

The Renfrew County and District FOCUS Community Project, The Centre for Addiction and Mental Health, Renfrew County District School Board, Renfrew County Catholic District School Board, the Conseil des écoles catholiques de langue française du Centre-Est and Renfrew County and District Health Unit

# RENFREW COUNTY STUDENT DRUG USE SURVEY 1999



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## Substance Use Survey

The steering committee members, Carla Walters from Renfrew County and District Health Unit (RCDHU), Larry Sobol from the Centre for Addiction and Mental Health (CAMH), Leslie Wirth from Champlain District Health Council, Ron Parker from the Renfrew County Alcohol/Drug and Gambling Assessment/Referral Service and Greg Lubimiv from the Phoenix Centre for Children and Families, provided excellent assistance in planning, coordinating and implementing the study. The full support of the Renfrew County District School Board, the Renfrew County Catholic District School Board and the Conseil des écoles catholiques de langue française du Centre-Est provided valuable information and access, making the study a reality.

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## Steering Committee

Carla Walters	Renfrew County and District Health Unit
Larry Sobol	Centre for Addiction and Mental Health
Leslie Wirth	Champlain District Health Council
Ron Parker	Renfrew County Alcohol/Drug and Gambling Assessment/Referral Service
Greg Lubimiv	Phoenix Centre for Children and Families

# EXECUTIVE SUMMARY

## Background

Since 1977, the Addiction Research Foundation, now the Centre for Addiction and Mental Health has been conducting a survey every two years of grade 7 to OAC students in Ontario concerning their use of alcohol and other drugs. In the spring of 1999, 4,894 students from across Ontario participated in the provincial survey administered by the Institute for Social Research, York University (see the Ontario Student Drug Use Survey Executive Summary, Appendix A). In 1999, the FOCUS Community Project of Renfrew County, an injury prevention program of the Ministry of Health, decided to implement the same survey with students across Renfrew County. The survey questionnaire was administered by a large core of volunteers and the staff from FOCUS Community Project partners. Surveys were completed by 2,452 grade 7 to OAC students from 20 schools across Renfrew County in the spring of 1999. The value of conducting the same survey, at the same time was that it afforded the FOCUS project partners an opportunity to compare youth in Renfrew County to youth from the rest of the province of Ontario.

## Confidence in the Renfrew County Results

Presently, self-report questionnaires utilized in this survey provide the most accurate and reliable estimate of alcohol and other drug use by the entire population surveyed, in this case, students from grade 7 to OAC. The results from utilizing the survey method are bolstered by employing scientific, random sampling procedures, ensuring the anonymity of individual respondents and conducting the survey within a school setting.

On the other hand, self-report questionnaires have some obvious limitations. The survey results do not relay information about youth not in school (e.g. drop outs), about youth who were away during the survey (e.g. sick) or who did not get consent from their parents to participate. Of common concern is the belief that some students will either underestimate or overestimate their actual drug and alcohol use history. Related to this, self-reports cannot be verified. However, scientific investigation into the accuracy of self-reports indicates that youth are more likely to underestimate their true rate of use by an unknown magnitude.

What is also worthy to note is the fact that the alcohol and other drug use reported by Renfrew County youth parallels (is similar to) that reported by Ontario youth. This convergence of reported use raises confidence in the validity and reliability of the data reported here.

In the end, given the limitations of self-report questionnaires combined with the confidence intervals (as described below), it is advisable to see the survey results as denoting the trend in drug use in Renfrew County, not the absolute or exact state of it.

## Main Findings

Although the data seem to support the conclusion that youth in Renfrew County, compared to youth from the rest of Ontario have higher overall rates of alcohol and other drug use, that is not the case. In fact, the survey results demonstrate that students from Renfrew County drink alcohol, take drugs and smoke cigarettes in amounts and frequencies similar to their counterparts in other regions of Ontario. The reason for this is based on a statistical procedure known as confidence intervals. These denote that the true percentage of substance users on any variable falls between a lower or higher estimate. Thus, when data for Renfrew County includes an examination of confidence intervals, students from our County, compared to students from elsewhere in Ontario, use alcohol and other drugs to a similar extent.

## Highlights

### Students reporting drug use at least once, 1999

- 74.3% (confidence interval 67.3 – 81.2) of Renfrew County students from grade 7 to OAC have tried alcohol at least once in the last year; Ontario 67.5% (confidence interval 65.5 – 69.7).
- 35.4% (23.8 – 46.9) tried tobacco; Ontario 29.2 (26.8 – 31.8)
- 33.5 % tried cannabis (24.9 – 43.1); Ontario 29.3% (26.9 – 31.8)
- 9.7% (4.4 – 14.9) tried LSD; Ontario 6.8% (5.6 – 8.2)
- 14.8% (9.3 – 20.3) tried other hallucinogens; Ontario 13.8% (12.0 – 16.0)
- 4.1% (2.4 – 5.8) tried cocaine; Ontario 3.7% (2.8 – 4.8)

### Frequency of alcohol use

- 16.31%, representing 1,414 students from grade 7 to OAC drank alcohol at least once per week during the last year; Ontario 14.0%

### Frequency of having five or more standard drinks at least once in past four weeks

- 34.4% representing 2,989 students from grade 7 to OAC drank five or more standard drinks at least once in the four weeks prior to the survey; Ontario 29.1%

### Number of Renfrew County students reporting cannabis or tobacco use, 1999

- 33.5% representing 2,985 students from grade 7 to OAC tried cannabis at least once in the last year
- 35.4% representing 2,257 students from grade 7 to OAC smoke at least one cigarette per day

## **FOCUS Community Project Response to Student Drug Use**

The Renfrew County and District FOCUS Community Project is concerned about the level of alcohol and other drug use as demonstrated by these statistics. In response, the FOCUS Community Project has initiated numerous activities to address the reported use of these substances. These include the following.

### **HEROES**

A multi media show to promote taking smart risks was seen by all grade 7 to 11 students in March 2000.

### **ACTION**

A substance abuse prevention classroom curriculum and corresponding community component for students in grades 7, 8 and 9 is available for use in all Renfrew County schools.

### **Party Smart Workshop**

A workshop is hosted annually at each school for students in grade 12 and OAC on hosting safe parties.

### **Opening Doors**

An intensive in-school program is conducted for grade 9 students identified as “at risk”.

### **FAN Club Puppet Shows**

This program, which addresses alcohol and the family, is presented to students in grade 1 – 6.

### **STAY SAFE**

This campaign is an ongoing educational program promoting safe, moderate and legal use of alcohol.

### **Operation Lookout and Last Drink**

These two programs are designed to mobilize members of the community to call 9-1-1 and report impaired drivers and identify licensed establishments that serve people to intoxication.

### **Municipal Alcohol Policy**

This program encourages policy development to help municipalities manage alcohol use on their property.

### **BABES**

Beginning Alcohol and Addiction Basic Education Studies is an eight week puppet based program for youth three to nine years old, that will be brought to Renfrew County.

## **Conclusion**

The rise in drug and alcohol use described in the Ontario survey and the parallel use by Renfrew County students ought to concern a wide array of people. This includes young people themselves, parents, other family members and caregivers, teachers, youth and healthcare professionals, recreation workers, police, politicians and anyone else who comes in contact with and cares about young people. It is apparent that the programs initiated by the FOCUS project and other like-minded individuals and organizations need to continue and if possible, be strengthened. Indeed, one could hypothesize that without all the prevention program efforts that have gone on in the past, the rates of use could have been greater. However, the data and the trends that emerge from it should also challenge all concerned to look seriously at the efficacy of what is currently being done and to consider other ways of reducing, or at least containing alcohol and other drug use and its consequences. Serious “soul searching” could result in new and useful ways of looking at and successfully responding to the challenge of teenage substance use.

## BACKGROUND

The Student Drug Use Survey is an initiative of the Renfrew County and District FOCUS Community Project, a Ministry of Health funded program aimed at preventing problems, including injuries associated with alcohol and other drug use. The Renfrew County and District Health Unit serves as the lead agency for the project, in collaboration with over 25 partner representatives from the health and social service agencies, education, police and community volunteers.

The Centre for Addiction and Mental Health (formally the Addiction Research Foundation) has conducted a biennial provincial survey of grade 7 – OAC student drug use since 1977. However, the sample size of Renfrew County students involved in the provincial survey has been miniscule or non-existent. Therefore, information about student drug use here could not be determined. The FOCUS Community Project identified as a priority the need to gather local data about students' attitudes, beliefs about and use (if any) of tobacco, alcohol and other drugs (for example cannabis, hallucinogens, heroin and medical drugs).

The Renfrew County school boards endorsed the project and twenty schools were randomly selected representing 4,100 students from grade 7 – OAC. In addition, it is likely that a small number of students from grade 9 to OAC from the Nipissing District also participated in the survey. To approve student participation in the survey, parents were asked to provide written consent. The same survey questionnaire used for the provincial survey was used for the Renfrew County Student Drug Use Survey. The survey was carried out at the same time as the Centre for Addiction and Mental Health (CAMH) provincial survey in February/March 1999.

