

Drug Use 1977– Among 2009 Ontario Students

Angela Paglia-Boak · Robert E. Mann · Edward M. Adlaf · Jürgen Rehm



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Centre for Addiction and Mental Health
Centre de toxicomanie et de santé mentale

OSDUHS

Ontario Student Drug Use
and Health Survey

OSDUHS HIGHLIGHTS

Drug Use Among Ontario Students 1977–2009

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No. 28

ANGELA PAGLIA-BOAK

ROBERT E. MANN

EDWARD M. ADLAF

JÜRGEN REHM



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Angela Paglia-Boak
Robert E. Mann
Edward M. Adlaf
Jürgen Rehm

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INTRODUCTION

The purpose of the Ontario Student Drug Use and Health Survey (OSDUHS) is to examine epidemiological trends in student drug use, mental health, physical health, and risk behaviours, as well as identifying risk and protective factors. The OSDUHS, now spanning over 30 years, is the longest ongoing study of a youthful population in Canada, and the second-longest in North America.

In this Highlights Report, we summarize the extent and patterns of alcohol, tobacco, and other drug use among Ontario students enrolled in grades 7 to 12. The findings are based on the 17th cycle of the OSDUHS. We also provide data on trends occurring every two years since 1977. Trend results are provided for two analytical groups of students: those in grades 7 to 12, and those in grades 7, 9, and 11 only. The first group is used to assess current drug use and **ten-year trends (1999-2009)**, and the second is used to assess **long-term trends (1977-2009)**.

Surveys such as the OSDUHS contribute to an understanding of current and changing patterns of alcohol and other drug use, the problems stemming from use, and the associated social and demographic factors.

Some main objectives of the OSDUHS are to provide timely data regarding:

- the extent of alcohol and other drug use by students in grades 7 to 12, and trends in use since 1977;
- the extent and nature of alcohol-related and drug-related problems; and
- attitudes and beliefs about alcohol and other drug use.

The 2009 OSDUHS included **new questions** addressing:

- the past-year use of salvia divinorum;
- the past-year use of certain over-the-counter cold and cough medications to get “high”; and
- smoking contraband cigarettes.

A more comprehensive analysis of the survey’s drug use findings, as well as a complete description of methodology, can be found in the detailed report entitled *Drug Use Among Ontario Students, 1977-2009: Detailed OSDUHS Findings* (available in PDF format at: www.camh.net/research/osdus.html). The OSDUHS also covers an array of mental and physical health topics, and these results will be published in the companion mental health report in the spring of 2010.

History of the OSDUHS

The OSDUHS is the longest ongoing school survey in Canada. In 1967, several Toronto school boards approached the former Addiction Research Foundation (now CAMH) for assistance in determining the extent of drug use among their students. Under the direction of Reginald Smart, four surveys from 1968 to 1974 monitored the extent of alcohol, tobacco and other drug use among Toronto students in grades 7, 9, 11 and 13. In 1977, the study was expanded to include students throughout the province of Ontario. In 1999, the study was again expanded to include students in grades 7 through to 13 (OAC). In 2003, grade 13 (OAC) was excluded, and the study was based on students in grades 7 to 12.

Since 1977, the study has surveyed thousands of students every two years, and to date, has interviewed over 70,000 students.

METHOD

Sampling Design

For all OSDUHS surveys, the target population is all students enrolled in the public and Catholic school systems. Thus, it excludes those enrolled in private schools, special education classes, those institutionalized for correctional or health reasons, those on Indian reserves and Canadian Forces bases, and those in the far northern regions of Ontario (a total of about 7% of Ontario students). The 2009 OSDUHS employed a stratified (region and school type) two-stage (school, class) cluster sample design, and over-sampled schools in northern Ontario and in six public health regions. Since 1981, this survey has been administered in schools by staff at the Institute for Social Research (ISR), York University.

School Selection

The 2009 school sample is based on a longitudinal sample commencing in 2001. The school sample selection occurred as follows:

- a) To select the initial 2001 sample, schools were drawn from Ontario's Ministry of Education and Training's enrolment data, and were stratified according to the four design regions.
- b) Within each regional stratum, a random selection of schools was chosen, separately for elementary/middle schools and secondary schools. Schools were selected with probability proportional to enrolment size (meaning that larger schools have a greater probability of being selected). The schools that participated in 2001 were invited to participate in cycles since then, including the 2009 cycle. In addition, in 2009 new schools were also selected for specific public health region over-samples.
- c) If a selected school could not participate, or if it had closed, a replacement school from the same region was selected. The sampling frame for new schools and replacement schools was based on the Ministry of Education and Training's 2006/2007 enrolment data (most recently available).

Class Selection

Within each school, classes were randomly selected by ISR. In elementary/middle schools, two classes were randomly selected – one 7th-grade and one 8th-grade. In secondary schools, four classes were randomly selected, one in each grade between 9 and 12 from either a list of classes in a required subject (e.g., English), or a required period (e.g., homeroom). All students in the selected classes were eligible to be surveyed. Special education classes, English as a Second Language (ESL) classes, and classes in which there were fewer than five students were excluded from selection. If a selected class was unable to participate, a replacement class was randomly selected whenever possible.

Procedure

All participating schools were sent copies of the active parental consent form in advance of the survey date. Only those students who returned a signed consent form could participate. The survey was administered by trained ISR field staff in the classrooms between November 2008 and June 2009. Participation was voluntary and anonymous. All students recorded their responses directly on the questionnaires, and were instructed not to write their names anywhere on the form. The average completion time was 32 minutes.

Sample

The final sample size in 2009 was **9,112** students in grades 7 to 12 (65% of selected students) from 47 school boards, 181 schools and 573 classes. This sample represents about 1,023,900 Ontario students in grades 7 to 12. All survey estimates were weighted, and variance and statistical tests were corrected for the sampling design.

Survey Design Regions

This report describes regional differences according to the following four regions: Toronto (416 area code); Northern Ontario (Parry Sound District, Nipissing District and farther north); Western Ontario (Peel District, Dufferin County and farther west); and Eastern Ontario (Simcoe County, York County and farther east).

RESULTS

Overview of Drug Use in 2009

Past Year Drug Use

By far, the most commonly used drug is alcohol, with 58.2% of students reporting use during the 12 months before the survey. Cannabis is the next most common drug, with 25.6% reporting past year use. The non-medical (NM) use of prescription opioid pain relievers, such as codeine, Percocet, Percodan, Demerol, or Tylenol #3, ranks third at 17.8%. Tobacco ranks fourth, with 11.7% reporting smoking cigarettes during the past year.

Past year use of solvents, hallucinogens other than LSD (e.g., psilocybin a.k.a. “magic mushrooms”), stimulants (NM), and over-the-counter cough and cold medication with dextromethorphan (e.g., Robitussin DM) are reported by about 5% to 7% of students. The remaining drugs are used by fewer than 5%. The least common drugs are crystal methamphetamine (Ice), GHB, and heroin, and Rohypnol (NM) which are used by less than 1% of students.

One-fifth (20.3%) of students report using at least one prescription drug non-medically (without a doctor’s prescription) during the past year. About 42% of students report using any drug, other than tobacco or alcohol, during the past year.

Lifetime Drug Use

Estimates for lifetime drug use show that alcohol, cannabis, and tobacco are the three most common drugs students have ever tried. About two-thirds (61.0%) have ever used alcohol, and over one-quarter have ever used cannabis, and cigarettes in their lifetime. About one-fifth (19.8%) of students have used prescription opioid pain relievers (e.g., codeine, Percocet, Percodan, Demerol, Tylenol #3) non-medically in their lifetime. About one-in-ten have used over-the-counter cough or cold medication recreationally in their lifetime. The remaining drugs were used by less than 10% of students in their lifetime.

Figure 1.
Percentage Reporting Lifetime and Past Year Drug Use, 2009 OSDUHS (Grades 7 to 12)

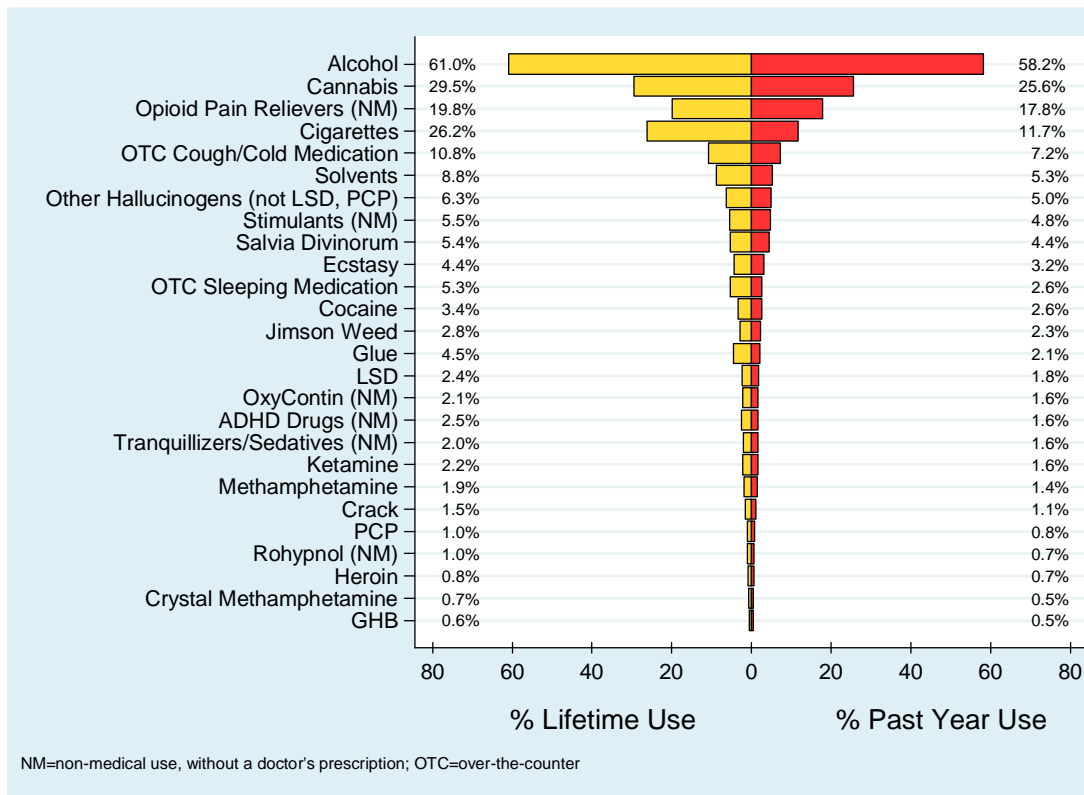


Table 1. Past Year Drug Use (%) for the Total Sample, and by Sex and Grade, 2009 OSDUHS

	Total	Males	Females	G7	G8	G9	G10	G11	G12
Alcohol	58.2	59.9	56.3 *	22.7	36.5	51.6	64.5	74.3	82.6 *
Cannabis	25.6	28.8	22.2 *	1.1	6.4	18.4	30.7	38.6	45.6 *
Binge Drinking	24.7	25.9	23.4	2.7	5.1	16.3	25.9	35.6	48.5 *
Opioid Pain Relievers (NM)	17.8	15.8	19.8 *	9.2	14.4	19.2	20.4	21.3	19.5 *
Cigarettes	11.7	12.9	10.5 *	1.0	3.8	7.5	14.8	17.9	19.8 *
OTC Cough/Cold Medication	7.2	6.8	7.6	6.0	6.3	6.8	7.9	7.8	7.9
Solvents	5.3	4.2	6.6 *	8.2	9.0	5.2	4.9	3.3	3.1 *
Hallucinogens other than LSD, PCP	5.0	6.2	3.7 *	s	s	3.2	5.0	9.3	9.0 *
Stimulants (NM)	4.8	3.4	6.3 *	1.0	3.6	4.5	5.1	7.5	5.7 *
Salvia Divinorum	4.4	6.2	2.3 *	s	s	1.1	4.7	8.6	8.4 *
Ecstasy (MDMA)	3.2	3.1	3.2	s	0.7	2.0	4.2	5.0	5.4 *
OTC Sleeping Medication	2.6	2.2	3.1	1.6	1.9	2.6	2.8	3.9	2.3
Cocaine	2.6	2.8	2.3	0.8	1.1	1.1	2.3	3.7	5.1 *
Jimson Weed	2.3	2.8	1.8	s	s	2.1	2.5	4.2	3.4 *
Glue	2.1	2.1	2.1	2.7	3.6	3.3	1.5	s	s
LSD	1.8	2.2	1.5	s	s	1.7	1.8	2.5	3.3 *
OxyContin (NM)	1.6	1.7	1.6	s	s	1.5	2.4	2.9	1.9 *
ADHD Drugs (NM)	1.6	1.7	1.6	0.8	1.2	1.8	1.6	2.5	1.7
Tranquillizers/Sedatives (NM)	1.6	1.3	1.9 *	s	1.0	1.0	2.1	2.0	2.5 *
Ketamine	1.6	1.8	1.4	s	s	s	1.5	2.3	2.8 *
Methamphetamine (Speed)	1.4	1.8	1.0 *	s	s	1.2	s	1.7	2.8 *
Crack	1.1	1.3	0.9	s	s	1.0	0.9	1.7	1.5
PCP	0.8	1.0	0.5	s	s	s	s	1.3	1.6
Rohypnol (NM)	0.7	0.7	0.7	s	s	s	s	2.0	s
Heroin	0.7	0.9	s *	s	s	s	s	s	1.0 *
Crystal Methamphetamine (Ice)	0.5	0.6	0.5	s	s	s	s	s	s
GHB	0.5	0.7	s	s	s	s	s	s	s
Any NM Use of a Prescription Drug	20.3	18.1	22.8 *	10.5	15.7	21.7	23.7	24.7	22.8 *
Any Illicit Drug Use, incl. NM Prescr. Drug	41.7	42.3	41.0	21.5	26.9	38.1	45.9	51.8	55.4 *

