Executive Summary

Since 1972, Substance Abuse Prevention Services (formerly The Drug Education Center) has implemented a countywide youth drug survey every two - three years. These data are collected to determine the current level of incidence and prevalence of alcohol, tobacco, marijuana, and other drug use. Due to the longitudinal nature of the research, changes in local patterns and trends can be observed. In December 2006, Substance Abuse Prevention Services (SAPS) in collaboration with Charlotte-Mecklenburg Schools, Mecklenburg County Area Mental Health Authority and the Mecklenburg County Health Department administered the self-report survey instrument to 2,193 youth ages 12-18. The following is an overview of the key findings.

1. Introduction

The purpose of this report is to describe and analyze the drug usage pattern among middle and high school age students in Mecklenburg County, North Carolina. The survey was conducted with Charlotte-Mecklenburg School students. This report is based on surveys conducted in 1972, 1974, 1977, 1979, 1983, 1989, 1992, 1995, 1998, 2002, 2004 and 2006.

This is a descriptive study. As such, no attempt is made to explain why students abuse drugs as they do. An explanatory level of analysis of this question is very complex and requires a refined theory and empirical demonstration. A research objective of this nature is not the purpose of this report. Rather, the concern is to chart the terrains of the prevalence and incidence of drug usage patterns among students in the county over a period of more than three decades.

The survey instrument was designed to address at least four critical questions: the extent of lifetime usage, the extent of usage within the last thirty days, perception of risk or harm and the degree of perceived peer and adult approval or disapproval. Other questions are included for comparison purposes such as age, gender, and race. Questions related to the perception of use by other students were also included.

More specifically, the kinds of questions asked in this study are:

(1) What kind of drugs or psychoactive substances are currently in use and how widespread is the use within the student population?
(2) Is drug use increasing or decreasing during the period under investigation?
(3) Is the student drug use in Mecklenburg County more or less widespread than the national average in a similar group of students?
(4) Is drug use more widespread as one moves toward the higher-grade levels?
(5) At what age are youth most likely to experiment with drugs?

(6) Is drug use more prevalent among male than female students?
(7) Is there a difference in drug use among various ethnic groups?

These are some of the fundamental questions that need to be answered and of which the community needs to be aware. In the process of answering these questions, we not only will be acquainted with the basic structure of drug abuse by our youth, but also with the specific target population toward whom the primary prevention, intervention, and treatment services must be directed.

Questionnaire Administration

All drug surveys implemented by SAPS were anonymous, self-administered and self-reported by students during a normal class period. The complete survey questionnaire can be found in Appendix B.

Sampling Procedure

The sample selection was a multi-stage cluster and proportionate stratified sampling process. The Charlotte-Mecklenburg Schools (CMS) have identified certain schools as similar in size, diversity and performance. To avoid sampling in all schools a random sample of schools *within* the clusters identified by CMS was required for this and all external surveys. CMS considers this process to be the most cost effective way to get a representative sample of students for research. These data are based, therefore, on a random sample of middle and high schools and a stratified sample within each school by grade. 9 of 32 middle schools were surveyed (28%) and 6 of 18 high schools (33.3%) were selected. The surveys were monitored to provide anonymity for the students. A total of 2,193 surveys were completed and, after deleting those surveys where students answered that they had used a fabricated drug or otherwise showed internal inconsistency (1.5%), the number of usable surveys was 2,161. **With this sample size one can have 95% confidence that the actual findings for the system are within ± 2%.**

There are variations between the sample selected in 2004, which was a proportionate random sample of classrooms and the multi-stage cluster sample in 2006. The gender distribution is similar but the 2006 sample has a higher proportion of African American students than were represented in 2004. There is also a difference by grade. The 2006 sample has fewer 6th through 9th graders and more 10th through 12th grade students than were sampled in 2004.

The sample consisted of:

- 47.3% male and 52.7% female (46.6% and 53.7% in 2004)
- 47.2% African American (38.5% - 2004)
- 30.3% Caucasian (38.0% - 2004)
- 11.5% Hispanic (7.6% - 2004)
- 3.7% Asian (5.3% - 2004)
- 1.4% Native American (1.5% - 2004)
- 5.8% Other (9.2% - 2004)

Table 1 Sample distribution by grade, 2004 and 2006

Grade	Number	% 2006	% 2004*	CMS
6	312	14.4	16.8	14.8
7	310	14.3	16.7	15.0
8	290	13.4	18.2	14.6
9	304	14.1	16.7	18.5
10	320	14.8	11.1	14.0
11	297	13.7	11.1	12.0
12	328	15.2	9.4	10.8
Total N	2161	99.9	100	99.7

One must use caution in generalizing change from 2004 to 2006. However, significant changes have been found but are reported as significant only if the changes are significant when controlling for race and grade.