The results of this survey provide extensive data related to alcohol, tobacco and other drug use among students in Renfrew County including:

- relevant data on youth alcohol and other drug use in Renfrew County
- data that can be used to compare youth alcohol and other drug use in Renfrew County with the province of Ontario
- insight on social determinants, student attitudes and behaviours
- direction to schools in curriculum and program planning
- background information for community groups and services when developing programs to complement prevention activities of local schools
- data to demonstrate need when applying for funding for drug prevention programs
- data to demonstrate the need for community/school policies concerning alcohol and other drug use
- data to demonstrate other areas of need within the community, i.e. enforcement, recreation.

Having this information will be very beneficial to school boards, alcohol and drug treatment and prevention agencies, the Champlain District Health Council, law enforcement agencies, the medical community and recreation departments.

# INTRODUCTION

In this report, the extent and patterns of alcohol and other drug use among Renfrew County students enrolled in grade 7 through OAC in 1999 are described.

The major aims of the study are to determine:

- the extent of drug use by students in grade 7 through OAC;
- the extent and nature of alcohol-related and drug-related problems;
- attitudes, beliefs and perceptions about alcohol and other drug use.

This report is restricted to descriptive findings. The prevalence of drug use among the total sample and among different geographical regions is examined and rates of drug use in Renfrew County are compared to the province-wide 1999 Ontario Student Drug Use Survey (OSDUS).

## Why Survey and Monitor the Drug Use of Students?

There are important reasons for estimating and monitoring drug use among adolescent students.

1. Drug use and its consequences can change quickly. Indeed, in a short period several drug-related public health concerns have emerged, crack, cocaine and AIDS, for example.
2. Adolescents are at a pivotal developmental stage where negative consequences due to drug use could result in future problems in later adolescence and adulthood.
3. Even when the size of the drug-using population is stable, or declining, patterns of drug use among users can differ dramatically over time. For example, the same population of users can be using drugs more or less hazardously at one point than another.
4. Because surveys have a scientific basis and a known representativeness, they can provide data that can confirm or challenge anecdotal and media reports regarding the nature of drug use and its consequences. Thus, the results can inform the public and challenge myths.
5. Monitoring surveys also provide a basis for program and policy evaluation of goals established by governmental and non-governmental agencies. Examples include the Ontario Premier's Council on Health (1991) and the Canadian Drug Strategy.

## What Information Do Drug Use Surveys Provide?

Drug use surveys provide important information to evaluate the harm caused by alcohol and other drug use. This includes the size of the adolescent student drug-using population (both the percentage and absolute number), the factors that correlate with drug use, the identification of high-risk groups and the changes in the use and abuse of drugs over time.

The size of the drug-using population and the pattern of drug use are only two components of the harm caused by drug use. Whether the use of a given drug causes significant societal or individual problems depends on a host of factors in addition to the number of users. For example, other factors include the pharmacological hazard of the given drug, purity levels, addictive potential, economic and social costs of treatment and enforcement. As well, in evaluating the harm caused by drug use it is important to balance the relative number of users (the percentage using a drug) and the absolute number of users. Both pieces of

information are important, and in some cases, considering only the percentages or absolute numbers can be misleading. Consider, for example, that if 5% of the survey respondents answer affirmatively to any question in the survey, this represents about 450 students in Renfrew County. Clearly, the evaluation of harm to public health will differ if this percentage refers to the number of students using cannabis once versus the number of students sharing needles when injecting drugs.

### **What Information Do Student Drug Use Surveys Not Provide?**

Because drug use surveys are based on adolescents only, their data cannot fully measure the totality of substance use problems. Students' surveys cannot address the extent and changes in drug use among non-students or adults. They also cannot address the nature and changes in drug problems in the street drug scene. Student drug use typically plays a small role in various drug problem indicators such as arrests, convictions, deaths and treatment. Thus, student drug use trends need not be similar to trends in other drug use indicators.

## Strengths and Weaknesses of Student Drug Use Surveys

Although no single source of data can fully describe the contours of the drug problem, it is generally agreed that the strengths of the survey method far outweigh the limitations in estimating the size of the drug-using population. The following chart compares the strengths and weaknesses of drug use surveys.

Strengths	Weaknesses
<ul style="list-style-type: none"><li>• The survey is based on scientific, random (probability) sampling methods that result in representative samples in which the sampling error of drug use estimates can be calculated.</li><li>• Drug use surveys are often the only feasible means to measure the size of the drug-using population since no other official source exists (e.g. sales data).</li><li>• The survey is widely dispersed throughout Renfrew County with 20 schools participating.</li><li>• The survey is administered on a classroom basis. Not only is this cost-effective, but it tends to increase the rate of student participation. As well, the questionnaire can be completed in an anonymous setting, which is the most critical factor in reducing the under-reporting of drug use. Indeed, school administered surveys typically obtain higher reports of drug use than do household surveys.</li><li>• Unlike enforcement data (e.g. arrests, convictions) and treatment data, survey data captures the widest population of drug users, from former to active users.</li><li>• Because surveys are based on individual responses, they can assess the correlates and predictors of drug use and identify the characteristics of high-risk groups.</li></ul>	<ul style="list-style-type: none"><li>• The survey is restricted to adolescent students enrolled in school. Excluded by design are groups in which drug use is typically higher such as dropouts and street youth.</li><li>• Because the reporting of drug use is based on self-reports, there is an unmeasurable potential for the underestimation of drug use caused by intentional (eg. under-reporting) and unintentional errors (e.g. memory errors).</li><li>• The survey is designed to provide precise estimates of drug use at the county and regional level. The survey, however, is not designed to provide precise estimates for smaller local geographic areas.</li><li>• Highly structured surveys do not allow for the probing of rich qualitative information.</li></ul>

# METHOD

## Sampling Design

The objectives of the Renfrew County Student Drug Use Survey (RCSDUS) sample design were three-fold: to provide total and regional estimates of drug use, to provide comparisons to the province-wide Ontario Student Drug Use Survey and to minimize administrative and fieldwork costs.

The RCSDUS is based on a regionally-stratified single-stage cluster selection of schools. The target population was composed of elementary and secondary schools (public, Catholic and French) located within Renfrew Country. All eligible schools were in the regular school system and had students enrolled in grade 7 or 8 (elementary schools), or grade 9 through OAC (secondary schools). The final sampling list consisted of 55 schools (44 elementary and 10 secondary), which represented some 9,000 students (2,700 elementary and 6,300 secondary).

## RCSDUS Sample Design

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Stage	Selection Method	Stratification
School	Probability proportional to school size	School type (elementary, secondary) Region (n=5)

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Eligible schools were stratified by five regions (Arnprior/Renfrew, Deep River/Petawawa, Madawaska, Opeongo and Pembroke) and two school sectors (elementary, representing students in grade 7 and 8 and secondary, representing students in grade 9 through OAC).

In total, 20 schools (15 elementary and five secondary) were randomly selected. Within each of the five elementary-regional strata, three schools were randomly selected with probability proportional to size (thus, larger schools had a greater probability of selection) and in each of the five secondary-regional strata, one school was randomly selected with probability proportional to size. All students in each selected school comprised the sample.

## Procedures

Officials in each of the two school boards comprising the sampling region were approached by the Renfrew County and District FOCUS Community Project group asking for permission to survey students under their jurisdiction. Upon approval, principals of selected schools were approached for their participation.

Schools determined whether parental consent forms were required. Consent forms were distributed to students, who, in turn, sought the signature of at least one parent. Those without signed consent forms on the day of the survey were not allowed to participate.

Students responded to self-administered questionnaires in class groups within a 30 to 40 minute session, during the months of February through April 1999. Participation was voluntary and anonymous. Surveys were administered by volunteers and by staff from community agencies. All students recorded their responses directly on the questionnaire which were then entered and verified by data-entry staff at the Institute for Social Research, York University.

## The Questionnaire

The RCSDUS questionnaire ( see Appendix B) was based on the Centre for Addiction and Mental Health's (Addiction Research Foundation Division) 1999 version of the Ontario Student Drug Use Survey, and included the following components:

- demographic and social characteristics (e.g. age, sex, grade level, grade average, weekly spending money, use of spare time)
- frequency of alcohol and drug use in prior year (e.g. tobacco, alcohol, cannabis, glue, solvents, barbiturates, heroin, speed, stimulants, tranquillizers, LSD, PCP, other hallucinogens and cocaine)
- extent of heavy drinking and problem drinking
- extent of problem drug use
- age of first use of alcohol, tobacco and cannabis
- availability of alcohol and other drugs
- attitudes and beliefs regarding drug use
- extent of alcohol and other drug education in the school environment
- self-reported delinquency
- drinking and driving behaviour.

Survey questions are designed to elicit responses that are relevant to achieve a clear understanding of student alcohol and other drug use. As such, students indicated the frequency of their drug use by means of multiple choice alternatives, which included non-use and not knowing what the drug was. Except for tobacco and alcohol use, drug use is defined as any use of the drug within the 12 months before the survey. Tobacco use is defined as smoking more than one cigarette during the 12 months before the survey. Alcohol use is defined as occasional use occurring at special events and more frequent use. (Excluded from consideration are those who said that they "had a sip to see what it is like".) Medical and non-medical use of barbiturates, stimulants, and tranquillizers are differentiated. The former indicates use under the direction of a physician (prescription or otherwise) and the latter indicates use without medical direction.