Notes: binge drinking (5+ drinks on one occasion) refers to the past 4 weeks; NM=non-medical use, without a doctor's prescription; OTC=over-the-counter drug used for non-medical purposes or to "get high"; "Any NM Use of a Prescription Drug" refers to non-medical use of any one of the following classes of prescription drugs: opioids, ADHD drugs, other stimulants, or tranquilizers/sedatives (excludes Rohypnol); "Any Illicit Drug Use, including NM Prescription Drug" refers to use of any one of the drugs listed in the table except for alcohol and tobacco; s=estimate suppressed due to unreliability; * indicates a significant sex difference, or grade differences (p<.05), not controlling for other factors.

Source: OSDUHS, Centre for Addiction & Mental Health

Drug Use in 2009 versus 2007 (Grades 7 to 12)

Among the total sample of students, no drug showed a significant change – neither an increase nor a decrease – between 2007 and 2009.

Overview of Ten-Year Trends, 1999–2009 (Grades 7 to 12)

Among the total sample of students, there have been many significant changes in past year drug use between 1999 and 2009, all of which have been decreases:

- alcohol (from 66.0% in 1999 to 58.2% in 2009)
- cigarettes (from 28.4% to 11.7%)
- solvents (from 7.6% to 5.3%)
- stimulants (NM) (from 7.3% to 4.8%)
- LSD (from 6.8% to 1.8%)
- PCP (from 3.0% to 0.8%)
- hallucinogens other than LSD, PCP (from 12.8% to 5.0%)
- glue (from 3.8% to 2.1%)
- methamphetamine (from 5.0% to 1.4%)
- crack (from 2.5% to 1.1%)
- heroin (from 1.9% to 0.7%)
- ecstasy (from 6.0% in 2001 to 3.2%)
- Rohypnol (NM) (from 3.1% in 2001 to 0.7%)
- An index measuring any illicit drug use out of 10 drugs asked about over the years, including cannabis, significantly decreased between 1999 and 2009 (from 32.3% down to 27.9%).
- A second index similar to that above, but excluding cannabis, also significantly decreased between 1999 and 2009 (from 20.5% down to 10.1%).

Subgroup Changes, 1999-2009

With the exception of non-medical OxyContin use (which increased in 2009 compared to 2005 among 10th-graders, and Eastern Ontario students), the subgroup changes within the period from 1999 to 2009 show decreases in use.

● **Sex:** Neither males nor females show any change in drug use since 2007. However, both sexes show many decreases in drug use in

2009 compared to their respective 1999 estimates (see Table A4).

● **Grade:** All grades show decreases in drug use between 1999 and 2009 (see Table A4). Only 10th-graders show a significant increase in the non-medical use of OxyContin in 2009 compared to 2005 (which was the first year use of this drug was measured).

● **Region:** Each of the four regions (Toronto, Northern Ontario, Western Ontario, Eastern Ontario) show many decreases in drug use during the period between 1999 and 2009 (see Table A4). Only one region shows an increase: students in the Eastern region were more likely to report non-medical OxyContin use in 2009 compared to their counterparts in 2005 (which was the first year that use of this drug was measured).

Overview of Long-Term Trends, 1977–2009 (Grades 7, 9, 11 only)

The past year drug use estimates showing the long-term trends for grades 7, 9, and 11 only can be found in Table A3. These data reveal four dominant patterns.

● The first pattern (Figure 2) displays the past year use of cigarettes and LSD. Use of these drugs reached an all-time low in 2005 and remained stable since then.

● The second pattern (Figure 3) shows a steady declining trend in use since 1979, and use in 2009 is significantly lower compared to the peaks found in the late 1970s and late 1990s (2003 for tranquilizers/sedatives). This pattern is evident for alcohol, stimulants (NM), and tranquilizers/sedatives (NM).

● The third pattern (Figure 4) displays shows a decline after 1979, a resurgence in the late 1990s (2003 for cocaine), and use in 2009 is significantly lower compared to the two peak periods. This is evident for cocaine, methamphetamine, heroin, PCP, and glue.

● The fourth pattern (Figure 5) shows use in 2009 is significantly lower compared to one or both of the two peak periods, however current use is significantly higher compared to use in the late 1980s or early 1990s. This is evident for cannabis, binge drinking, solvents, hallucinogens other than LSD and PCP, and ecstasy.