2. Prevalence of Drug Use in 2006

2.1. Life-time Exposure

Students reported using a variety of drugs. Students most commonly report using the substances that have been traditionally referred to as "gateway drugs," i.e., alcohol, cigarettes, and marijuana. As usual, alcohol ranks first as the drug most used by the student population followed by cigarettes and marijuana use.

Nearly 40% of students have tried alcohol, i.e., life-time exposure. Lifetime percentages for other substances are as follows: cigarettes (27%), marijuana (23%), pain pills (18%), downers (10%), inhalants (6%), prescription drugs (4%), ecstasy (3%), hallucinogens (3%), cocaine (2%), steroids (2%), stimulants (2%), and heroin (1%).

2.2 Current Use (Used within the last 30 days)

17% of students are current users of alcohol. This is followed by cigarettes (13%), marijuana (11%), pain pills (7%), binge drinking* (6%), downers (3%), inhalants (2%), prescription drugs (2%), ecstasy (1%), hallucinogens (1%), steroids (.8%), stimulants (.6%), and cocaine (.5%).

**Binge Drinking (5 or more drinks at one time)

3. Longitudinal Observations

3.1 Comparison Between 2004 and 2006: Life-Time Users

Within the class of gateway drugs (i.e., alcohol, cigarettes, and marijuana), there have been increases in the rates of reported use across all three substances with marijuana increasing by 33%, alcohol increasing by 15% and cigarettes increasing by 7%. All types

of drugs show a statistically significant *increase* in lifetime use *except* other rave drugs and stimulants which have not changed and Over the Counter and Benzodiazepines which show a significant decrease.

3.2 Comparison Between 2004 and 2006: Current Users

As in the case of lifetime exposure, there has also been a general increase in the proportion of current drug users in 2006 compared to 2004. Among the gateway drugs, the greatest increase of use was reported for marijuana (48%). Rates of use for alcohol increased by 16% and increased for cigarettes by 19%. The rate of use for downers also increased dramatically by 48%.

While the use of nearly all substances has increased since 2004, in general, the proportion using has not returned to the higher levels of 2002. The overall system figures may reflect the nature of the sample, which has a higher proportion of 12th graders in 2006 than it did in 2004, but controlling for level, the proportions are still higher in 2006.

4. Prevalence of Drug Use in 2006: A Comparison Between Mecklenburg County and National Surveys

4.1 Comparison between 2006 National Institute on Drug Abuse (NIDA) Monitoring the Future Survey with 2006 Mecklenburg County Survey

Is student drug abuse in Mecklenburg County more widespread than a similar group of students at the national level? In order to answer this question, we have included only those drug types for which there are comparable data, i.e., alcohol, cigarettes, marijuana, and cocaine.

The data are provided in the table below. This table shows that drug usage levels among students in Mecklenburg County is less widespread than the national averages in almost all categories.

2006 Youth Drug Survey (YDS) and 2006 NIDA Monitoring the Future Data
Lifetime Users (Grades 8-12)

	Grade 8			Grade 10			Grade 12		
DRUG	**YDS**		**NIDA**	**YDS**		**NIDA**	**YDS**		**NIDA**
	2004	**2006**	**2006**	**2004**	**2006**	**2006**	**2004**	**2006**	**2006**
Alcohol	28.5%	27.8%	40.5%	54.0%	50.3%	61.5%	65.5%	67.1%	72.7%
Cigarettes	23.7%	18.3%	24.6%	36.2%	32.9%	36.1%	42.8%	44.8%	47.1%
Marijuana	12.8%	11.6%	15.7%	27.7%	27.8%	31.3%	40.0%	41.5%	42.3%
Cocaine*	10.4%*	1.1%**	3.4%***	21.0%*	3.5%**	4.8%***	14.4%*	3.4%**	8.5%***

Source: Inst. For Social Research, U of Michigan, 2006

5. Student Drug Use and Grade Level

5.1 Percent of Youth Who Have Used Drugs By Grade

Lifetime use of gateway drugs increases substantially from one grade level to next from 6th - 12th with the exception of marijuana for grades 9 and 11. The use of inhalants peaks in Grade 10 at 11%. 67% in Grade 12 report having used alcohol in their lifetime. More than 40% in Grade 12 report lifetime use of cigarettes and marijuana. High rates of use of pain pills is reported by all students especially middle school

There is no significant change for the 30 day use of any drug by grade between 2004 and 2006. However, binge drinking is significantly down ($p<.05$) for 10^{th}, 11^{th}, and 12^{th} grades. The different sample sizes by grade are not a factor in the changes in use observed when school level is considered.

6. Student Drug Use and Gender

In this section, inquiry is made to determine (1) whether drug use is more prevalent among male or female students and (2) to detect any gender-related issues over time.