## Data Weighting

Because of the equal allocation of students in each of the three geographical regions, weights are required to ensure a proper population representation for each student selected. Three factors are applied to these data: a sampling weight for each school (i.e. the inverse of the probability of selection), a non-response adjustment for each school-by-grade configuration and a regional adjustment.

## Sample Participation and Characteristics

All of the 20 schools selected participated in the survey. Of the 4,167 students selected (1,082 grade 7 and 8 students and 3,085 secondary students) 2,503 completed questionnaires (856 elementary and 1,647 secondary) resulting in a student completion rate of 60% (79% of elementary students and 53% of secondary students). Unfortunately, in the absence of external information, it is difficult to assess the bias caused by non-response because the total bias is a function of the non-response rate and the difference between respondents and non-respondents, the latter of which is rarely known. In any case, a majority of students participated and it is also noteworthy that the response rate among grade 7 and 8 students is similar to large-scale student surveys. All final analyses were based on minimally complete cases in which students reported both their gender and age and did not report the use of a fictitious drug (n= 2,452). These 2,452 students represent about 28% of the 8,679 grade 7 to OAC students in Renfrew County enrolled for the 1999/2000 school year (see Appendix C).

**TABLE A — SAMPLE CHARACTERISTICS, RENFREW COUNTY STUDENTS, 1999**

		<b>NUMBER SURVEYED</b>	<b>UNWEIGHTED %</b>	<b>WEIGHTED %</b>
<b>Sex</b>	Male	1,155	47.1	46.7
	Female	1,297	52.9	53.3
<b>Grade</b>	7	417	17.0	15.0
	8	422	17.2	15.0
	9	429	17.5	20.1
	10	370	15.1	17.2
	11	363	14.8	14.4
	12	288	11.8	11.6
	OAC	163	6.7	6.7
<b>Region</b>	Arnprior/Renfrew	414	16.9	29.9
	Deep River/Petawawa	503	20.5	18.4
	Madawaska	353	14.4	11.0
	Opeongo	519	21.2	10.8
	Pembroke	663	27.0	30.9

## Data Analysis, Interpretation and Presentation

Before turning to the results of the data it is important to first briefly discuss the meaning, interpretations and limitations of survey results as they pertain to the data. The main goal of sample surveys is to estimate the "true" value of a particular characteristic in the population, in this case, the percentage of Renfrew County students who report using a given drug. Because not all students in the County were surveyed, this "true" population percentage is unknown and must be estimated from a sample. Consequently, every estimate from a sample has associated with it some degree of sampling error. The accuracy of a percentage, i.e. the difference between the obtained sample percentage and the "true" population percentage is determined by the degree of precision and bias.

Precision refers to the "probable accuracy" of a percentage; those summarized in the present report include a range, or confidence interval, around percentage values which indicate the interval within which the true population percentage probably lies. The reason for employing confidence intervals arises from the uncertainty, or sampling error, associated with using the results obtained from a single sample to draw conclusions about the entire population from which the sample was drawn. If another sample had been surveyed, using identical procedures, the results would probably have differed slightly from those obtained from the present sample. The confidence interval around a percentage indicates the range of variation in percentage values which would have been obtained from most (in this case, 95 out of 100) of the other equivalent samples which might have been studied. The confidence interval (in this case, a 95% confidence interval) can also be interpreted as being 95% likely to include the percentage value, which would have been obtained, if every member of the target population had been studied. In reporting that the percentage of students who had used alcohol in the prior 12 months was 74.3% (67.3, 81.2) (see Table 1), it is understood that there is a 95% chance that the actual or true percentage of students in the population of Renfrew County students who used alcohol lies between 67.3% and 81.2%. Smaller confidence intervals imply greater precision, or less sampling error. The confidence intervals computed for estimates include the characteristics of the sampling design (i.e. stratification, clustering and weighting).

It is important for readers to consider the following when reading this report.

- Because only a sample of all students are surveyed, sampling error is involved in every drug-use estimate. Consequently, absolute differences between two percentages cannot necessarily be interpreted as indicating true or real differences in the population.
- The margin of error, or confidence intervals, presented in this report includes only sampling error. Confidence intervals do not include errors due to nonsampling factors such as the under-reporting of drug use or errors of memory or recall.
- Statistically significant differences must be carefully evaluated. First, the analysis does not consider the large number of statistical tests performed. For example, for every 20 statistical tests, one significant difference could occur by chance. Second, outcomes that are statistically significant indicate only that the difference is probably not due to chance. Whether a difference is of practical importance to public health policy is a matter that requires both statistical and non-statistical evaluation.
- This report is descriptive. Associations found in these data should not necessarily imply causal relationships. For example, regarding regional differences, one can only determine if a difference in drug use exists and describe the difference. Because many other factors may cause regional differences (e.g. socio-economic status), these differences cannot be attributed solely to the geographical location of students.
- To ensure the presentation of stable estimates, percentages less than 2.0% (depending on sample size) were suppressed.

# RESULTS

## Overall Rates of Past Year Drug Use Among Renfrew County Students, 1999

Table 1 presents the percentage of students reporting drug use during the 12 months before the survey and the associated degree of sampling error (confidence interval as explained on page 12).

The most prevalent drugs used by Renfrew County students are as follows:

- alcohol, used by 74.3% (between 67.3% and 81.2% in the population)
- cigarettes, used by 35.4% (between 23.8% and 46.9%)
- cannabis, used by 33.5% (between 24.0% and 43.1%)
- hallucinogens such as psilocybin (magic mushrooms), used by 14.8% (9.3% and 20.3)
- barbiturates for medical purposes, used by 14.4% (11.5% to 17.4%).

The use of other drugs is reported by 10% or less.

## Regional Differences in Past Year Drug Use Among Renfrew Country Students

Table 1 also presents differences in past year drug use by the five regions used in the survey.

Of the 19 drugs examined significant regional differences occur for the use of four drugs: non-medical barbiturates, LSD, medical stimulants and medical tranquillizers. The dominant pattern of these regional differences, which occur for three of the four differences (medical stimulants, non-medical barbiturates, and LSD), show that students from Deep River/Petawawa report the lowest rates of drug use, while rates among students in the remaining regions do not differ significantly. For the remaining difference, the use of medical tranquillizers, students in Arnprior/Renfrew report the lowest rate of use.

**TABLE 1 — PERCENTAGE OF RENFREW COUNTY STUDENTS REPORTING PAST YEAR DRUG USE, BY TOTAL & REGION GRADE 7–OAC 1999**

	TOTAL n=2,452		ARNPRIOR/RENFREW n=414		DEEP RIVER/PETAWAWA n=503		MADAWASKA n=353		OPEONGO n=519		PEMBROKE n=663	
	%	±	%	±	%	±	%	±	%	±	%	±
Alcohol	74.3	(67.3-81.2)	77.1	(53.3-90.8)	71.1	(52.8-84.5)	74.8	(56.6-87.1)	70.4	(56.5-81.4)	74.6	(54.2- 87.9)
Cigarettes	35.4	(23.8-46.9)	38.4	(26.0-52.7)	21.3	(5.2-29.0)	35.1	(26.2-42.3)	35.6	(25.8-46.9)	40.7	(26.3-56.8)
Cannabis	33.5	(24.0-43.1)	36.2	(20.0-56.4)	24.4	(15.7-35.8)	35.9	(24.4-49.2)	30.9	(20.5-43.5)	36.6	(21.1-55.5)
Glue	3.3	(2.7- 3.8)	3.5	(2.4- 5.2)	2.6	(1.5- 4.4)	†	†	4.0	(1.6- 9.2)	3.6	(2.7- 4.9)
Solvents	6.5	(4.6- 8.4)	5.7	(2.6- 12.1)	6.6	(2.7-15.5)	5.8	(4.6- 7.3)	7.6	(4.2-13.1)	7.1	(6.4- 7.9)
R <sub>x</sub> Barbiturates	14.4	(11.5-17.4)	15.4	(13.0-18.2)	10.3	(8.9-11.9)	15.5	(12.7-18.9)	16.4	(14.6-18.4)	14.9	(10.6-20.5)
R <sub>x</sub> Stimulants *	8.4	(5.5-11.2)	11.4	(8.3-15.3)	4.4	(4.1- 4.7)	7.4	(5.1-10.6)	10.0	(9.0-11.1)	7.6	(4.8-12.0)
R <sub>x</sub> Tranquillizers *	3.2	(2.7- 3.8)	2.6	(2.2- 3.2)	4.0	(3.1- 5.3)	4.0	(2.2- 7.3)	3.9	(2.6- 5.6)	3.0	(2.0- 4.2)
NR <sub>x</sub> Stimulants	9.5	(5.2-13.8)	13.3	(7.9-21.5)	5.6	(4.2- 7.5)	8.1	(4.8-13.4)	6.8	(5.4- 8.4)	9.6	(6.2-14.5)
NR <sub>x</sub> Barbiturates *	6.5	(4.3- 8.6)	6.8	(4.8- 9.5)	3.3	(2.9- 3.6)	6.6	(5.7- 7.7)	8.1	(6.8-10.0)	7.4	(5.0-11.0)
NR <sub>x</sub> Tranquillizers	3.1	(1.9- 4.3)	4.1	(2.7- 6.2)	2.0	(1.5-2 .6)	3.4	(2.4- 4.6)	†	†	3.2	(2.2- 4.7)
Heroin	2.3	(1.6-3 .0)	†	†	2.3	(1.3- 4.0)	2.8	(2.2- 3.6)	3.3	(2.5- 4.4)	2.7	(2.1- 3.6)
Speed	4.6	(2.8- 6.4)	3.4	(2.4- 4.9)	3.8	(2.6- 5.6)	2.8	(1.8- 4.3)	5.1	(4.3- 6.0)	6.7	(4.4- 9.9)
LSD*	9.7	(4.4-14.9)	14.0	(7.7-24.3)	4.0	(3.7- 4.3)	5.0	(3.2- 7.7)	11.1	(7.2-16.8)	9.9	(6.7-14.3)
PCP	3.6	(1.5- 5.7)	5.7	(3.5- 9.0)	†	†	†	†	†	†	3.7	(2.7- 5.0)
Other Hallucinogens	14.8	(9.3-20.3)	15.9	(9.0-26.7)	8.4	(5.0-13.8)	15.5	(10.0-23.4)	15.3	(9.6-23.5)	17.2	(9.7-28.5)
Cocaine	4.1	(2.4- 5.8)	5.6	(3.3- 9.3)	2.9	(2.2- 4.0)	4.1	(2.6- 6.5)	3.0	(2.0-4 .4)	3.8	(2.3- 6.3)
Crack	2.7	(1.2- 4.3)	3.8	(2.2- .6)	†	†	†	†	†	†	3.0	(1.6- 5.3)
Ecstasy (MDMA)	3.3	(1.9- 4.6)	3.7	(2.1- 6.6)	†	†	6.8	(4.1-11.2)	3.7	(1.7- 7.7)	3.2	(1.7- 5.9)