Figure 2. Pattern 1: Long-Term Drug Use Trends, 1977-2009 OSDUHS

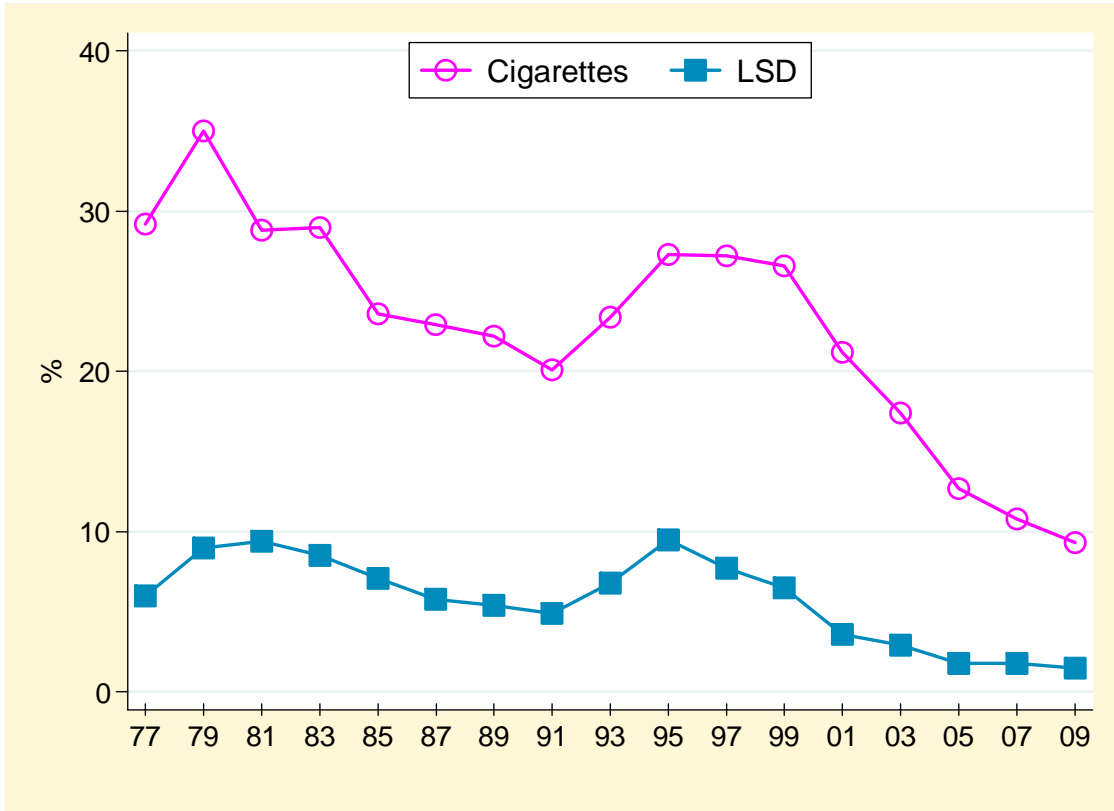


Figure 3. Pattern 2: Long-Term Drug Use Trends, 1977-2009 OSDUHS

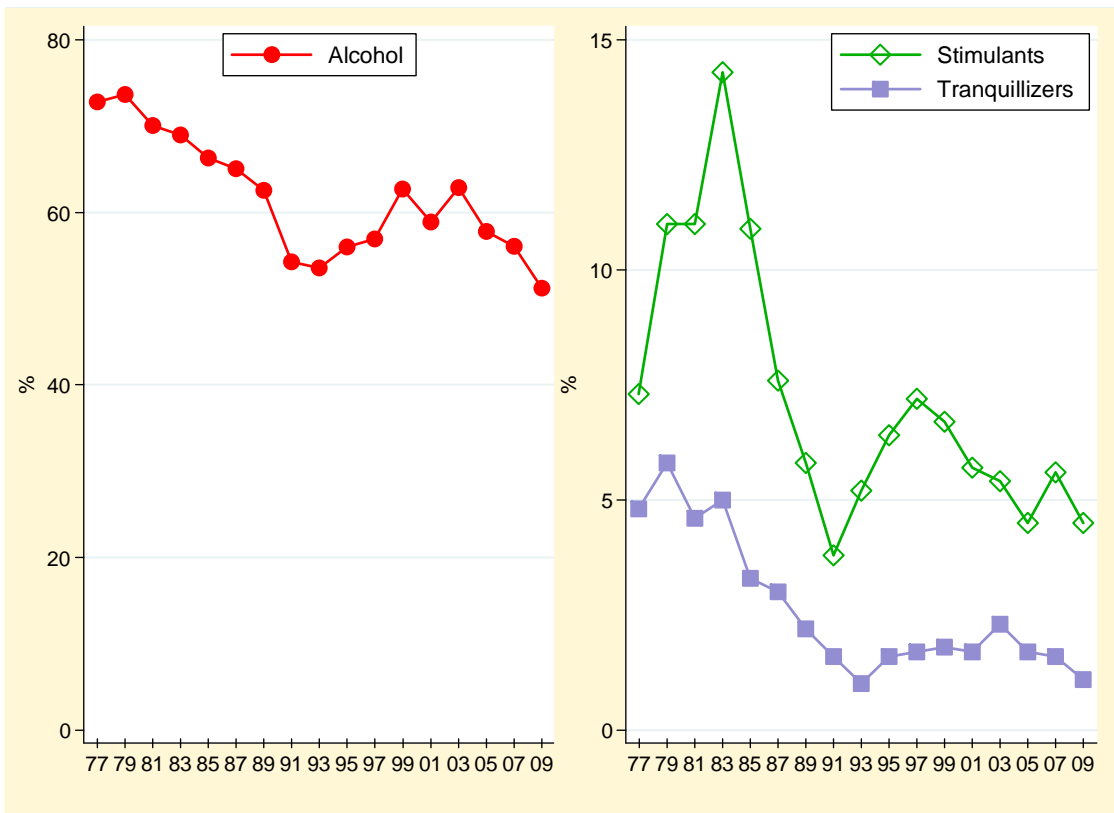


Figure 4. Pattern 3: Long-Term Drug Use Trends, 1977-2009 OSDUHS

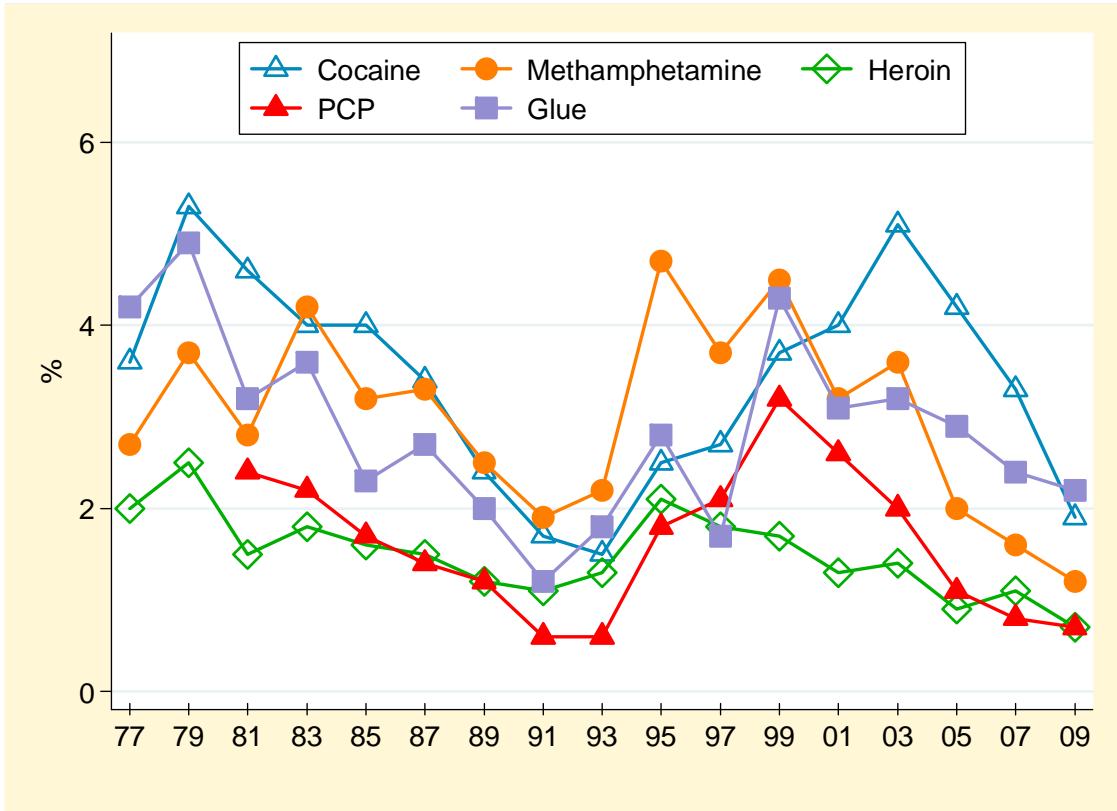
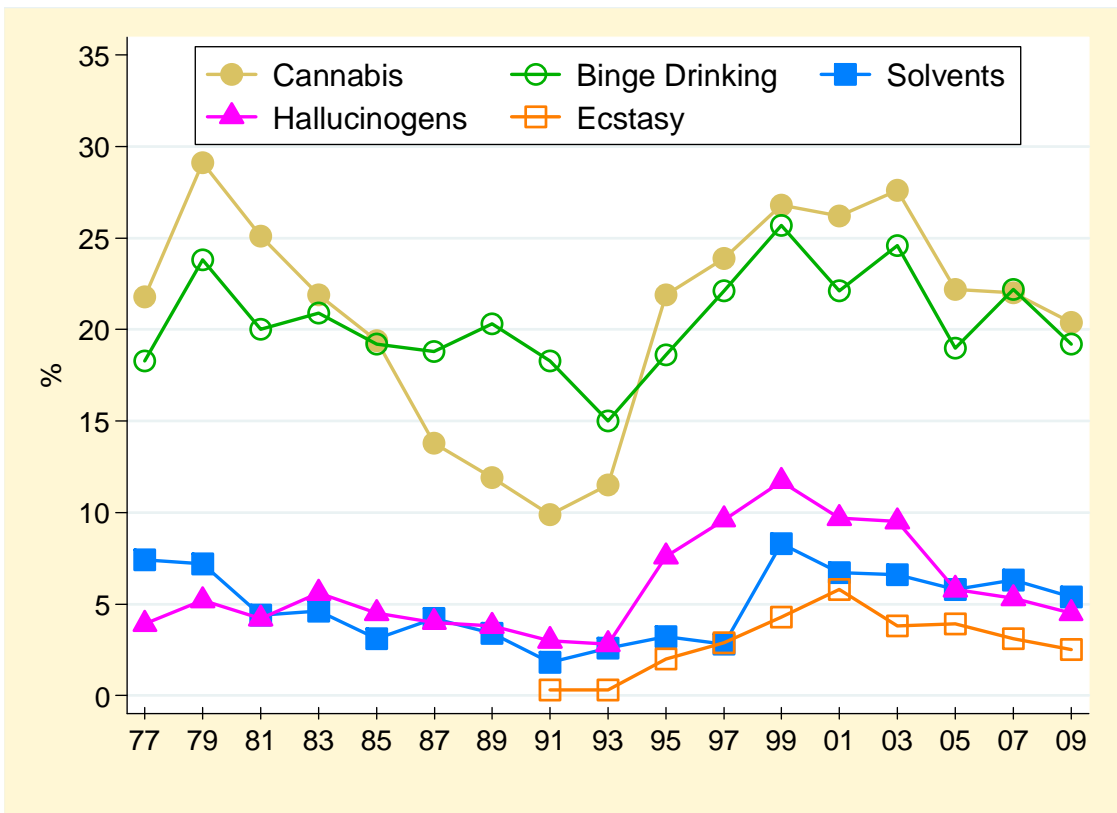


Figure 5. Pattern 4: Long-Term Drug Use Trends, 1977-2009 OSDUHS



Tobacco

Past Year Cigarette Smoking

- About 12% (95% CI: 11%-13%)¹ of students report smoking in the past year. This represents about 119,600 students in grades 7 to 12 across Ontario.
- Males (13%) are more likely than females (11%) to smoke.
- Smoking significantly increases with grade: 1% of 7th-graders, 4% of 8th-graders, 8% of 9th-graders, 15% of 10th-graders, 18% of 11th-graders, up to 20% of 12th-graders.
- Smoking significantly differs by region, with students in the North region (18%) most likely to smoke, whereas those in Toronto (7%) are least likely. Students in the West (13%) and East (11%) fall in between.

Daily Smoking

- About 5% (95% CI: 4%-6%) of students smoke one or more cigarettes on a daily basis. This percentage represents about 52,500 students in Ontario.
- Daily smoking does not significantly differ between males and females (both 5%).
- Daily smoking is significantly related to grade level, increasing incrementally between 8th-grade (1%) and 11th-grade (9%) and remains stable in 12th-grade.
- There are significant differences among the regions, with students in the North (9%) most likely to smoke daily, whereas students in Toronto are the least likely (2%). Students in the West (6%) and East (5%) fall in between.

Quitting Smoking

- In 2009, 58% of past year smokers reported at least one quit attempt in the 12 months before the survey.

Contraband Cigarette Smoking

For the first time in 2009, students were asked whether they had smoked any contraband cigarettes originating from native reserves during the 12 months preceding the survey. These cigarettes usually come in clear plastic bags, although some are professionally packaged with standard health warnings. By law, status Natives are entitled to purchase them on reserves without paying provincial taxes, while anyone else purchasing them must pay the requisite federal and provincial taxes. However, these cigarettes are illegally sold outside of reserves without payment of all requisite taxes and their lower price makes them especially attractive to youth.

- Among all students, 6% (95% CI: 5%-8%) report smoking contraband cigarettes in the past year. This percentage represents about 60,000 students in Ontario. Among past year smokers only, the proportion reporting smoking contraband cigarettes is 53%.
- Males (7%) and females (6%) are equally likely to smoke contraband cigarettes.
- There is a significant grade effect, with the likelihood of smoking contraband cigarettes increasing between 8th-grade (2%) and 11th-grade (12%), and remaining stable in 12th-grade (10%).
- There are no significant regional differences.

¹ The 95% CI refers to the confidence interval around the estimate, i.e., the probable range in the total population.

Alcohol

Past Year Alcohol Use

- Overall, 58% (95% CI: 56%-60%) of students report drinking alcohol (more than just sips) during the 12 months before the survey. This represents about 591,700 students in grades 7 to 12 in Ontario.
- The prevalence of drinking significantly differs between males (60%) and females (56%).
- Drinking significantly increases with grade: rates climb by more than ten percentage points with each grade between grades 7 and 11 (from 23% to 74%). The prevalence climbs again by 12th-grade, to 83%.
- Rates of drinking significantly differ by region, with Toronto students (45%) least likely to drink compared to students in the North (64%), the West (60%), and the East (62%).

Binge Drinking (Past Month)

- Overall, 25% (95% CI: 23%-27%) of students report binge drinking at least once during the 4 weeks before the survey. This percentage represents about 250,700 students in grades 7 through 12.
- About 9% of all students report binge drinking 2 to 3 times during the past month. Another 6% report binge drinking 4 or more times.
- Binge drinking does not significantly differ between males (26%) and females (23%).
- Binge drinking increases significantly with grade: it is lowest among 7th-graders (3%) and climbs to a high of 49% among 12th-graders.
- Toronto students are the least likely to report binge drinking (16%), whereas Northern students are the most likely (32%). Students in the West (27%) and East (25%) fall in between.

Drunkenness (Past Month)

- Overall, 23% (95% CI: 21%-25%) report becoming drunk at least once during the 4 weeks before the survey (about 237,400 students).
- Reported drunkenness is not significantly different between males and females (22% and 23%, respectively).
- Drunkenness is lowest among 7th-graders (4%) and peaks in grade 12 (43%).
- Toronto students (13%) are the least likely to report becoming drunk in the past month, whereas Northern students (28%) are the most likely. Students in the West (24%) and East (24%) fall in between.

Hazardous Drinking

The World Health Organization's "Alcohol Use Disorders Identification Test" (AUDIT) was used to detect hazardous or harmful drinking. Hazardous drinking refers to a pattern of drinking that increases the likelihood of future medical and physical problems (e.g., accidents), and harmful drinking refers to a pattern of drinking that is already causing damage to one's health (e.g., alcohol-related injuries). We restrict the term to "hazardous" for brevity.

- Overall, 21% (95% CI: 19%-23%) of students report drinking at a hazardous level. This represents about 211,800 students in Ontario.
- Males (21%) and females (21%) are equally likely to drink hazarously.
- As grade increases, so does the likelihood of hazardous drinking, with a large increase in each grade between grade 7 and grade 12 (from 3% to 42%).
- There is a significant region effect, with Toronto students (12%) least likely to drink hazarously compared to students in the other three regions (about 22%-24%).

Cannabis

Past Year Cannabis Use

- Overall, about one-quarter (26%; 95% CI: 24%-27%) of students report using cannabis at least once during the 12 months before the survey. This represents about 261,500 students in Ontario in grades 7 to 12.
- Males (29%) are significantly more likely than females (22%) to use cannabis.
- Cannabis use shows large increases with each grade, increasing from 1% among 7th-graders to 46% among 12th-graders.
- There are significant regional differences, with students in Toronto (20%) least likely to use, whereas students in the North (32%) are most likely. Students in the West (27%) and East (25%) fall in between.

Past Month Cannabis Use

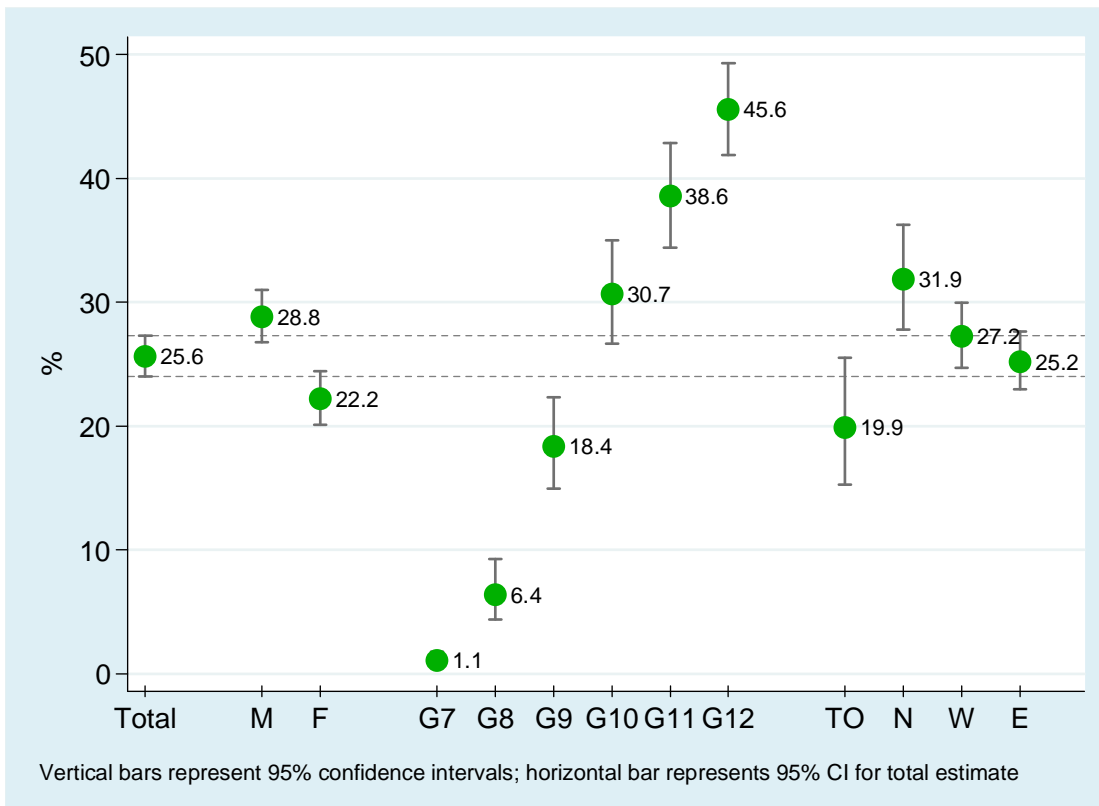
- During the 4 weeks before the survey, 17% (95% CI: 16%-19%) of students used cannabis. About 3% of students used cannabis on a daily basis – representing about 31,100 students.

