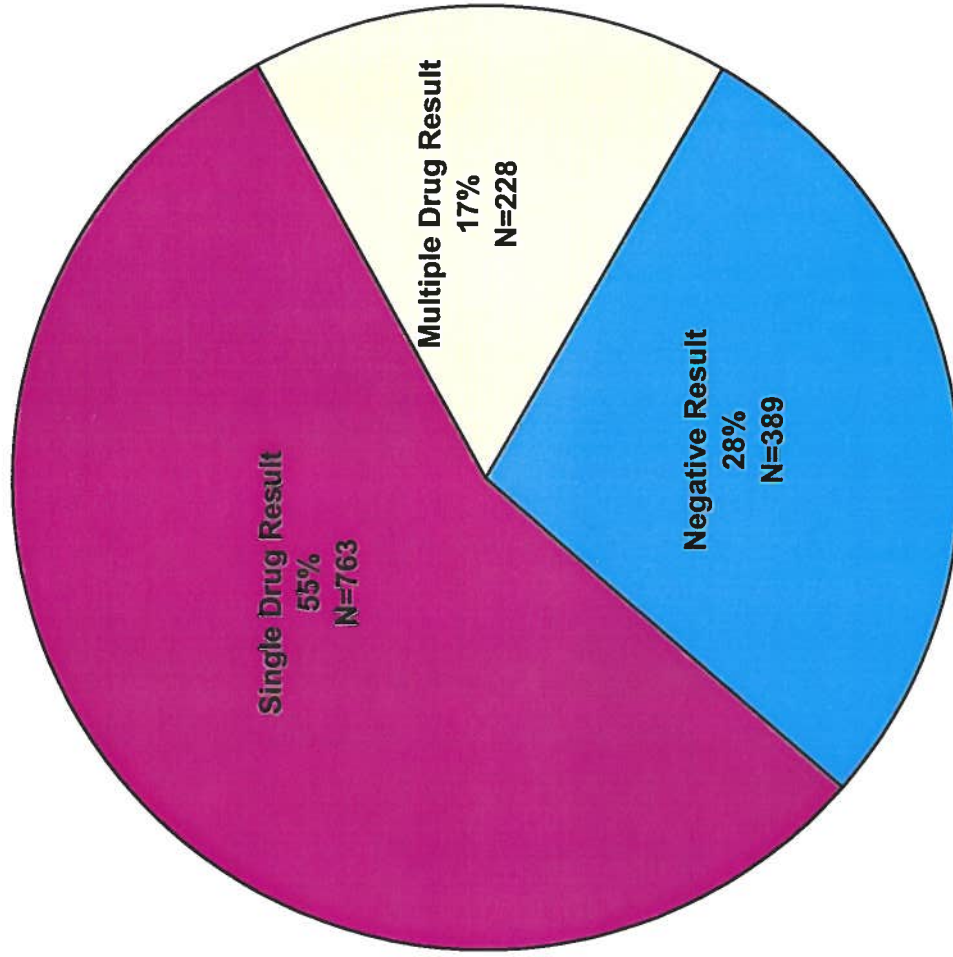


Figure 26: All Toxicology Sample Results FY 1999
N=1380