NOTES: 95% Confidence interval; R<sub>x</sub> medical use; NR<sub>x</sub> non-medical use; † suppressed estimate; \* p< .05  
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## Sex Differences in Past Year Drug Use

As seen in Table 2, of the 19 drugs compared, the past year use of 11 drugs differed significantly by sex.

Females were more likely than males to report use of three drugs.

- cigarettes (37.0% vs. 33.5%)
- non-medical stimulants (11.0% vs. 7.8%)
- medical tranquilizers (3.8% vs. 2.6%)

Males were more likely than females to report the use of eight drugs.

- glue (3.9% vs. 2.7%)
- heroin (3.8% vs. 1.0%)
- speed (6.1% vs. 3.3%)
- PCP (4.8% vs. 2.6%)
- hallucinogens (16.0% vs. 13.8%)
- cocaine (5.3% vs. 3.1%)
- crack (3.6% vs. 2.0%)
- MDMA (Ecstasy) (4.5% vs. 2.2%)

**TABLE 2 – PERCENTAGE OF RENFREW COUNTY STUDENTS REPORTING PAST YEAR DRUG USE, BY SEX, GRADE 7 — OAC 1999**

	MALES n=1,155		FEMALES n=1,297		SEX DIFF
	%	±	%	±	
Alcohol	73.5	(67.8 - 78.5)	74.9	(65.4 - 82.6)	
Cigarettes	33.5	(24.0 - 44.4)	37.0	(25.4 - 50.5)	*
Cannabis	35.2	(26.1 - 45.4)	32.1	(23.1 - 42.8)	
Glue	3.9	(3.3 - 4.5)	2.7	(2.0 - 3.6)	*
Solvents	6.0	(4.5 - 7.8)	7.0	(4.8 - 10.1)	
R <sub>x</sub> Barbiturates	15.0	(11.9 - 18.7)	14.0	(11.2 - 17.3)	
R <sub>x</sub> Stimulants	8.8	(7.3 - 10.7)	8.0	(4.4 - 14.0)	
R <sub>x</sub> Tranquillizers	2.6	(1.8 - 3.7)	3.8	(3.3 - 4.4)	*
N R <sub>x</sub> Stimulants	7.8	(5.5 - 10.8)	11.0	(6.5 - 18.2)	**
N R <sub>x</sub> Barbiturates	6.4	(4.5 - 9.0)	6.5	(3.9 - 10.7)	
N R <sub>x</sub> Tranquillizers	4.0	(2.1 - 7.4)	2.3	(1.4 - 3.7)	
Heroin	3.8	(2.7 - 5.5)	1.0	(0.4 - 2.1)	**
Speed	6.1	(4.8 - 7.9)	3.3	(1.6 - 6.6)	*
LSD	10.8	(7.0 - 16.4)	8.7	(4.2 - 17.0)	
PCP	4.8	(2.5 - 8.8)	2.6	(1.4 - 4.7)	**
Other Hallucinogens	16.0	(11.3 - 22.1)	13.8	(9.0 - 20.5)	**
Cocaine	5.3	(3.6 - 7.6)	3.1	(1.8 - 5.3)	**
Crack	3.6	(2.1 - 6.0)	2.0	(1.0 - 3.9)	**
Ecstasy (MDMA)	4.5	(2.5 - 8.2)	2.2	(1.6 - 3.0)	*

NOTES: 95% Confidence interval; R<sub>x</sub> medical use; N R<sub>x</sub> non-medical use; \* p<.05, \*\* p<.01

## Grade Differences in Past Year Drug Use

As seen in Table 3, rates of drug use vary dramatically by grade and thus age of student. Of the 19 drugs presented, the use of 13 differs significantly by grade level.

The most prevalently used drugs, alcohol, cigarettes and cannabis, show a steadily increasing pattern with grade or age of student: alcohol use increases from 48.5% of grade 7 and 8 students to 91.6% of OAC students; similarly, cigarette use increases from 18.2% to 46.6% and cannabis use increases from 9.9% to 51.6%. Two other age-graded patterns are evident, one showing lowest rates among grade 7 students (medical and non-medical stimulants, non-medical barbiturates, hallucinogens and ecstasy) and one showing a slight peak among grade 9 and 10 students (speed, LSD, PCP, cocaine, crack).

**TABLE 3 — PERCENTAGE OF RENFREW COUNTY STUDENTS REPORTING PAST YEAR DRUG USE, BY GRADE LEVEL, 1999**

	GRADE 7-8 n=839		GRADE 9-10 n=799		GRADE 11-OAC n=814		GRADE. DIFF
	%	±	%	±	%	±	
Alcohol	48.5	(46.1 - 51.0)	79.6	(71.6 - 85.8)	91.6	(88.2 - 94.32)	***
Cigarettes	18.2	(13.3 - 24.3)	39.3	(26.0 - 54.4)	46.6	(35.6 - 57.9)	***
Cannabis	9.9	(7.5 - 12.9)	36.7	(26.1 - 48.9)	51.6	(45.5 - 57.7)	***
Glue	5.2	(3.8 - 7.0)	2.1	(1.0 - 4.5)	2.9	(1.3 - 6.3)	
Solvents	10.8	(9.0 - 13.0)	5.1	(1.7 - 14.0)	4.2	(3.0 - 5.9)	
R <sub>x</sub> Barbiturates	12.3	(8.4 - 17.8)	15.7	(12.0 - 20.3)	14.9	(12.5 - 17.7)	
R <sub>x</sub> Stimulants	5.3	(3.5 - 7.8)	10.7	(7.1 - 15.7)	8.9	(6.8 - 10.7)	*
R <sub>x</sub> Tranquillizers	2.3	(1.4 - 3.8)	3.4	(2.2 - 5.3)	4.0	(3.3 - 4.7)	
NR <sub>x</sub> Stimulants	3.1	(2.3 - 4.3)	12.8	(8.1 - 19.7)	11.6	(8.4 - 15.8)	***
NR <sub>x</sub> Barbiturates	4.4	(2.8 - 6.8)	8.2	(5.7 - 11.4)	6.4	(4.4 - 9.2)	*
NR <sub>x</sub> Tranquillizers	1.5	(0.8 - 2.6)	4.2	(2.3 - 7.7)	3.4	(1.8 - 6.3)	
Heroin	1.9	(1.2 - 2.9)	2.6	(1.3 - 4.9)	2.4	(1.4 - 4.1)	
Speed	2.2	(1.3 - 3.8)	6.2	(3.6 - 10.8)	4.9	(3.7 - 6.5)	**
LSD	3.2	(2.1 - 4.7)	14.4	(9.0 - 22.3)	10.3	(6.1 - 16.8)	***
PCP	1.2	(1.1 - 2.6)	6.2	(3.6 - 10.4)	2.5	(1.5 - 4.2)	***
Other Hallucinogens	3.0	(2.1 - 4.2)	18.0	(13.1 - 24.3)	22.0	(16.9 - 28.0)	***
Cocaine	1.5	(0.9 - 2.6)	6.3	(4.1 - 9.7)	4.0	(2.4 - 6.5)	**
Crack	0.9	(0.3 - 2.5)	5.1	(2.9 - 8.8)	1.2	(1.5 - 1.9)	**
Ecstasy (MDMA)	0.3	(0.1 - 1.1)	4.1	(2.1 - 7.7)	5.1	(3.8 - 6.9)	**

NOTES: 95% Confidence interval; R<sub>x</sub> medical use; NR<sub>x</sub> non medical use; † suppressed estimate; \* p<.05, \*\* p<.01, \*\*\* p<.001.