Potential Cannabis Dependence

To estimate the percentage of students who may have a dependence problem, the OSDUHS included the “Severity of Dependence Scale” (SDS; please see the *Detailed Drug Use Report* for the items).

- About 3% (95% CI: 2%-4%) of all students in grades 7 to 12 may have a cannabis dependence problem. Among only past year cannabis users, 11% may have a problem.

Figure 6. Past Year Cannabis Use by Sex, Grade and Region, 2009 OSDUHS



Non-Medical Use of Prescription Drugs and Over-the-Counter Medication

Past Year Non-Medical Use of OxyContin

OxyContin is a brand name for a highly addictive prescription painkiller containing the opioid oxycodone. It is an analgesic drug, and also delivers an initial rush of euphoria, much like heroin.

- About 2% (95% CI: 1%-2%) of students report using OxyContin non-medically (without a doctor's prescription) at least once during the 12 months before the survey. This represents about 16,700 students in Ontario in grades 7 to 12.
- Males (2%) and females (2%) are equally likely to use OxyContin non-medically.
- Use significantly increases with grade, peaking in grade 11 at 3%.
- There is significant regional variation, with use most likely in the North (3%).

Past Year Non-Medical Use of Opioid Pain Relievers

Students were also asked about their use of any prescription opioid "pain relief pill" (as a drug class) such as Percocet, Percodan, Tylenol #3, Demerol, OxyContin, or codeine, without a doctor's prescription.

- About 18% (95% CI: 17%-19%) of students report using a prescription opioid pain reliever non-medically in the year before the survey. This estimate represents about 180,200 Ontario students in grades 7 to 12.
- Females (20%) are more likely than males (16%) to use an opioid pain reliever non-medically.
- There is significant grade variation, with 7th- and 8th-graders least likely to report non-medical use compared to the older grades.
- Use does not significantly differ by region.

Past Year Non-Medical Use of ADHD Drugs

Ritalin (methylphenidate), Concerta, and Adderall are stimulant drugs used to treat Attention Deficit/Hyperactivity Disorder (ADHD) in children. However, some people abuse these drugs for various purposes including appetite suppression, wakefulness, increased focus, and euphoria. Students were asked about the use of these drugs (as a drug class) in the past year without a doctor's prescription.

- About 2% (95% CI: 1%-2%) of students report using an ADHD drug for non-medical purposes. This represents about 16,500 Ontario students.
- There is no significant difference in use between males (2%) and females (2%).
- There are no significant effects according to grade or region.

Past Year Non-Medical Use of Other Stimulants

- The non-medical use of stimulants (e.g., diet pills) is reported by 5% (95% CI: 4%-6%) of students (representing about 48,500 Ontario students).
- Females (6%) are significantly more likely to use stimulants non-medically than are males (3%).
- Stimulant use is significantly associated with grade, increasing from 1% of 7th-graders to about 8% of 11th-graders.
- Use is most likely among Northern students (7%), and least likely among Toronto students (3%).

Past Year Non-Medical Use of Over-the-Counter Cough/Cold Medication

- About 7% (95% CI: 6%-9%) of students report using over-the-counter cough or cold medication that contains the drug dextromethorphan (DXM) in order to "get high". This represents about 70,600 students in grades 7 to 12.

Any Illicit Drug Use in the Past Year

Any Illicit Drug Use, including Non-Medical Prescription Drug Use

Here, we present a composite index which measures use of at least one of the following 24 drugs asked about in the 2009 survey: cannabis, glue, solvents, LSD, PCP, other hallucinogens, cocaine, crack, methamphetamine, crystal methamphetamine, heroin, ecstasy, GHB, Rohypnol (NM), ketamine, jimson weed, salvia divinorum, stimulants (NM), tranquilizers (NM), OxyContin (NM), other prescription opioid pain relievers (NM), ADHD drugs (NM), over-the-counter sleeping medication, and over-the-counter cough/cold medication. Excluded from this index are tobacco and alcohol.

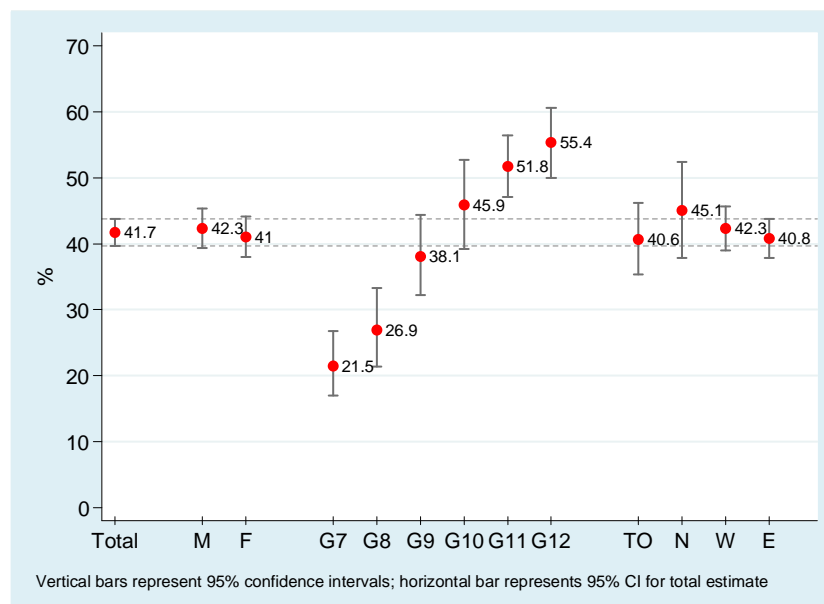
- Among the total sample, 42% (95% CI: 40%-44%) report using at least one illicit drug in the past year. This estimate represents about 409,700 Ontario students.
- Males (42%) and females (41%) are equally likely to report the use of at least one drug in the past year.
- Any illicit drug use significantly increases between 7th-grade (22%) and 11th-grade (52%), and remains stable in 12th-grade (55%).
- There are no significant differences among the four regions.

Any Non-Medical Prescription Drug Use

Here, we look at the non-medical use of at least one of the following five prescription drugs or drug classes once or more often during the past 12 months: OxyContin, other opioid pain relievers, ADHD drugs, other stimulants, tranquilizers/sedatives. (Non-medical use is defined as use without a doctor's prescription).

- Among the total sample, 20% (range: 19%-22%) report using at least one prescription drug non-medically in the past year. This estimate represents about 208,200 Ontario students in grades 7 to 12.
- Females (23%) are more likely than males (18%) to report using at least one prescription drug non-medically in the past year.
- There is significant grade variation, with use increasing between 7th-grade (11%) and 9th-grade (22%), and then remaining stable in the older grades at around 23%-25%.
- There are no significant differences among the four regions.

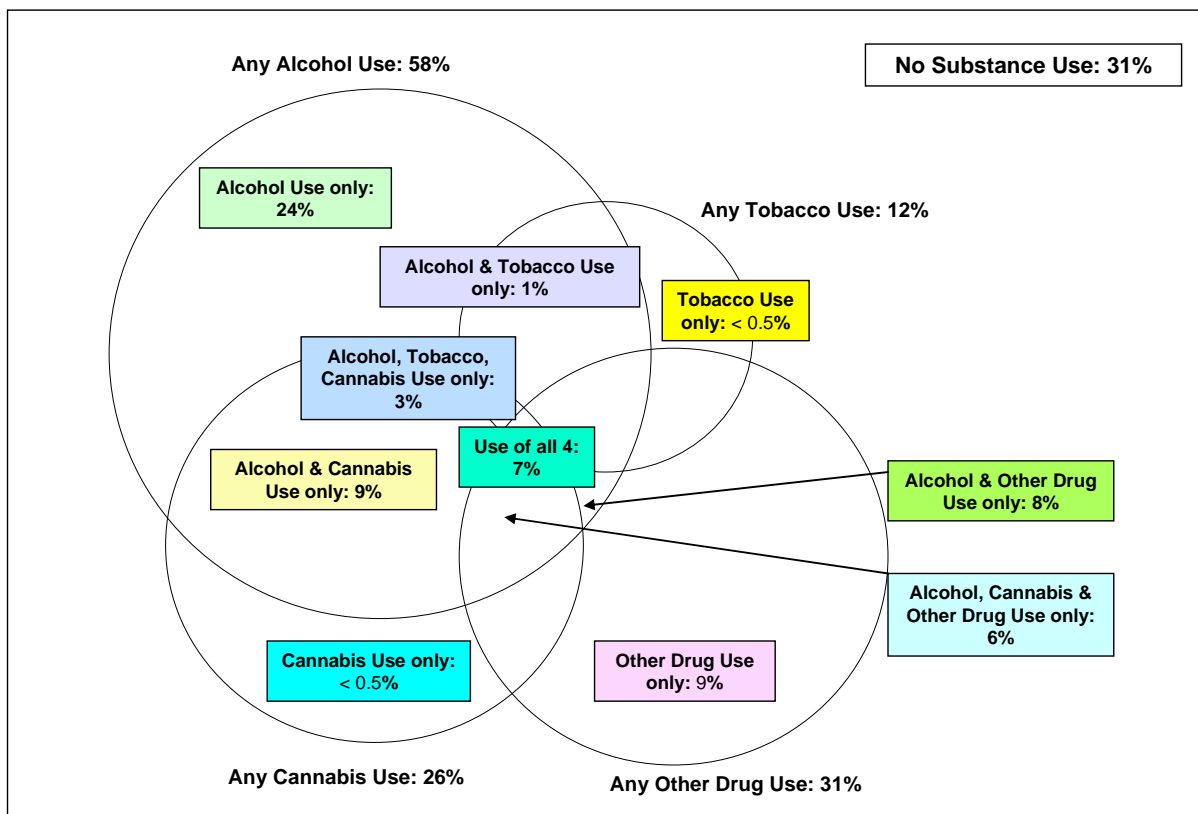
Figure 7. Any Illicit Drug Use (including Non-Medical Prescription Drug Use) in the Past Year by Sex, Grade and Region, 2009 OSDUHS



Multiple Substance Use: Alcohol, Tobacco, Cannabis, and Other Drugs

- Figure 8 presents the overlap of past year use of all substances asked about in the 2009 survey. As seen in the figure, most students use alcohol either exclusively, or in addition to other substances.
- One-quarter (24%) of students use only alcohol. About 9% use only alcohol and cannabis. About 6% use alcohol, cannabis, and another drug.
- About 7% of students use alcohol, tobacco, cannabis, and at least one other drug. This percentage represents about 65,600 Ontario students.
- Almost one-third (31%) of students in grades 7 through 12 report using no substance at all during the past year – this includes alcohol and tobacco.

Figure 8. The Overlap of Alcohol, Tobacco, Cannabis and Other Drug Use in the Past Year, 2009 OSDUHS (Grades 7 to 12)



Notes: (1) based on a random half sample of students (N=4,261); (2) "Other Drug Use" refers to use of at least one of 23 drugs: glue, solvents, LSD, PCP, other hallucinogens, jimson weed, salvia divinorum, heroin, stimulants (NM), tranquilizers/sedatives (NM), cocaine, crack, methamphetamine, crystal methamphetamine, ecstasy, GHB, Rohypnol (NM), ketamine, OxyContin (NM), other prescription opioid pain relievers (NM), ADHD drugs (NM), OTC sleeping medication (NM), and over-the-counter cough/cold medication (NM).

New Users and Early Initiation

Incidence: New Users in 2009

- Among all students, 6% smoked cigarettes for the first time during the 12 months before the survey. This estimate represents about 59,500 students in Ontario. About 17% of students drank alcohol for the first time (representing about 163,900 students). About 9% used cannabis (83,000 students); and 3% used another illicit drug for the first time (32,400 students).