There is not a significant difference in the rate of usage between male and female students across the use of "gateway" drugs. There is no longer a statistically significant difference between gender and the use of marijuana in the last 30 days, because the rate of use among females has increased. Females are more likely than males to use downers, pain pills and OTC in the last 30 days. Males are more likely to have used steroids in the last 30 days.

7. Student Drug Use and Ethnicity

The increase in alcohol use in 2006 is for all racial groups except Whites. The rate of use of alcohol by White youth remains constant and high. Due to the increase in the rate of use by non-White students we no longer see a statistical significance regarding alcohol use and binge drinking related to race. Hispanic and White students are more likely to use cigarettes in the last 30 days. African American students are more likely to use marijuana in the last 30 days. While smoking has increased among all racial groups, the significant difference in the increase in smoking between 2004 and 2006 is the increase by Hispanics and other racial groups. The difference in marijuana smoking the last 30 days by race between 2004 and 2006 is due to an increase by both African Americans and Hispanic students.

8. Student Perception of Risk

Those students who engage in any form of substance use tend to see less risk in the behavior than other students. Non-users report high perceptions of risk for all substances except occasional and regular alcohol use. Less than 50% of all students perceive occasional alcohol use as having a moderate to high risk. 78.5% of all students see smoking as having moderate to high risk. 63.2% of all students see occasional marijuana smoking as having moderate to high risk.

9. Student Perception of Peer Approval

Perception of peer approval is greatest for occasional drinking. 30% of all students feel that peers would approve of having 1 or 2 drinks occasionally. 15.8% of all students feel peer approval for having 1-2 drinks regularly. 11.4% of all students feel peer approval for binge drinking. 20% of all students feel that peers would approve of occasional marijuana smoking. 7% of all students feel peer approval to smoke one or more packs of cigarettes a day.

10. Student Perception of Adult Approval

For all substance use, proportionately fewer students see strong parental disapproval than students in 2004. Students perceive of greater adult approval of occasional drinking in 2006. 78% perceive disapproval of occasional drinking which is down from 90% in 2004. 10% of high school students feel that adults would approve or strongly approve of occasional drinking.

11. Student Perception of Use

The perception of alcohol use by students is highest among students who drink and high school students. High School students perceive that 63 % of students in their school drink but only 17.2% admit drinking in the last 30 days. Likewise, students who use drugs and High School students perceive that a greater proportion of students in their schools use drugs. High School students perceive that 65% of students use some kind of drug, but the data show that 25% admit use in the last 30 days.

12. Access

The primary source of access for all substances is from a friend. 25% of students report parents gave them alcohol while an additional 14% say they took it from home and 3% say they took it from friend's home. 20% of students report they had someone else buy alcohol for them with less than 4% reporting buying alcohol themselves.

13. Age of First Use

A substantial proportion of students are initiated into substance use by age 12 with the bulk starting between 12 and 15 years of age. In both 2004 and 2006, of the youth who have used alcohol approximately 1/3 started drinking under the age of 12 and nearly 60% of the youth who have used alcohol start between 12 and 15. More than 90% of the youth who have used alcohol report drinking before the age of 16. 60.6% of those using inhalants started before or by age 11 in 2006; 61.8% in 2004. More students started using pain pills before ages 12-13 in 2006 than did in 2004.

14. Correlates

Poor school performance and unexcused absences are significantly related to the use of alcohol, marijuana, and cigarettes. The more unexcused absences, the greater the likelihood that the student reported current alcohol use. Binge drinking is significantly related to increased unexcused absences.

15. Correlates

These data show a slight increase in cigarette smoking, alcohol, marijuana, downer (tranquilizers etc) and steroids since 2004. The Charlotte-Mecklenburg data on current use is higher than the national average for cigarettes, alcohol and marijuana use by 12-17 year old students but lower for all three than North Carolina averages for 9-12th grades. The increases are not uniform across the system and they have not reached the levels of use found in 2002. Over-the-counter drug use is down and due probably in part to the change in state law requiring that they be behind the counter. Binge drinking has also significantly decreased among those who drink.

The trends since 2004 show:

- The cigarette use increase is significant within the Hispanic and "other" race/ethnic groups.

- Alcohol use increase is significantly higher for African American, Hispanic and "other" race/ethnic groups.

- Increased alcohol use is significant for both males and females.

- Binge drinking is significantly lower for grades 10-12. The exception to the decrease in binge drinking is an increase for Hispanic students.

- Marijuana used has significantly increased for African Americans and Hispanics with significant increases in grades 9 and 11. The increase in marijuana smoking is also seen for females.

- Inhalant and steroid use is significantly up for 7th and 8th grades.

- Benzodiazepines use has significantly declined in grades 10, 11, and 12 and Over-the-counter use is significantly down for 12th grade students.

The negative side of this is the slight increase over all and the significant increase within the Hispanic and "other" student population particularly. A prior difference in use between males and females has decreased indicating a significant increase by females in particular.