## Frequency of Drinking

Table 4 presents data about the frequency Renfrew County students used alcohol over the past 12 months before the survey. There are no significant differences between Renfrew County and Ontario students. Table 4 also includes information about the total number of students from grade 7 to OAC who are represented in each category. For example 21.7% of students, who use alcohol only at special occasions, represents 1,096 students (21.7% of 8,679 students). The confidence interval for the Renfrew County students who only drink at special occasions lies between 19.0% and 23.8% of the student in grade 7 to OAC.

About 21.7% of all Renfrew County students (23.1% Ontario) restrict their drinking to special occasions. Under half of all Renfrew County students (36.4%) usually drink between one and three times per month (30.6% Ontario). Another 7.7% drink once per week (6.8% Ontario), while 1.07% drink almost every day (.8% Ontario).

**TABLE 4 — FREQUENCY OF RENFREW COUNTY STUDENTS USING ALCOHOL OVER PAST 12 MONTHS, GRADE 7 — OAC 1999**

ALCOHOL: USED HOW OFTEN OVER PREVIOUS 12 MONTHS	% RENFREW COUNTY		TOTAL NO. OF STUDENTS ENROLLED IN GRADES 7 – OAC IN RENFREW COUNTY 1999/2000 n=8679	% ONTARIO
	%	±		
Only at special occasions	21.7	(19.0 - 32.8)	1096	23.1
Once a month or less	17.75	(18.4 - 20.6)	1540	16.7
2 or 3 times a month	18.64	(15.0 - 20.9)	1617	13.6
Once a week	7.72	(6.0 - 9.9)	670	6.8
2 or 3 times a week	6.39	(5.0 - 8.2)	554	5.6
4 or 5 times a week	1.13	(.5 - 2.5)	98	.8
Almost every day (6 or 7 times a week)	1.07	(.6 - 1.8)	92	.8
Never drank in last 12 months	25.30	(19.0 - 32.8)	2195	32.5

NOTES: ± 95% Confidence interval

## Heavy Drinking

Table 5 presents data about the Renfrew County students who consumed five or more drinks on at least one occasion during the four-week period prior to the administration of the survey questionnaire. A drink is defined as either one regular strength beer, or five ounces of table wine or 1.5 ounces of liquor. As in previous tables, there are no significant differences between Renfrew County and Ontario students thereby supporting the observation that Renfrew County students drink like their Ontario counterparts. Table 5 also contains information about the number of Renfrew County students between grade 7 and OAC in each category. Confidence intervals are also included.

Two-thirds, 65.5% with a corresponding confidence interval of 56.0% to 73.9%, of Renfrew County students did not drink alcohol four weeks prior to the survey. However, the remaining third, representing 2,995 students between grade 7 and OAC consumed five or more standard drinks at least once during the four weeks prior to the survey administration.

**TABLE 5 — PERCENTAGE OF RENFREW COUNTY STUDENTS REPORTING FREQUENCY OF HAVING FIVE OR MORE DRINKS IN LAST 4 WEEKS ON THE SAME OCCASION, GRADE 7 – OAC 1999**

LAST 4 WEEKS: TIMES HAD 5+ DRINKS ON SAME OCCASION	% RENFREW COUNTY		TOTAL NO. OF STUDENTS ENROLLED IN GRADES 7 — OAC IN RENFREW COUNTY 1999/2000 n= 8679	% ONTARIO
	%	±		
Never drank in last 4 weeks	65.5	(56.0-73.9)	5684	70.9
Once	12.96	(10.2-16.3)	1124	11.4
Twice	8.52	(7.1-10.2)	739	7.2
3 times	4.38	(2.6-7.3)	380	3.5
4 times	2.63	(1.8-3.8)	228	2.4
5 times	5.97	(3.9-9.1)	518	4.6

NOTES: ± 95% Confidence interval

## Frequent Heavy Drinking Episodes

Table 6 presents data about students who report at least one heavy drinking episode in past four weeks (i.e. having five or more drinks on one occasion) and those students who report five or more heavy drinking experiences.

A heavy drinking episode is defined as having five or more standard drinks on a single occasion. As seen in Table 6, about one third, representing 2,995 students, reported at least one heavy drinking episode during the four weeks prior to the survey. Heavy drinking episodes varied significantly by sex\* (36.2% of males versus 31.7% of females) and by grade\*\*\* (10.7% of grade 7 and 8 students, 34.0% of grade 9 and 10 students and 54.3% of grade 11 to OAC students). Heavy drinking episodes did not differ significantly by region.

5.3% representing 460 of all students reported frequent heavy drinking episodes, i.e. five or more heavy drinking episodes during the last four weeks before the survey. This category of heavy drinking was higher among males than females (7.8% versus 3.2%), differed very significantly\*\*\*, and as expected, increased with grade (from 3.2% of grade 7 and 8 students to 7.8% of grade 11 to OAC students). Regional differences were not statistically significant.

**TABLE 6 — PERCENTAGE OF RENFREW COUNTY STUDENTS REPORTING HEAVY DRINKING EPISODES DURING THE LAST FOUR WEEKS, BY TOTAL, SEX, GRADE LEVEL AND REGION, GRADE 7 — OAC 1999**

	AT LEAST ONE HEAVY DRINKING EPISODE		FIVE OR MORE HEAVY DRINKING EPISODES	
	%	±	%	±
<b>Total Sample</b>	<b>33.7</b>	(25.4 - 43.3)	<b>5.3</b>	(3.4 - 8.3)
		*		***
<b>Males</b>	<b>36.2</b>	(27.8 - 45.4)	<b>7.8</b>	(4.7 - 12.6)
<b>Females</b>	<b>31.7</b>	(22.8 - 42.0)	<b>3.2</b>	(1.9 - 5.3)
		***		
<b>Grade 7/8</b>	<b>10.7</b>	(5.8 - 18.9)	<b>3.2</b>	(0.5 - 17.3)
<b>Grade 9/10</b>	<b>34.0</b>	(24.9 - 44.5)	<b>4.8</b>	(2.8 - 8.1)
<b>Grade 11 +</b>	<b>54.3</b>	(47.1 - 61.3)	<b>7.8</b>	(5.9 - 10.2)
<b>Arnprior/Renfrew</b>	<b>38.3</b>	(21.7 - 58.1)	<b>6.1</b>	(3.3 - 11.1)
<b>Deep River/Petawawa</b>	<b>25.4</b>	(14.6 - 40.4)	<b>2.2</b>	(1.2 - 4.0)
<b>Madawaska</b>	<b>32.6</b>	(21.3 - 46.4)	<b>3.2</b>	(1.8 - 5.8)
<b>Opeongo</b>	<b>30.9</b>	(20.2 - 44.2)	<b>5.6</b>	(3.4 - 9.2)
<b>Pembroke</b>	<b>35.6</b>	(21.6 - 52.7)	<b>7.0</b>	(2.9 - 16.0)

NOTES: 95% Confidence intervals \* p < .05, \*\*p < .01, \*\*\*p < .001

## Harmful or Hazardous Drinking

The survey included the Alcohol Use Disorder Identification Test (AUDIT) developed by the World Health Organization (Saunders et al. 1993). See appendix D. This instrument is designed to detect problem drinkers at the less severe end of the spectrum of alcohol problems. The AUDIT assesses hazardous and harmful drinking. **Hazardous** drinking refers to an established pattern of drinking that increases the likelihood of future medical and physical problems (where as **harmful** drinking refers to a pattern of drinking that is already causing damage to one's health. Those with a score of 11 or more (out of 40) are considered to be drinking at a hazardous or harmful level.

As seen in Table 7, about one in eight Renfrew students (12.2%) report harmful or hazardous drinking during the past year. This indicator of problem drinking was significantly higher among males than females\*\* (14.2% versus 10.5%) and increased very significantly with grade\*\*\* (from 2.0% of grade 7 and 8 students to 20.2% of grade 11 to OAC students). Harmful or hazardous drinking did not differ significantly by region. The Renfrew County rate of harmful drinking (12.2%) is similar to the rate of 11.0% found among Ontario students.

**TABLE 7 — PERCENTAGE OF RENFREW COUNTY STUDENTS REPORTING HARMFUL OR HAZARDOUS DRINKING DURING THE LAST 12 MONTHS, BY TOTAL, SEX, GRADE LEVEL AND REGION, GRADE 7 — OAC 1999**

	RENFREW COUNTY		ONTARIO
	%	±	%
<b>Total Sample</b>	<b>12.2</b>	(10.3 - 14.4)	<b>11.0</b>
**			
<b>Males</b>	<b>14.2</b>	(12.3 - 16.4)	<b>14.4</b>
<b>Females</b>	<b>10.5</b>	(8.3 - 13.3)	<b>7.7</b>
***			
<b>Grade 7/8</b>	<b>2.0</b>	(1.1 - 3.5)	<b>2.9</b>
<b>Grade 9/10</b>	<b>13.1</b>	(11.0 - 15.6)	<b>11.5</b>
<b>Grade 11 +</b>	<b>20.2</b>	(17.0 - 23.8)	<b>17.4</b>
***			
<b>Arnprior/Renfrew</b>	<b>12.6</b>	(7.0 - 21.6)	
<b>Deep River/Petawawa</b>	<b>12.9</b>	(6.9 - 22.9)	
<b>Madawaska</b>	<b>10.4</b>	(6.8 - 15.5)	
<b>Opeongo</b>	<b>12.9</b>	(7.1 - 22.3)	
<b>Pembroke</b>	<b>11.9</b>	(6.9 - 19.7)	

NOTES: 95% Confidence interval \* p < .05, \*\*p < .01, \*\*\*p < .001

## Frequency of Cannabis Use

Table 8 provides data about the frequency of cannabis use by Renfrew County students during the 12 months prior to survey administration. Cannabis includes marijuana, hashish and hashish oil. Again, there are no significant differences in cannabis use by Renfrew County students when compared to their Ontario counterparts thereby supporting the observation that Renfrew County students in grades 7 to OAC use cannabis in frequencies similar to other Ontario students in the same grade. In 1999, approximately one third of Renfrew County students used cannabis.