Early Initiation Among 7th-Graders, 1981–2009

- There is a trend of decreasing early initiation of cigarette smoking, with fewer 7th-graders today reporting smoking at an early age. About 2% of 7th-graders in 2009 reported smoking their first cigarette by grade 6 (ages 11-12), compared to 9% in 2003, 27% in 1997, and 41% in 1981.
- Early initiation of alcohol use also decreased over time. For example, 17% of 7th-graders in 2009 used alcohol by grade 6 compared to 31% in 2007, 42% in 2003, and 50% in 1981.
- Early initiation of cannabis use – defined as using for the first time before the end of grade 7 (ages 12-13) – was at 9% in 1981. Early use decreased by 1993 (3.5%), increased again in 1997 and remained elevated up until 2003 (8%). In 2009, the estimate is lower at 2%.

Drug Use Trends Among 7th-Graders, 1977–2009

The long-term trends in the past year use of tobacco, alcohol, and cannabis among 7th - graders (ages 12-13) – which is the youngest grade surveyed – shows that current use of these substances is lower compared to use in the late 1970s (the peak years of use on record), and the elevated rates found in the mid-to-late 1990s.

Average Age of Initiation for Smoking, Drinking, and Cannabis Use, 1981–2009

In this section, we look at the average age of initiation for smoking, drinking alcohol, and cannabis use among grade 11 users (ages 16-17).

- In 2009, the average age of first use of cigarettes (smoking one whole cigarette) among grade 11 smokers was 13 years. The average age of first drink of alcohol among grade 11 drinkers was 13 years, and the average age of first drunkenness among grade 11 drinkers was 14 years. The average age of first cannabis use among grade 11 users was 14 years.
- The average initiation age for smoking increased between 1981 and 1995, decreased slightly in the late 1990s, and has increased over the past decade.
- The average initiation age for drinking was stable over the 1990s, and has increased over the past decade.
- The average age of initiation for cannabis use has not dramatically changed over the decades, hovering at about 14 years of age.

Consequences and Problems Related to Substance Use

Drinking and Driving

- In 2009, 12% (95% CI: 10%-14%) of drivers in grades 10 to 12 drove within an hour after consuming two or more alcoholic drinks at least one time during the past 12 months. This estimate represents about 34,700 drivers in grades 10 to 12.
- Male drivers are more likely than female drivers to drink and drive (15% vs 8%, respectively).
- Despite some variation, there are no significant differences among the grades, or among the four regions.

Cannabis Use and Driving

- About 17% (95% CI: 14%-20%) of drivers in grades 10 to 12 report driving a vehicle within one hour of using cannabis, at least once during the 12 months before the survey (representing about 48,500 drivers).
- Male drivers are significantly more likely than female drivers to use cannabis and drive (21% vs 11%, respectively).
- The likelihood of using cannabis and driving significantly increases with grade, and is most likely among drivers in grade 12 (21%).
- Despite some variation, there are no significant regional differences.

Been a Passenger with a Driver Who Was Drinking Alcohol or Using Drugs

All students were asked how often in the past 12 months they rode in a vehicle driven by someone who had been drinking alcohol, and driven by someone who had been using drugs.

- The 2009 survey found that 23% of students had been a passenger in a vehicle at least once in the past year with a driver who had been drinking, and 18% with a driver who had been using drugs.

- No significant sex differences were found for either estimate.
- Riding in a vehicle with an intoxicated driver (either by alcohol or drugs) increases significantly with grade level. For example, over one-third of 12th-graders report these behaviours.
- There are no significant regional differences regarding riding with someone who was drinking alcohol. However, Toronto students (13%) are significantly less likely to report riding with a driver who had been using drugs compared to students in the other three regions.

Potential Drug Use Problem

The 2009 survey included the six-item "CRAFFT" screen to gauge drug use problems experienced by students (please see the *Detailed Drug Report* for the six questions). A total of two or more problems is used to identify adolescents who may have a drug use problem, which might require treatment.

- About 16% (95% CI: 14%-17%) of students may have a drug use problem. This percentage represents around 164,600 Ontario students in grades 7 to 12.
- Males (17%) are significantly more likely than females (14%) to be at risk for a drug use problem.
- There is significant grade variation: the likelihood of a drug use problem is lowest among 7th-graders (2%) and highest among 12th-graders (28%).
- There are no significant regional differences.

Alcohol and Other Drug Treatment

- In 2009, 1.4% (95% CI: 1.1%-1.8%) of students report that they had received either alcohol and/or drug treatment during the year before the survey. This estimate represents about 14,100 Ontario students in grades 7 to 12.

Attitudes and Perceptions

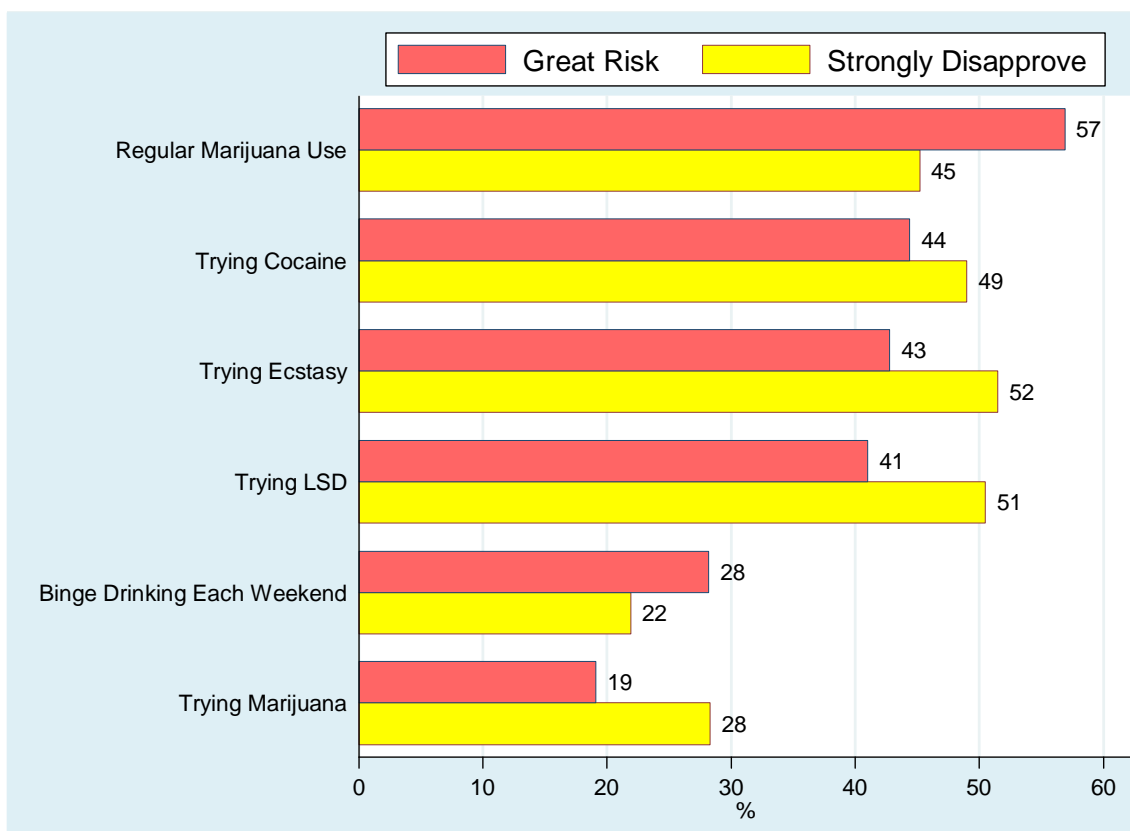
Perceptions of Risk of Harm and Disapproval

- As seen in Figure 9, of the drug behaviours surveyed, students feel that the greatest risk of physical harm is associated with regular marijuana use, followed by trying cocaine, trying ecstasy, trying LSD, daily smoking, binge drinking on weekends, and trying marijuana.
- Perceptions of risk significantly increase with grade for trying cocaine, LSD, and ecstasy, but *decrease with grade* for marijuana use (trying it and regular use).
- Most students strongly disapprove of trying ecstasy and trying LSD. Just about half disapprove of trying cocaine and smoking marijuana regularly. Over one-quarter strongly disapprove of trying marijuana and over one-fifth disapprove of binge drinking on weekends.

Drug Availability

- The perception of easy availability (“fairly easy” or “very easy” to get the drug) is highest for alcohol (57%), followed by cigarettes (53%), cannabis (42%), ecstasy (13%), cocaine (13%), OxyContin or another prescription opioid pain reliever (12%), and LSD (11%).
- Not surprisingly, as grade level increases, students are more likely to report that these drugs are easy to obtain.
- The perceived availability of alcohol, cannabis, cocaine, LSD, ecstasy, and cigarettes has significantly decreased over the past decade (since 1999).

Figure 9. Percentage of Students Reporting “Great Risk” of Harm and “Strongly Disapprove” of Drug Using Behaviours, 2009 OSDUHS (Grades 7 to 12)



School and Neighbourhood

Intoxication at School

The OSDUHS asked students about being intoxicated at school. The question was “*In the last 12 months, how many times (if ever) have you been drunk or high at school?*” We present the percentage who report doing so at least once.

- As seen in Figure 10, 16% (95% CI: 14%-18%) of all students report that they were intoxicated at school at least once during the 12 months before the survey. This percentage represents about 152,800 Ontario students.
- Males (17%) are more likely than females (14%) to report getting drunk or high at school.
- Students in grades 10, 11, and 12 (21%-26%) are most likely to report getting drunk or high at school.
- There is no significant variation by region.

Getting Drugs at School

Students were also asked whether they had been offered, sold, or given drugs at school. The question used was “*In the last 12 months, has anyone offered, sold, or given you an illegal drug on school property?*”

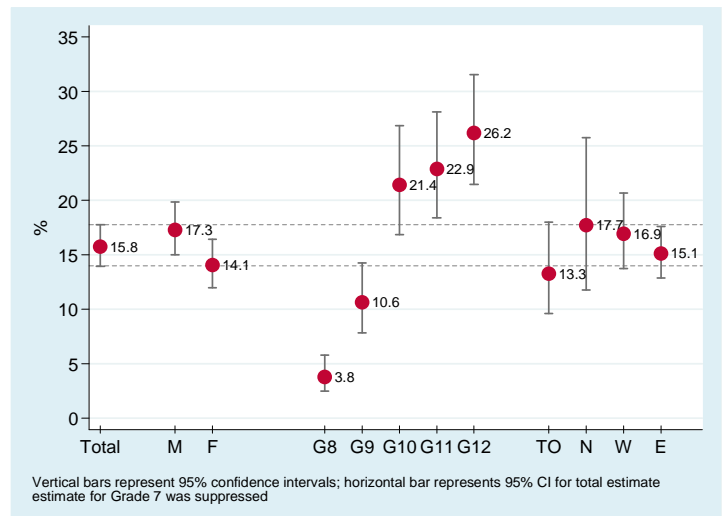
- Among all students, 23% (95% CI: 21%-25%) report that they had been offered, sold, or given a drug at school in the 12 months before the survey. This percentage represents about 219,000 Ontario students.
- Males are more likely than females to have been offered, sold, or given a drug at school (26% vs 19%, respectively).
- With increasing grade, students are more likely to be offered, sold, or given a drug at school, peaking in grade 11 at 36%.
- There is no significant variation by region.

Exposure to Drug Selling

Students were asked whether anyone had tried to sell drugs to them anywhere during the past 12 months, and whether or not they had seen drug selling in their own neighbourhood.

- One-third (32%, 95% CI: 30%-34%) of students report that someone had tried to sell them drugs in the past year. Males, older students, and students in the North region are more likely to indicate that someone tried to sell drugs to them.
- Just over one-quarter (28%, 95% CI: 26%-31%) of students report seeing drug selling in their own neighbourhood in the past year. Males and older students are more likely to report this. No significant regional differences are evident.

Figure 10. Percentage of Students Reporting Getting Drunk or High at School During the Past Year by Sex, Grade and Region, 2009 OSDUHS



Overview of Drug Use in the Ontario Local Health Integration Networks (LHINs)

This section provides the 2009 drug use estimates among high school students only (grades 9-12) according to Ontario's Local Health Integration Networks (LHINs). In 2006, the province designated 14 geographic areas each to function as health systems that plan, integrate and fund local health services (see <http://www.lhins.on.ca>).