Table 8 also includes the number of students in each frequency category. For example, 8.14% (confidence interval from 6.4% to 10.3%) representing 706 of 8,679 grade 7 to OAC students, used cannabis one or two times in the past 12 months. Whereas 9.4% (confidence interval from 6.2% to 14.0%) representing 806 of the 8,679 grade 7 to OAC students, reported using a cannabis product 40 or more times.

The data indicates that, of the 8,679 students in grade 7 to OAC, 4,966 did not use cannabis in 1999 and 3,713 students did use cannabis. The risk of cannabis related physical or psychological health problems rises with the frequency and amount used.

**TABLE 8 — FREQUENCY OF RENFREW COUNTY STUDENTS REPORTING CANNABIS IN PREVIOUS 12 MONTHS, GRADE 7 — OAC 1999**

<b>HOW OFTEN CANNABIS USED IN LAST 12 MONTHS</b>	<b>% RENFREW COUNTY</b>	<b>TOTAL NO. OF STUDENTS ENROLLED IN GRADES 7 —OAC IN RENFREW COUNTY 1999/2000</b>	<b>% ONTARIO</b>
	$\pm$		
1 or 2 times	8.14 (6.4 - 10.3)	706	8.3
3 to 5 times	5.26 (3.6 - 7.6)	456	4.6
6 to 9 times	3.61 (2.7 - 4.8)	313	3.8
10 to 19 times	4.07 (2.8 - 5.9)	353	3.4
20 to 39 times	3.95 (2.6 - 6.0)	342	2.8
40 or more times	9.40 (6.2 - 14.0)	815	6.4
Never used in last 12 months	65.53 (55.2 - 74.6)	4966	70.7

NOTES:  $\pm$  Confidence interval

## Frequency of Smoking

Table 9 presents data about the frequency Renfrew County students between grades 7 and OAC smoke cigarettes over the previous 12 months. As with previous tables, there are no significant differences between Renfrew County and other Ontario students. Table 9 also includes data about the total number of students in each category of use. For example, 189 students smoke one package of cigarettes per day (2.18% of 8,679 students).

It is notable that 63.7% (51.2% to 74.5%) of the students from grade 7 to OAC representing 5,528 students do not smoke; but, over one third, 36.3%, representing 3,148 students do smoke. When the Ontario Tobacco Strategy was articulated by the provincial government of the day, one of the goals was to reduce youth smoking to 10% of the population in the age category of 12 to 19 years by the year 2000. Clearly, that goal will not be achieved in Renfrew County, or anywhere else in the province. Given the frequency of smoking reported by Renfrew County students, the likelihood of many of them graduating to adult, addicted smokers seems assured.

**TABLE 9 — FREQUENCY OF RENFREW COUNTY STUDENTS USING CIGARETTES IN PREVIOUS 12 MONTHS, GRADE 7 — OAC 1999**

<b>NUMBER OF CIGARETTES SMOKED IN PREVIOUS 12 MONTHS</b>	<b>% RENFREW COUNTY</b>	<b>TOTAL NO. OF STUDENTS ENROLLED IN GRADE 7 – OAC IN RENFREW COUNTY 1999/2000 n=8679</b>	<b>% ONTARIO</b>
	% ±		
Less than 1 cigarette a day	10.27 (8.8 - 12.0)	891	6.6
1 or 2 cigarettes a day	3.76 (2.3 - 6.1)	326	3.7
3 to 5 cigarettes a day	7.08 (4.6 - 10.8)	614	5.4
6 to 10 cigarettes a day	7.13 (4.7 - 10.7)	618	6.1
11 to 15 cigarettes a day	3.91 (2.3 - 6.6)	339	3.8
16 to 20 cigarettes a day	1.98 (1.3 - 2.9)	171	2.0
More than 20 cigarettes a day	2.18 (1.4 - 3.4)	189	1.6
Never smoked in last 12 months	63.70 (51.2 - 74.5)	5528	70.8

NOTES: ± Confidence interval

## Differences in Drug Use Between Renfrew County and Ontario Students

Table 10 presents differences between Renfrew County students and Ontario students derived from the Ontario Student Drug Use Survey (OSDUS).

Although rates of past year drug use are often numerically higher among Renfrew County students, as seen by the overlap in the Renfrew and Ontario confidence intervals, none of these differences are statistically significant. Thus, rates of drug use between Renfrew and Ontario students do not differ dramatically.

**TABLE 10 — PERCENTAGE OF RENFREW COUNTY STUDENTS REPORTING PAST YEAR DRUG USE, VERSUS ONTARIO STUDENTS, GRADE 7 – OAC 1999**

	RENFREW COUNTY n = 2,452		OSDUS – ONTARIO n = 4,894	
	%	±	%	±
Alcohol	74.3	(67.3 - 81.2)	67.5	(65.2 - 69.7)
Cigarettes	35.4	(23.8 - 46.9)	29.2	(26.8 - 31.8)
Cannabis	33.5	(24.0 - 43.1)	29.3	(26.9 - 31.8)
Glue	3.3	(2.7 - 3.8)	3.6	(3.0 - 4.4)
Solvents	6.5	(4.6 - 8.4)	7.1	(6.1 - 8.2)
R <sub>x</sub> Barbiturates	14.4	(11.5 - 17.4)	12.3	(10.9 - 13.8)
R <sub>x</sub> Stimulants	8.4	(5.5 - 11.2)	6.8	(6.0 - 7.6)
R <sub>x</sub> Tranquillizers	3.2	(2.7 - 3.8)	3.3	(2.7 - 4.1)
NR <sub>x</sub> Stimulants	9.5	(5.2 - 13.8)	7.8	(6.7 - 9.1)
NR <sub>x</sub> Barbiturates	6.5	(4.3 - 8.6)	4.4	(3.5 - 5.6)
NR <sub>x</sub> Tranquillizers	3.1	(1.9 - 4.3)	2.4	(1.7 - 3.4)
Heroin	2.3	(1.6 - 3.0)	1.9	(1.5 - 2.4)
Speed	4.6	(2.8 - 6.4)	5.3	(4.2 - 6.8)
LSD	9.7	(4.4 - 14.9)	6.8	(5.6 - 8.2)
PCP	3.6	(1.5 - 5.7)	3.0	(2.4 - 3.8)
Other Hallucinogens	14.8	(9.3 - 20.3)	13.8	(12.0 - 16.0)
Cocaine	4.1	(2.4 - 5.8)	3.7	(2.8 - 4.8)
Crack	2.7	(1.2 - 4.3)	2.4	(1.8 - 3.1)
Ecstasy (MDMA)	3.3	(1.9 - 4.6)	4.4	(3.2 - 6.0)

Notes: 95% Confidence interval; R<sub>x</sub> medical use; NR<sub>x</sub> non-medical use

## DISCUSSION

Upon reviewing these results and their potential implications, it is important to first consider the limitations of the study. For several reasons it must be accepted that drug-use estimates likely understate the true rate by some unknown magnitude.

First, all estimates of drug use are based on self-reports, which cannot be readily verified. However, research evidence indicates that conditions of anonymity, such as class administration of surveys, provide reasonable drug use data.

Second, another factor which could potentially deflate drug use estimates is the bias caused by non-responding students. Indeed, it is likely that those who are away from school would report higher rates of drug use than those who attend regularly. Still, regional and other subgroup comparisons are still useful when response rates are similar. For example, the lower rate of drug use among Deep River/Petawawa students cannot be explained by a lower response rate because there are other regions with similar response rates. It must be recognized that these findings cannot be generalized to adolescents who are not attending school, a group in which the extent of drug use and related changes can be appreciably different from those in the mainstream student population.

Despite such limitations, such surveys remain a primary vehicle, which allow public health professionals to identify and monitor risk factors related to the use and misuse of drugs.

The rise in drug and alcohol use described in the Ontario survey and the parallel use by Renfrew County students ought to concern a wide array of people. This includes young people themselves, parents, other family members and caregivers, teachers, youth and health care professionals, recreation workers, police, politicians and anyone else who comes in contact with and cares about young people. It is apparent that the programs initiated by the FOCUS project and other like-minded individuals and organizations need to continue and if possible, be strengthened. Indeed, one could hypothesize that without all the prevention program efforts that have gone on in the past, the rates of use could have been greater. However, the data and the trends that emerge from it should also challenge all concerned to look seriously at the efficacy of what is currently being done and to consider other ways of reducing, or at least containing alcohol and other drug use and its consequences. Serious “soul searching” could result in new and useful ways of looking at and successfully responding to the challenge of teenage substance use.