For the present analysis, students were assigned to LHINs using the six-digit postal code of the school. Due to small sample sizes, some adjacent LHINs were merged. The 11 LHIN areas presented here are:

- ◆ Erie St. Clair & South West (merged)
- ◆ Waterloo Wellington
- ◆ Hamilton Niagara Haldimand Brant
- ◆ Central West
- ◆ Mississauga Halton
- ◆ Toronto Central
- ◆ Central
- ◆ Central East & North Simcoe Muskoka (merged)
- ◆ South East
- ◆ Champlain
- ◆ North East & North West (merged)

Table 2. Percentage of Secondary School Students (**Grades 9 to 12**) Reporting Drug Use and Other Selected Indicators in the Past Year, by Ontario Local Health Integration Network, 2009 OSDUHS

	Erie St. Clair + South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	C. East + N. Simcoe Muskoka	South East	Champlain	N. East + N. West	Ontario
<i>(Student N)</i>	<i>(308)</i>	<i>(457)</i>	<i>(496)</i>	<i>(230)</i>	<i>(436)</i>	<i>(226)</i>	<i>(741)</i>	<i>(1040)</i>	<i>(256)</i>	<i>(1156)</i>	<i>(437)</i>	<i>(5783)</i>
<i>(School N)</i>	<i>(6)</i>	<i>(6)</i>	<i>(12)</i>	<i>(4)</i>	<i>(6)</i>	<i>(4)</i>	<i>(10)</i>	<i>(22)</i>	<i>(6)</i>	<i>(16)</i>	<i>(9)</i>	<i>(101)</i>
Cigarettes (95% CI)	15.9 (11.7-21.2)	19.8 (12.2-30.4)	16.9 (11.4-24.5)	10.4 (4.9-20.6)	15.6 (12.1-20.0)	15.0 (12.5-17.8)	12.5 (9.4-16.4)	11.9 (8.8-15.8)	16.4 (14.5-18.5)	16.9 (12.9-21.7)	23.1** (19.6-26.9)	15.4 (13.8-17.2)
Daily Smoking	7.5 (5.5-10.0)	10.6 (5.3-19.9)	9.3 (5.2-16.1)	†	7.3 (4.4-11.8)	4.2 (2.7-6.7)	5.5 (3.2-9.4)	4.2 (2.6-6.8)	6.4 (4.2-9.7)	6.6 (4.6-9.5)	12.8** (10.0-16.2)	6.8 (5.7-8.1)
Alcohol	82.3* (74.3-88.2)	72.1 (65.6-77.8)	70.8 (65.7-75.4)	68.6 (48.4-83.6)	64.0 (49.5-76.3)	72.5 (67.1-77.3)	61.7* (51.3-71.1)	62.7 (53.6-70.9)	67.8 (53.1-79.8)	75.2 (66.2-82.5)	79.4* (71.8-85.4)	69.4 (66.4-72.4)
Binge Drinking	46.5* (34.4-59.0)	38.6 (29.4-48.7)	35.4 (29.0-42.4)	24.2 (15.5-35.7)	32.2 (23.3-42.5)	33.8 (24.8-44.1)	27.4 (20.3-35.9)	24.8* (18.6-32.3)	33.3 (27.6-39.6)	34.8 (29.3-40.7)	42.3** (36.6-48.2)	32.9 (30.3-35.6)
Cannabis	38.8 (32.0-46.1)	37.8 (31.0-45.2)	40.6* (36.0-45.4)	26.7 (17.7-38.0)	33.5 (24.7-43.6)	37.9 (34.1-41.8)	30.5 (23.4-38.6)	29.8 (25.0-35.1)	31.5 (26.3-37.1)	30.6 (25.8-35.9)	42.7** (36.5-49.2)	34.3 (32.1-36.4)
Glue or Solvents	†	5.3 (2.1-12.7)	6.7* (4.2-10.7)	†	†	†	3.6 (2.2-5.9)	5.4 (2.8-9.8)	†	2.9 (1.8-4.8)	4.3 (2.2-8.3)	4.5 (3.6-5.7)
LSD or PCP	2.9 (1.5-5.7)	6.5* (3.1-13.2)	3.8 (2.4-6.2)	†	2.5 (1.2-5.4)	†	2.0 (1.0-3.6)	2.0 (1.4-3.1)	5.6 (2.0-14.5)	1.8 (1.3-2.4)	3.1 (1.4-6.7)	2.9 (2.2-3.7)
Hallucinogens other than LSD, PCP	9.3* (5.6-15.1)	11.2* (5.9-20.0)	7.3 (4.5-11.6)	†	6.1 (3.2-11.2)	†	6.5 (4.2-9.8)	6.1 (4.6-8.0)	9.0 (4.8-16.4)	6.4 (5.5-7.4)	8.9* (5.7-13.8)	6.8 (5.7-8.1)
Jimson Weed	5.4 (3.0-9.5)	5.9 (3.0-11.3)	3.6 (1.5-8.6)	†	†	†	†	†	†	2.8 (1.0-7.7)	5.0 (2.2-10.8)	3.1 (2.3-4.1)
Salvia Divinorum	7.5 (4.3-12.8)	15.9** (7.2-31.5)	†	†	4.2 (2.1-8.0)	†	6.3 (4.1-9.6)	2.8* (1.6-5.0)	†	5.8 (3.1-10.5)	11.9** (8.4-16.6)	5.9 (4.5-7.8)
Methamphetamine or Crystal Meth.	†	2.9 (1.0-7.9)	†	†	2.5 (1.0-6.5)	†	1.9 (0.8-4.0)	1.0* (0.6-1.7)	†	2.9 (1.8-4.6)	1.9 (0.9-4.0)	2.0 (1.4-2.7)
Cocaine or Crack	4.2 (2.1-8.1)	6.4 (2.9-13.4)	2.7 (1.7-4.1)	†	3.8 (2.5-5.7)	†	3.9 (2.6-5.6)	2.3 (1.4-3.8)	5.9 (2.3-14.2)	3.0 (2.1-4.4)	6.3* (3.9-10.0)	3.5 (2.9-4.4)
Ecstasy	4.9 (2.7-8.6)	7.2 (3.9-13.1)	4.7 (2.8-7.8)	†	3.6 (1.8-6.9)	†	3.6 (1.8-7.1)	2.7* (1.9-3.9)	7.9* (6.3-9.9)	3.9 (2.6-5.7)	6.4 (3.9-10.5)	4.3 (3.5-5.2)
OxyContin (NM)	†	3.5* (2.1-5.7)	2.7 (1.3-5.4)	†	2.1 (1.0-4.7)	†	†	2.0 (1.1-3.4)	†	2.2 (1.6-3.1)	4.6** (3.3-6.3)	2.2 (1.8-2.7)
Opioid Pain Relievers (NM)	22.0 (14.9-31.1)	21.0 (18.8-23.5)	19.0 (13.7-25.7)	19.0 (14.2-25.1)	20.1 (17.2-23.3)	17.9 (13.3-23.7)	19.8 (16.4-23.7)	20.0 (17.1-23.2)	23.7 (20.1-27.6)	20.6 (17.9-23.5)	19.5 (16.9-22.4)	20.1 (18.6-21.6)
Stimulants (NM)	6.9 (5.2-9.3)	6.8 (3.6-12.4)	8.2 (5.1-12.8)	†	4.6 (2.4-8.5)	4.6 (2.5-8.3)	3.3* (2.1-5.2)	5.4 (3.7-7.8)	7.9* (7.1-8.8)	5.0 (3.5-7.2)	7.9* (5.6-11.1)	5.7 (4.9-6.7)
Tranquillizers (NM)	†	3.0 (1.2-7.4)	†	†	2.3 (1.8-2.9)	†	†	1.6 (0.9-2.7)	†	2.8 (2.0-3.9)	2.6 (1.1-5.8)	2.0 (1.5-2.6)
OTC Cough/Cold Medication (NM)	†	9.0 (4.5-17.1)	7.3 (3.8-13.7)	11.0 (5.4-21.0)	4.9** (3.6-6.6)	14.9** (10.5-20.7)	6.6 (3.7-11.7)	7.4 (5.2-10.4)	9.2* (8.4-10.2)	6.1 (4.3-8.5)	6.2 (3.4-10.9)	7.6 (6.3-9.2)

(Continued...)

	Erie St. Clair + South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	C. East + N. Simcoe Muskoka	South East	Champlain	N. East + N. West	Ontario
<i>(Student N)</i>	<i>(308)</i>	<i>(457)</i>	<i>(496)</i>	<i>(230)</i>	<i>(436)</i>	<i>(226)</i>	<i>(741)</i>	<i>(1040)</i>	<i>(256)</i>	<i>(1156)</i>	<i>(437)</i>	<i>(5783)</i>
<i>(School N)</i>	<i>(6)</i>	<i>(6)</i>	<i>(12)</i>	<i>(4)</i>	<i>(6)</i>	<i>(4)</i>	<i>(10)</i>	<i>(22)</i>	<i>(6)</i>	<i>(16)</i>	<i>(9)</i>	<i>(101)</i>
Any NM Prescription Drug Use	26.6 (21.0-33.1)	23.6 (21.0-26.5)	23.0 (17.3-29.9)	21.7 (17.4-26.8)	21.7 (19.1-24.6)	20.2 (16.0-25.2)	22.6 (19.3-26.4)	22.3 (19.3-25.6)	26.1 (22.5-30.1)	25.7 (22.5-29.1)	23.5 (20.4-27.0)	23.2 (21.8-24.7)
Any Illicit Drug, incl NM Prescription Drug	54.2 (45.7-62.5)	50.5 (44.5-56.4)	52.0 (43.6-60.3)	43.2 (30.8-56.4)	47.0 (41.7-52.4)	48.8 (42.3-55.3)	46.8 (38.9-54.8)	46.7 (42.5-51.0)	42.2 (35.2-49.5)	45.0 (37.4-52.7)	53.8 (44.9-62.5)	48.4 (46.0-50.9)
Hazardous Drinking	35.0* (27.7-43.0)	32.6 (22.8-44.3)	29.7 (23.2-37.3)	15.0 (6.3-31.5)	23.6 (15.2-34.7)	24.2 (18.1-31.6)	26.3 (15.4-41.1)	24.6 (19.7-31.2)	29.4 (15.2-49.2)	29.2 (23.8-35.4)	33.3 (25.7-41.9)	27.5 (24.9-30.2)
Potential Cannabis Dependence	†	†	†	†	†	†	6.0 (2.8-12.5)	4.9 (2.1-11.1)	†	4.3 (2.7-6.9)	2.7 (1.0-6.6)	3.6 (2.7-4.7)
Potential Drug Use Problem	20.5 (13.9-29.0)	21.4 (14.4-30.6)	22.9 (17.6-29.3)	12.8 (7.3-21.3)	20.3 (14.9-27.1)	21.0 (14.6-29.4)	21.3 (17.3-25.8)	18.6 (15.9-21.6)	15.8 (7.9-29.3)	17.2 (13.4-21.9)	28.0** (22.2-34.6)	20.1 (18.2-22.0)
Passenger/Alcohol	30.6 (22.8-39.8)	33.9 (25.8-43.0)	26.2 (21.1-32.1)	20.4* (14.8-27.2)	22.8 (15.7-31.8)	35.5 (26.4-45.8)	28.5 (23.0-34.7)	22.7* (18.9-27.1)	24.8 (17.2-34.4)	30.6 (24.6-37.4)	30.4 (23.3-38.6)	27.3 (25.0-29.7)
Passenger/Drugs	28.7* (24.2-33.6)	28.0 (19.1-39.1)	24.9 (19.5-31.2)	20.5 (15.3-26.9)	19.8 (13.7-27.8)	21.9 (20.3-23.6)	22.7 (15.3-32.2)	22.9 (17.7-29.0)	21.2 (11.9-34.8)	20.9 (16.9-25.6)	28.5 (20.9-37.5)	23.5 (21.3-25.8)
Drinking-Driving (Drivers Gr. 10-12)	11.8 (5.0-25.5)	11.2 (6.9-17.7)	9.2 (4.4-18.0)	10.2 (5.3-18.8)	12.6 (7.6-20.3)	†	16.0 (8.7-27.8)	10.3 (6.4-16.2)	17.6 (11.5-25.9)	13.2 (10.0-17.1)	12.5 (8.9-17.2)	11.9 (10.0-14.2)
Cannabis-Driving (Drivers Gr. 10-12)	21.7 (11.9-36.4)	22.7* (15.6-31.9)	17.4 (9.4-30.1)	†	14.2 (8.6-22.6)	†	24.2* (16.9-33.2)	11.9 (7.6-18.1)	10.5 (6.8-16.0)	13.6 (10.6-17.3)	21.1 (13.9-30.6)	16.6 (13.8-19.9)

Notes: (1) due to small sample sizes, the Erie St. Clair LHIN (n=84) was merged with the South West LHIN, the North Simcoe Muskoka LHIN (n=14) was merged with the Central East LHIN, and the North West LHIN (n=130) was merged with the North East LHIN; (2) entries in brackets are 95% confidence intervals; (3) † estimate suppressed due to unreliability; (4) binge drinking is defined as consuming 5 or more drinks on one occasion at least once during the 4 weeks before the survey; (5) "Hallucinogens other than LSD, PCP" such as mescaline and psilocybin; (6) NM=non-medical use, without a doctor's prescription; (7) "Any NM Use of a Prescription Drug" refers to non-medical use of any one of the following classes of prescription drugs: opioids, ADHD drugs, other stimulants, or tranquilizers/sedatives (excludes Rohypnol); (8) "Any Illicit Drug, incl. NM Prescription Drug" refers to use of any one of the 24 drugs asked about in the survey (excludes tobacco and alcohol); (9) "Passenger/Alcohol" refers to being a passenger in a vehicle with a driver who had been drinking alcohol; (10) "Passenger/Drugs" refers to being a passenger in a vehicle with a driver who had been using drugs; (11) *p<.05, **p<.01 significant difference, LHIN vs. Ontario.

Source: OSDUHS, Centre for Addiction & Mental Health

SUMMARY

The Public Health Approach Toward Drug Use

Smoking, drinking, and illicit drug use are leading causes of morbidity and mortality among adolescents. The OSDUHS performs several public health functions, namely: identifying the extent of drug use among the general student population; identifying its timing and pattern during adolescence; identifying risk and protective factors; and tracking changes in drug use over time. As well, the OSDUHS provides a knowledge-base for designing preventive programs and health promotion programs; informing public health policy; and disseminating information to the general public.

Encouraging Findings

This report examined the past year use of alcohol, tobacco, illicit drugs, and the non-medical (NM) use of prescription drugs, and changes since 1977. There are many findings that should be viewed as encouraging. We have ordered these findings according to their public health importance. (See Table A4 for a trend overview.)

Cigarettes: The majority of students do not smoke cigarettes. The prevalence of past year smoking decreased after the end of the 1990s, reached an all-time low in 2005 and has remained stable since then. Further, the perceived risk of harm from smoking 1 or 2 cigarettes daily is higher in 2009 compared to a few years ago.

Alcohol: While the majority of students (58%) are considered to be current drinkers, the past year prevalence of alcohol use has significantly declined compared to a decade ago (66%). The magnitude of the decline in drinking has been even greater over the long-term.

The proportion of students that **use no substance** (just below one-third), including alcohol and cigarettes, is higher in 2009 compared to estimates from 30 years ago.

Drinking and driving among licensed students has remained stable over the past decade. However, the current rate is markedly lower than rates found in the late 1970s and early 1980s.

The percentage of all students reporting **riding in a vehicle with a driver who was drinking** alcohol significantly decreased between 2001 and 2009 (from 31% down to 23%).

The percentage of all students reporting **riding in a vehicle with a driver who was using drugs** significantly decreased between 2003 and 2009 (from 23% down to 18%).

Despite recent media attention given to **methamphetamine** and **crystal methamphetamine** use in various populations, there is no evidence that either drug has diffused into the student population. In fact, past year use of methamphetamine has significantly decreased since 1999.

Use of **hallucinogenic drugs** (i.e., psilocybin and mescaline) has been declining over the past decade. Use of LSD also continued on the downward trend that began in 1995, and the 2009 estimate is significantly lower than those found in recent years. This decline in LSD use corresponds to increase in the perceived risk of trying LSD, as well as disapproval. The use of PCP has also decreased over the past decade.

Past year use of other drugs is also lower in 2009 compared to the estimates from a decade ago: **glue, solvents, crack, heroin, ecstasy, Rohypnol, and stimulants**. The use of any illicit drug including and excluding cannabis (measured as two general indices) has also decreased.

The **age of initiation** for drinking alcohol, smoking cigarettes, and using cannabis has not declined. In other words, students are not trying these substances at younger ages compared to students in the past. Indeed, our data show that, at least over the past decade, smoking initiation and drinking initiation is occurring later in adolescence.

The **perceived availability** of alcohol, cannabis, cocaine, LSD, and ecstasy has significantly decreased in recent years. Thus, these drugs are reportedly becoming more difficult to obtain.

The **perceptions of risk of harm** and the **disapproval** of trying cocaine, and of trying ecstasy are higher in 2009 compared to recent

years. Thus, students today seem to be more aware of the potential for physical harm these drugs can cause.

Some Public Health Concerns

The following findings should be viewed as potential public health concerns. We begin with tobacco and alcohol because these legal drugs are responsible for greater harm to the physical and social well-being of youth, as well as to the population as a whole.

Cigarettes: Cigarette smoking is by far the greatest public health issue impinging on a population's health, as it is the leading preventable cause of disease. Although student smoking has decreased over the decades, there is still a significant proportion (one-in-eight) that does smoke (about 119,600 students). Further, the decline in smoking seen in previous survey cycles ceased in 2009, as the rate remained stable.

Contraband cigarette smoking is reported by 6% of students (about 60,000 students). Among only past year smokers, over half (53%) have smoked contraband cigarettes in the past year.

Alcohol: Binge drinking still remains at an elevated level, as just over one-quarter (25%) of all students reported drinking at least 5 drinks on the same occasion once in the past month. When we look at the 12th-graders only, this proportion becomes half (49%). One-in-five students (21%) drink hazardously in that their drinking puts them at risk for current or future physical and social problems. Indeed, one-in-ten (10%) students report being injured or injuring someone as a result of their drinking in the past year.

Alcohol, Drugs and Vehicles: Despite long-term declines in drinking and driving, there are still about one-in-eight (12%) licensed students who drink and drive. A higher percentage (17%) of licensed students report driving after using cannabis. Moreover, one-quarter (23%) of all students report being a passenger with a driver who had been drinking, and 18% rode with a driver who had been using drugs. Especially worrisome is that the likelihood of being a passenger with an intoxicated driver (from either alcohol or cannabis) increases significantly with grade (e.g., over one-third of 12th-graders report

these behaviours). These behaviours increase the risk of unintentional injuries – the leading cause of death among youth.

About 3% of all students **use cannabis daily**. Moreover, one half of these students also smoke cigarettes daily, thereby increasing the likelihood of respiratory illnesses. About 3% of all students may have a cannabis dependence problem (representing around 29,400 students).

About 18% of students report using a **prescription opioid pain reliever** without a prescription at least once in the past year (representing about 180,200 Ontario students in grades 7 to 12). The non-medical use of this class of drugs, which includes Tylenol #3, codeine, Percocet, Percodan, and Demerol, ranks just after cannabis use. Three-quarters of those who used an opioid pain reliever non-medically report obtaining it from home.

Past year use of over-the-counter (OTC) **cough/cold medication with dextromethorphan** to “get high” was reported by 7% of students – a prevalence higher than most of the illicit drugs asked about in the survey.

About 42% of students report past year use of **at least one illicit drug**, including a prescription drug or an OTC drug used for non-medical purposes. The proportion increases with grade, reaching 55% by grade 12. If we remove cannabis, prescription drugs, and OTC drugs from this composite index, the proportion reporting any other drug use is much lower. Thus, students today are more likely to use cannabis, prescription drugs and OTC drugs non-medically rather than other “street” drugs such as hallucinogens, cocaine, or ecstasy.

About one in six (16%) students reports having **been drunk or high at school**, and about one in four (23%) reports being **offered, sold, or given a drug at school**.

One-third (32%) of students report that someone **tried to sell drugs to them** at least once during the year before the survey. This proportion increases to almost half among students in grades 11 and 12, suggesting that drugs are readily available to older adolescents.

Overlapping Alcohol and Mental Health Problems

There is an overlap between alcohol and drug use problems and mental health problems among youth. The 2009 OSDUHS shows that about 8% of all students in grades 7 to 12 (85,400 Ontario students) report both hazardous drinking and elevated psychological distress (symptoms of anxiety and depression).

Important Correlates of Drug Use

The strongest correlate of drug use found in this report was grade or age (see Table A5 for an overview). Generally, drug use is more likely to occur as grade level increases, typically peaking in grade 11 or 12. The exception to this is inhalant use, which is most prevalent among 7th- and 8th-graders.

There is a prominent pattern of increasing drug use that corresponds to the transition from grade 7 to grade 8, and again from grade 8 to grade 9. This suggests that the transition from elementary school to high school may be a high-risk time for either the initiation or the increased likelihood of drug use. Another prominent pattern is a jump in prevalence rates between 10th-grade and 11th-grade.

Sex is also associated with certain types of drug use (see Table A5 for an overview). Males are significantly more likely to use cigarettes, alcohol, cannabis, hallucinogens (other than LSD, PCP), salvia divinorum, methamphetamine, and heroin. Females are more likely to use solvents, stimulants pills non-medically, opioid pain relievers non-medically, and tranquilizers non-medically.

There are important differences in student drug use according to region of the province (see Table A5). Compared to the provincial average:

- Toronto students are less likely to smoke cigarettes, drink alcohol, binge drink, use cannabis, and stimulant pills non-medically. They are above the provincial average for the use of glue, solvents, and over-the-counter cough/cold medication.
- Northern Ontario students are more likely to smoke cigarettes, drink alcohol, binge

drink, use cannabis, methamphetamine, OxyContin non-medically, and stimulants pills non-medically. They are not below the provincial average on any drug measure.

- Western students do not differ from the province as a whole on any drug measure.
- Eastern students do not differ from the province as a whole on any drug measure.

Possibilities for Prevention

Research has shown that preventing adolescents from using drugs, including alcohol and tobacco, is difficult, and, at best, effects are usually short-term. However, delaying the initiation of use, and preventing or minimizing harmful consequences from drug use may be more feasible goals.

Our survey shows that problem use of alcohol and drugs are not rare among youth. We also found that potentially harmful consequences, such as binge drinking and becoming drunk, driving while intoxicated, and being a passenger with a driver who was using alcohol or drugs, are not uncommon occurrences. Thus, there is a need for programs to focus on reducing these harmful consequences. Indeed, special efforts should be made to address the high rate of driving after cannabis use among youth.

Our findings show that, except for cannabis, a relatively smaller percentage of youth use so-called “street” or “club” drugs such as ecstasy, cocaine, or hallucinogenic drugs (i.e., “magic mushrooms”) when compared to the percentage that use prescription drugs (e.g., opioid pain relievers) or over-the-counter cough/cold medications non-medically. Similar changes in the “drug landscape” over the past decade have been found in the United States (Johnston et al., 2009). One likely explanation for this shift is that young people perceive these medications to be less harmful than “street” drugs given that they are legal and also have therapeutic purposes (Friedman, 2006; Levine, 2007). Any prevention program should address what could potentially be a growing trend of use and abuse of medication to “get high” by educating youth and parents about the risks of harm associated with the non-medical use of these drugs.

Other findings in this report suggest that the prime period for prevention programs is between grade 7 and 9 (ages 12-14), as this is the most likely time for the initiation of substance use. As well, the jump between 9th-grade to 10th-grade is another period of increased risk for use. However, behaviours such as drinking, binge drinking, and cannabis use keep increasing with each grade level.

Prevention efforts should include a component that targets youths' beliefs and attitudes about drugs, specifically the risks of physical harms that can occur from use. Increases over time in the perceived risk of harm from using a substance are associated with concurrent and subsequent decreases in the rate of use, and vice versa. Our data show that attitudes and beliefs about risk of harm and disapproval are drug-specific. Thus, any prevention effort should provide drug-specific information.

Finally, the OSDUHS data also suggest a relationship between use and availability, for certain drugs such as alcohol, cannabis, ecstasy, and LSD. That is, past year use and perceived availability have been decreasing in tandem over time. While prevention efforts cannot control access to drugs through peer groups, the availability and accessibility of cigarettes and alcohol can be controlled through stricter government policies. There is strong research evidence showing that reducing access through regulations such as increased taxes, enforcing minimum age laws, and reducing the number of sales outlets can reduce use among youth.

Future OSDUHS Monitoring

Substance use by young people is an ever-changing phenomenon, requiring ongoing monitoring and evaluation. As new drugs come on to the scene, it is important to assess their use and perceptions about them. Monitoring health risk behaviours, such as substance use, over time provides valuable information about determinants, changes, and co-occurrences of the behaviours. These data enable us to evaluate the effects of policies (e.g., smoking bans on school property, zero-tolerance policies), education programs, and whether health objectives are achieved. Finally, scientific surveys such as the OSDUHS provide a useful tool for comparisons across different youth populations.

In summary, great strides were made during the 1980s in reducing drug use among Ontario students, followed by substantial increases in the late 1990s. The past decade has shown a second dip in prevalence rates for most drugs measured in the survey. Despite this progress, we should not be complacent. History has shown that the values and lifestyles of adolescents can change quickly, and so too can the character of drug use. Not only do new drugs emerge regularly, but old ones are rediscovered. Although it is premature to know confidently what the near future holds for adolescent drug use, we can closely monitor changes to ensure that any programmatic responses are based not on sensationalized fears, but rather on sound scientific information.