## EXECUTIVE SUMMARY – ONTARIO STUDENT DRUG USE SURVEY 1999

The 1999 cycle of the Centre for Addiction and Mental Health's Ontario Student Drug Use Survey (OSDUS) is the longest ongoing study of adolescent drug use in Canada. The study, which spans over two decades, is based on 12 surveys conducted every two years since 1977. In the spring of 1999, 4,894 students (77% of selected students) from 38 school boards, 111 schools and 285 classes participated in the survey administered by the Institute for Social Research, York University. This report describes rates and patterns of students in grades 7, 9, 11 and OAC only, the 1999 OSDUS surveyed students in all grades from 7 to OAC inclusive. Consequently, to ensure appropriate trend comparisons, two 1999 estimates are presented, one based on all students in grade 7 to OAC (n = 4,894) and the other based on students in grades 7, 9, 11 and OAC only (n = 2,868).

### PAST YEAR DRUG USE (%) BY GENDER AND GRADE LEVEL, 1999

DRUG	TOTAL	MALES	FEMALES	7	8	9	10	11	12	OAC
Alcohol	67.5	70.7	64.2	39.7	53.7	63.1	74.9	82.0	84.6	83.0
Cannabis	29.3	33.5	25.1	3.6	14.9	25.5	36.4	48.1	39.4	43.3
Cigarettes	29.2	29.8	28.6	7.4	17.8	27.8	37.4	41.7	38.6	38.0
Hallucinogens	13.8	16.2	11.4	0.9	6.7	10.2	19.3	22.7	18.1	24.7
M Barbiturates	12.3	12.6	12.0	11.1	13.9	11.1	13.7	13.6	12.5	9.4
NM Stimulants	7.8	6.1	9.5	1.8	6.3	6.9	8.4	10.7	10.0	12.8
Solvents	7.1	6.1	8.1	12.1	11.2	8.4	4.6	4.9	3.9	1.4
LSD	6.8	8.0	5.5	1.2	3.9	6.8	10.4	10.7	7.8	6.9
M Stimulants	6.8	7.4	6.2	4.7	6.3	6.9	7.8	8.8	7.5	4.3
Methamphetamines	5.3	6.6	4.0	1.5	3.1	3.5	6.1	8.2	8.4	8.4
Ecstasy (MDMA)	4.4	4.5	4.2	0.6	1.9	2.3	4.4	9.8	4.8	7.8
NM Barbiturates	4.4	4.1	4.7	2.5	4.4	3.2	5.2	7.0	3.9	4.9
Cocaine	3.7	4.2	3.2	2.5	2.0	3.2	3.8	5.4	3.6	6.4
Glue	3.6	3.7	3.5	6.8	6.3	4.3	1.1	2.1	2.0	1.2
M Tranquillizers	3.3	3.5	3.1	1.9	3.5	3.8	3.1	3.1	4.0	4.2
PCP	3.0	3.2	2.8	0.7	2.7	3.1	3.5	5.4	2.3	3.0
NM Tranquillizers	2.4	2.3	2.5	†	1.9	1.7	1.3	3.1	4.1	5.8
Crack	2.4	2.9	1.8	0.6	1.6	3.0	3.8	3.6	2.4	1.1
Heroin	1.9	2.4	1.3	0.5	2.8	2.5	1.5	1.8	2.2	1.6
Ice (crystal method)	1.4	2.0	0.8	†	1.2	1.1	0.9	3.2	1.6	0.9

Notes: NM = non-medical use; M= medical use; † estimate less than 0.5%

## 1999 Subgroup Differences (Grade 7 to OAC)

Gender differences occurred for 11 drugs: females reported higher rates of solvent and non-medical stimulant use, whereas for the remaining nine drugs (alcohol, cannabis, heroin, methamphetamine, LSD, hallucinogens, cocaine, ice and crack) males reported higher rates of use.

Grade of student continued to be an important discriminator in differing rates of drug use. Of the drugs surveyed in 1999, 13 showed significant differences according to grade level of student. With the exception of inhalants, showing greater use among younger students, drug use was lowest among grade 7 students and highest among grade 11 students.

Regional differences occurred only for the use of alcohol. Students from Northern Ontario reported the highest rate (77.6%) followed by the West (70.5%) the East (65.4%) and Toronto (59.4%).

## Major Changes Between 1997 and 1999 (Grade 7, 9, 11 & OAC)

Between 1997 and 1999, the past year use of 8 of 20 drugs increased significantly:

Alcohol	(from 59.6% to 65.7%)
Cannabis	(from 24.9% to 29.2%)
Hallucinogens	(from 10.1% to 13.6%)
Glue	(from 1.5% to 3.8%)
Solvents	(from 2.6% to 7.3%)
Non-medical barbiturates	(from 2.5% to 4.4%)
Medical barbiturates	(from 6.0% to 11.5%)
Medical stimulants	(from 3.7% to 6.6%)

## Subgroup Changes Between 1997 and 1999 (Grade 7, 9, 11 & OAC)

Gender: More increases in drug use occurred among males than females: among males the use of seven drugs increased (alcohol, cannabis, glue, solvents, medical barbiturates, medical stimulants and non-medical barbiturates), while among females the use of four drugs increased (glue, solvents, medical barbiturates and medical stimulants).

Grade: The use of four drugs increased among grade 7 and 9 students (glue, solvents, medical barbiturates, and medical stimulants), while the use of five drugs increased among grade 11 students (solvents, medical barbiturates, medical stimulants, non-medical barbiturates and hallucinogens), and one drug increased among OAC students (medical stimulants).

Region: The use of four drugs increased among students from Western Ontario (alcohol, glue, solvents and medical barbiturates) and Eastern Ontario (glue, solvents, medical barbiturates and medical stimulants), while the use of three drugs increased among Toronto students (solvents, medical barbiturates and medical stimulants) and two drugs among Northern Ontario students (alcohol and solvents).

The survey also revealed the following changes between 1997 and 1999.

- The number of drugs used increased: 17.4% of students in 1999 used four or more drugs compared to 13.4% in 1997. Relatedly, fewer students in 1999 used no drugs (26.8%) than did students in 1997 (34.3%).
- In addition to an increase in the percentage of student drinkers, more students are drinking on a weekly basis (from 17.1% to 19.7%) and more report frequent heavy drinking episodes (consuming five or more drinks on a single occasion five or more times during the last four weeks – from 5.0% to 7.1%).

## The Upswing in Drug Use Since 1993

- More students in 1999 than in 1997 reported being unable to stop using drugs (6.5% vs. 2.9%).
- Use of steroids during the student's lifetime increased from 1.5% to 3.3%.
- After a lengthy period of decline during the 1980s, the 1990s have seen resurgence in adolescent drug use. Since 1993, the following have shown steady increases:

Alcohol	(from 56.5% to 65.7%)
Heavy drinking episodes	(from 17.7% to 28.2%)
Cannabis	(from 12.7% to 29.2%)
MDMA (Ecstasy)	(from 0.6% to 4.8%)
PCP	(from 0.6% to 3.2%)
Hallucinogens	(from 3.1% to 13.6%)
Cocaine	(from 1.5% to 4.1%)
Percentage using 4 or more drugs	(from 8.0% to 17.4%)

Conversely, the percentage using no drugs dropped (from 36.3% to 26.8%).

## Long-term Changes

Rates of drug use have varied greatly since 1977 when OSDUS began. Generally, drug use exhibited the highest rates during the late 1970s, most notably 1979. Between 1979 and 1991, rates of illicit drug use dropped significantly – cannabis use, for example, dropped from one in three to one in nine. Since 1993, licit and illicit drug use has been on an upswing, to such an extent that in 1999 the use of only two of 16 drugs is significantly lower than it was in 1979.

## OTHER HIGHLIGHTS

### Pattern of Drug Use

Despite recent increases, not all students were involved with drug use. One-quarter (25%) used no drugs (including alcohol or tobacco) during the past year and an additional 24% restricted their use to alcohol or tobacco. Just over one in three (38%) report use of an illicit substance during the past 12 months.

### Age of First Drug Use & New Users

- Fewer students are using drugs at an early age: Five percent of grade 7 students in 1999 smoked cigarettes by grade 4 (about age 9) compared to 7% of grade 7 students in 1997, 8% in 1993 and 16% in 1981; 13% of grade 7 students in 1999 drank alcohol for the first time by grade 4, compared to 17% of grade 7 students in 1993 and in 1981; and 2% of grade 7 students in 1999 used cannabis by grade 6 (about age 11), compared to 5% in 1997 and 8% in 1981.
- The percentage reporting first-time drug use during the last 12 months was as follows: 19.0% for alcohol, 10.6% for cigarettes, 10.0% for cannabis, and 5.8% for illicit drugs other than cannabis.
- Among users of alcohol and cannabis, there was no significant change in the percentage of new users between 1997 and 1999. However, among cigarette users there was a significant drop between 1997 and 1999 in the percentage who reported first use during the past 12 months (from 27.1% to 20.3%).

## **Drug-Related Perceptions of Risk, Disapproval and Availability**

- Weakening perceptions of risk of harm in drug use correlate with increasing rates of use. Although perceived risk did not change significantly between 1997 and 1999, it has shown a notable decline since 1991. The percentage reporting great risk in trying cocaine once or twice dropped from 42.7% in 1991 to 33.8% in 1999; the percentage reporting great risk in trying marijuana once or twice declined from 30.7% to 18.4% and the percentage reporting great risk in smoking marijuana regularly dropped from 73.3% to 52.0%.
- Weakening moral disapproval of drug use correlates with increasing rates of use. Between 1991 and 1999, the percentage strongly disapproving of using cocaine once or twice dropped from 55.2% to 41.6%; the percentage disapproving of smoking marijuana once or twice dropped from 43.2% to 26.0% and the percentage disapproving of smoking marijuana regularly dropped from 60.8% to 43.1%.
- Increasing perceived availability of drugs correlates with increasing rates of use. Between 1997 and 1999, the percentage of students reporting that cannabis was easy or very easy to obtain increased from 48.1% to 52.8% (from 67.4% to 80.6% among OAC students). Increases in perceived availability are especially striking since 1991: 29.0% reported easy access to cannabis in 1991, compared to 52.8% in 1999, while 13.6% reported easy access to cocaine in 1991, compared to 20.1% in 1999.

## **Neighbourhood and School**

- About one-third of students in 1999 reported exposure to drug-selling in their neighbourhood during the 12 months before the survey: 36% said someone tried to sell drugs to them and 32% said that they observed drug-selling in their neighbourhood.
- About half of students (53%) said drug use was higher than a few years ago (34% stated it was the same and 13% said it was lower).
- Almost one in five students (23%) said drug use was a big problem in their school, while 54% said it was a small problem and 24% said it was no problem.

## **Cigarette Overview**

- In 1999, 29.2% of students reported smoking more than one cigarette during the past 12 months and 22.6% smoked daily (about 208,600 students). Over their lifetime, 42% of students never smoked at all, 15.6% smoked a few puffs, while 19.3% smoked more than 100 cigarettes in their lifetime.
- Although rates of smoking have remained stable since 1995, the 1999 rate of 28.3% is significantly higher than those found in 1993 (23.8%) and 1991 (21.7%).
- Past year smoking differed significantly by age (varying from 7.4% of grade 7 students to 41.7% of grade 11 students) but did not differ significantly by sex or region.
- On average, smokers consumed 6.8 cigarettes daily, an average similar to the average of 6.2 found in 1997. The number of cigarettes consumed daily during the late 1990s was greater than earlier years.
- In 1999, 66% of smokers attempted to quit smoking, a significant increase from 55% in 1997.
- In 1999, 15.7% of underaged students (under 18 years) successfully purchased cigarettes during the four weeks before the survey. Moreover, 63% of underaged smokers (74% of those under 16 years and 57% of those 16 and older) were not asked for photo identification when purchasing cigarettes. This level of underaged access has remained stable since 1995.
- One-third (31%) of smokers (8.5% of all students or 78,500 students) report dependence on cigarettes, as indicated by smoking within 30 minutes of waking in the morning.
- In 1999, 13.3% of students smoked one or more cigars during the past 12 months. Cigar use was higher among males than females (22.4% vs. 4.1%) and varied from 1.4% of grade 7 students to 23.5% of OAC students.

## Alcohol Overview

- In 1999, 67.5% of all students reported drinking during the previous 12 months and 72.7% reported drinking during their lifetime. Past year drinking was higher among males than females (70.7% vs. 64.2%) and varied by grade (increasing from 39.7% of grade 7 students to 84.6% of grade 12 students) and region (students from the North reported the highest rate, at 77.6%).
- The percentage of drinkers increased significantly from 1997 to 1999 among the total sample (59.6% to 65.7%), males (59.5% to 68.0%), Westerners (61.1% to 68.2%) and Northerners (62.5% to 74.7%). Increases in past year drinking were especially notable since 1993.
- In 1999, 19.7% of drinkers drank weekly, a significant increase from 17.1% in 1997 and 14.4% in 1993.
- More drinkers in 1999 report heavy drinking episodes. Since 1993, the consumption of five or more drinks on a single occasion increased from 30.5% to 42.4%. Also, 7.1% of drinkers in 1999 report consuming five or more drinks on a single occasion five or more times during the four weeks before the survey, a percentage significantly higher than 5.0% in 1997 and 4.2% in 1993.

## Cannabis Overview

- In 1999, about 29% of students used cannabis during the previous year and 34.7% used cannabis in their lifetime. Past year use was higher among males than females (33.5% vs. 25.1%) and varied by grade (from 3.6% of grade 7 students to 48.1% of grade 11 students) but not by region.
- From 1997 to 1999, past year cannabis use increased among the total (24.9% to 29.2%) and males (25.7% to 32.5%). Cannabis use has been on a significant upward trend since 1993.
- On average, cannabis users consumed cannabis 15 times during the past 12 months, about 29% used it one to two times, while about 21% used it 40 or more times. About 9% of users (3% of all students) used cannabis daily during the past year. Although frequency of cannabis use remained stable between 1997 and 1999, the frequency of use has been on an upward trend since 1989.
- In 1999, 12.3% of students (38% of cannabis users) reports using marijuana mixed with a cigar (“blunts”), a non significant increase from 9.6% in 1997.
- In 1999, one in five students (19.0% or 175,400), or 57.2% of all cannabis users, reported at least one of three dependence indicators.
- More students (grade 7, 9, 11 & OAC) in 1999 than in 1997 report having tried to reduce their cannabis use (14.1% vs. 9.1%) and unsuccessful attempts to stop use (3.8% vs. 1.9%).
- About twice as many cannabis users in 1999 than in 1997 (grade 7, 9, 11 & OAC) report uncontrolled use and other dependence indicators (10.6% vs. 5.5%).

## QUESTION AND ANSWER

**Q.** Why are there significant increases in drug use among youth in Ontario?

**A.** We don't know specifically why there has been an increase in drug use among Ontario youth, however, it is likely the result of a number of factors. As the study points out: 1. Fewer students perceived great risk in harms due to drug use; 2. Fewer students believe that using drugs is wrong; 3. More students perceived easier access to drugs. It is important to note that the OSDUS cannot identify causes, it can only identify change and is instrumental in alerting us to issues that need careful examination.

**Q** What needs to be done, now that we have this information?

**A.** We need to ensure that kids have the right information to make appropriate choices for themselves. We may not be able to stop the drug use but we are in a position to provide appropriate information to youth. Our greatest concern should be with youth who are using drugs and alcohol at problematic levels, to ensure that they have access to the programs they need to address their drug problems as well as a range of personal, social and family problems.

**Q** Does the Centre have any recommendations on how to prevent further increases?

**A.** Many of our efforts are focussed on kids at risk or who are already using substances. As well, we have early intervention and treatment programs for youth. We have recently released a Best Advice paper on what works as it relates to preventing drug use among youth.

**Q** What are some of the risk factors for drug/alcohol problems among youth?

**A.** Risk factors include:

- Hostile and ineffective parenting skills
- Early childhood physical and/or sexual abuse
- Learning difficulties, behavioural problems and the influence of peers who use drugs
- A family history of substance abuse increases the likelihood of a child developing an addiction problem

**TABLE A1. ELEMENTARY (GRADE 7 & GRADE 8) SECONDARY (GRADE 9 – OAC) SAMPLE**

	<b>POPULATION</b>	<b>%</b>	<b>SELECTED</b>	<b>COMPLETED</b>	<b>RR</b>	<b># SCHOOLS</b>
Northwest/ Renfrew	820	30	311	242	78	3
North River/ Petawawa	591	22	297	224	75	3
Southwest	246	9	104	81	78	3
East	302	11	174	129	74	3
South	739	27	196	180	92	3

**SECONDARY SAMPLE**

	<b>POPULATION</b>	<b>%</b>	<b>SELECTED</b>	<b>COMPLETED</b>	<b>RR</b>	<b># SCHOOLS</b>
Northwest/ Renfrew	1870	30	364	178	49	1
North River/ Petawawa	1056	17	543	290	53	1
Southwest	662	10	662	278	42	1
East	670	11	670	402	60	1
South	2059	33	846	499	59	1

## ALCOHOL USE DISORDER IDENTIFICATION TEST (AUDIT) QUESTIONNAIRE

AUDIT Item	Percentage "Yes"
<b>Alcohol Intake</b>	
1. Consumed alcohol during the past 12 months:	
2. Number of drinks usually have on typical day when drinking (% reporting 3+ drinks):	
3. Consumed 5 or more drinks on one occasion during the past 12 months:	
<b>Dependence Indicators (past 12 months)</b>	
4. Were not able to stop drinking once you had started:	
5. Failed to do what was normally expected from you because of drinking:	
6. Needed a first alcoholic drink in the morning to get yourself going after a heavy drinking session:	
<b>Adverse Consequences</b>	
7. Had a feeling of guilt or remorse after drinking during past 12 months:	
8. Been unable to remember what happened the night before because you had been drinking during past 12 months:	
9. You or someone else ever been injured as a result of your drinking:	
10. Relative/friend or a doctor/health worker ever been concerned about your drinking or suggested that you cut down:	