Readers should note that there is a companion OSDUHS report titled *The Mental Health and Well-Being of Ontario Students*, which addresses trends in other important public health issues such as physical activity, mental health, gambling, and violence. The next release will be in the spring of 2010.

APPENDIX TABLES

Table A1. Definitions of Terms Used in the Report

Term	Definition
Past Year Cigarette Use (“Smoker”)	Smoking less than one whole cigarette or more daily during the past 12 months. Excluded are those who “tried a cigarette.”
Daily Smoking	Smoking at least one whole cigarette daily over the past 12 months.
Past Year Alcohol Use (“Drinker”)	Any alcohol consumed during the past 12 months. Use includes consumption on special occasions, but excludes sips.
Heavy Drinking	Two indicators are used: (1) <u>Binge drinking</u> : drinking 5 or more drinks on the same occasion during the past 4 weeks; (2) <u>Becoming drunk</u> during the past 4 weeks.
Hazardous or Harmful Drinking	Scoring at least 8 out of 40 (Likert scoring) on the World Health Organization’s “Alcohol Use Disorders Identification Test” (AUDIT) screen, which measures heavy drinking and alcohol-related problems during the past 12 months. We restrict the term to “hazardous drinking” for brevity.
Past Year Drug Use (“User”)	Used the drug at least once during the past 12 months. Cases that responded “don’t know what [the drug] is” were considered non-users and remained in the denominator.
Non-Medical Use (NM)	Used the drug without a prescription, or without a doctor’s supervision.
Frequent Drug Use	Used the drug 6 or more times during the past 12 months. Cases that responded “don’t know what [the drug] is” were considered non-users and remained in the denominator.
Any Illicit Drug Use, including Non-Medical Prescription Drug Use	This composite index measures past year use of at least one of the following 24 drugs asked about in the 2009 survey: cannabis, glue, solvents, LSD, PCP, other hallucinogens, cocaine, crack, methamphetamine, crystal methamphetamine, heroin, ecstasy, GHB, Rohypnol, ketamine, jimson weed, salvia divinorum, stimulants (NM), tranquilizers/sedatives (NM), OxyContin (NM), other prescription opioid pain relievers (NM), ADHD drugs (NM), over-the-counter sleeping medication, or over-the-counter cough/cold medication.
Any Illicit Drug Use (for Time Trends)	To examine trends over time in any illicit drug use we use two composite indices based on drugs that were asked about since 1977. The first composite index measures past year use of at least one of the following ten drugs: cannabis, LSD, PCP, other hallucinogens, methamphetamine, cocaine, crack, heroin, stimulants (NM), or tranquilizers/sedatives (NM). A second composite index for any illicit drug use excludes cannabis from the computation.
Any Non-Medical Prescription Drug Use	Non-medical use of at least one of the following five prescription drugs or drug classes once or more often during the past 12 months: OxyContin, other prescription opioid pain relievers, ADHD drugs, other stimulants, or tranquilizers/sedatives.
Potential Drug Use Problem	Reporting experiencing at least 2 of the 6 items on the “CRAFFT” screener, which measures a potential drug use problem that may require treatment (past 12 months time interval).
Potential Cannabis Dependence	Scoring at least 4 out of 15 (Likert scoring) on the cannabis “Severity of Dependence Scale” (SDS). The SDS is a valid and reliable 5-item scale used to screen for drug dependence in adolescent populations.
Elevated Psychological Distress	Reporting experiencing at least 3 of the 12 items on the “General Health Questionnaire” (GHQ). The GHQ measures symptoms of anxiety, depression, and social dysfunction over the past few weeks.

Note: Please see the 2009 OSDUHS Detailed Drug Use Report for specific details and references associated with the scales and screeners used. It is available in PDF format at: www.camh.net/research/osdus.html.

**Table A2. Percentage Using Drug at Least Once in the Past Year, 1999–2009
(Grades 7 to 12)**

	1999	2001	2003	2005	2007	2009
(N)	(4447)	(3898)	(6616)	(7726)	(6323)	(9112)
Cigarettes	28.4 (26.1-30.7)	23.1 (20.3-26.1)	19.2 (17.7-20.8)	14.4 (13.0-15.9)	11.9 (10.7-13.2)	11.7 (10.6-13.0)
Alcohol	66.0 (63.6-68.3)	63.9 (60.8-67.0)	66.2 (64.1-68.4)	62.0 (59.3-64.7)	61.2 (58.9-63.5)	58.2 (55.7-60.6)
Cannabis	28.0 (26.0-30.1)	28.6 (25.8-31.7)	29.6 (27.6-31.6)	26.5 (24.5-28.7)	25.6 (23.7-27.7)	25.6 (24.0-27.3)
Glue	3.8 (3.1-4.7)	3.2 (2.6-4.1)	2.8 (2.3-3.4)	2.3 (1.8-2.9)	2.5 (1.8-3.4)	2.1 (1.6-2.8)
Solvents	7.6 (6.6-8.8)	6.4 (5.3-7.9)	6.1 (5.2-7.2)	5.3 (4.4-6.4)	5.8 (4.7-7.0)	5.3 (4.4-6.3)
LSD	6.8 (6.7-8.1)	4.8 (3.9-5.9)	2.9 (2.4-3.5)	1.7 (1.3-2.3)	1.6 (1.2-2.2)	1.8 (1.5-2.3)
PCP	3.0 (2.4-3.9)	2.8 (2.2-3.7)	2.2 (1.8-2.7)	1.1 (0.8-1.5)	0.7 (0.5-1.0)	0.8 (0.5-1.3)
Hallucinogens (other than LSD, PCP)	12.8 (11.4-14.4)	11.1 (9.6-12.9)	10.0 (8.8-11.4)	6.7 (5.6-8.0)	5.5 (4.6-6.5)	5.0 (4.2-5.9)
Jimson Weed	—	—	—	—	2.6 (1.9-3.4)	2.3 (1.8-3.1)
Methamphetamine (Speed)	5.0 (4.1-6.2)	3.9 (3.1-4.9)	3.3 (2.8-4.0)	2.2 (1.8-2.6)	1.4 (1.1-1.9)	1.4 (1.0-1.9)
Crystal Methamphetamine (Ice)	1.4 (0.8-2.7)	0.6 (0.3-1.1)	1.2 (0.8-1.7)	0.9 (0.6-1.3)	0.8 (0.6-1.1)	0.5 (0.4-0.7)
Cocaine	3.4 (2.8-4.2)	4.4 (3.6-5.4)	4.8 (4.2-5.5)	4.4 (3.7-5.2)	3.4 (2.8-3.9)	2.6 (2.1-3.2)
Crack	2.5 (1.9-3.2)	2.1 (1.6-2.8)	2.7 (2.2-3.3)	2.0 (1.6-2.4)	1.0 (0.8-1.4)	1.1 (0.8-1.4)
Heroin	1.9 (1.5-2.5)	1.1 (0.8-1.5)	1.4 (1.1-1.7)	0.9 (0.7-1.2)	0.9 (0.7-1.3)	0.7 (0.5-0.9)
Ecstasy (MDMA)	4.0 (3.1-5.2)	6.0 (5.0-7.1)	4.1 (3.5-4.8)	4.5 (3.7-5.3)	3.5 (2.9-4.1)	3.2 (2.6-3.8)
GHB	—	1.3 (0.8-2.1)	0.7 (0.4-1.1)	0.5 (0.3-0.9)	0.5 (0.3-1.0)	0.5 (0.2-0.9)
Rohypnol (NM)	—	3.1 (2.0-4.8)	1.6 (1.2-2.2)	1.0 (0.7-1.4)	0.6 (0.3-0.9)	0.7 (0.4-1.2)
Ketamine	—	—	2.2 (1.8-2.9)	1.3 (0.9-1.7)	1.1 (0.7-1.7)	1.6 (1.1-2.3)
OxyContin (NM)	—	—	—	1.0 (0.7-1.5)	1.8 (0.3-2.4)	1.6 (1.3-2.0)
Opioid Pain Relievers (NM)	—	—	—	—	20.6 (18.9-23.5)	17.8 (16.6-18.9)
Stimulants (NM)	7.3 (6.4-8.4)	6.3 (5.4-7.4)	5.8 (5.0-6.6)	4.8 (4.1-5.6)	5.7 (5.0-6.5)	4.8 (4.1-5.5)
Tranquillizers/Sedatives (NM)	2.0 (1.6-2.6)	2.2 (1.6-3.1)	2.2 (1.8-2.7)	1.6 (1.3-2.0)	1.8 (1.4-2.3)	1.6 (1.2-2.0)
OTC Sleeping Medication (NM)	—	—	—	—	4.0 (3.2-5.0)	2.6 (2.0-3.4)
ADHD Drugs (NM)	—	—	—	—	1.0 (0.7-1.5)	1.6 (1.3-2.1)
Steroids (lifetime use)	3.4 (2.7-4.2)	3.8 (3.0-4.8)	3.0 (2.4-3.7)	2.3 (1.9-2.9)	1.3 (0.9-1.9)	1.1 (0.7-1.6)
Any illicit, including cannabis	32.3 (30.2-34.4)	32.5 (29.8-35.3)	32.2 (30.1-34.3)	28.7 (26.6-30.9)	28.7 (26.8-30.8)	27.9 (26.4-29.6)
Any illicit, excluding cannabis	20.5 (18.8-22.4)	18.1 (16.6-19.7)	15.3 (13.9-16.9)	12.1 (10.8-13.6)	11.7 (10.6-12.9)	10.1 (9.2-11.2)

Notes: (1) entries in brackets are 95% confidence intervals; (2) no significant differences 2009 vs. 2007; (3) ^b 2009 vs. 1999 significant difference, $p < .01$ (vs. 2001 for ecstasy and Rohypnol); (4) NM = non-medical use, without a doctor's prescription; (5) "Any illicit" drug includes: cannabis, LSD, PCP, other hallucinogens, methamphetamine, cocaine, crack, heroin, stimulants (NM), and tranquilizers/sedatives (NM). The drugs excluded from the indices are: glue, solvents, crystal methamphetamine, ecstasy, GHB, Rohypnol, ketamine, jimson weed, prescription opioid drugs, prescription ADHD drugs, OTC sleeping medication, and steroids.

Source: OSDUHS, Centre for Addiction & Mental Health

Table A3. Percentage Using Drug at Least Once in the Past Year, 1977–2009 (Grades 7, 9, 11 only)

	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2005	2007	2009
(N)	(3927)	(3920)	(3010)	(3614)	(3146)	(3376)	(3040)	(2961)	(2617)	(2907)	(3072)	(2421)	(2013)	(3389)	(3969)	(3215)	(4424)
Cigarettes	29.2 (26.7-31.8)	35.0 (32.3-37.7)	28.8 (25.4-32.5)	29.0 (25.6-32.6)	23.6 (21.1-26.2)	22.9 (21.1-24.8)	22.2 (20.3-24.2)	20.1 (18.4-22.0)	23.4 (21.8-25.2)	27.3 (25.2-29.5)	27.2 (25.4-29.0)	26.6 (23.5-30.0)	21.2 (17.7-25.2)	17.4 (15.3-19.7)	12.7 (11.1-14.5)	10.8 (9.3-12.6)	9.3 (8.0-10.9)
Alcohol	72.8 (70.4-75.1)	73.7 (71.6-75.8)	70.1 (67.7-72.3)	69.0 (66.1-71.9)	66.3 (64.7-67.9)	65.1 (63.0-67.3)	62.6 (58.8-66.3)	54.3 (51.6-57.0)	53.6 (50.4-56.6)	56.0 (53.4-58.4)	56.9 (53.3-60.4)	62.7 (59.4-66.0)	58.9 (54.1-63.5)	62.9 (60.2-64.4)	57.8 (54.9-60.5)	56.1 (53.0-59.0)	51.2 (47.9-54.4)
Cannabis	21.8 (19.5-24.3)	29.1 (26.1-32.4)	25.1 (22.2-28.2)	21.9 (19.7-24.3)	19.4 (16.4-22.9)	13.8 (10.9-17.3)	11.9 (9.7-14.4)	9.9 (8.7-11.3)	11.5 (10.7-12.4)	21.9 (18.8-25.4)	23.9 (21.9-26.0)	26.8 (23.7-30.1)	26.2 (22.1-30.8)	27.8 (25.4-30.3)	22.2 (20.1-24.5)	22.0 (19.5-24.7)	20.4 (18.4-22.6)
Glue	4.2 (3.6-5.1)	4.9 (4.1-5.8)	3.2 (2.4-4.2)	3.6 (3.2-4.2)	2.3 (1.8-2.8)	2.7 (1.8-4.1)	2.0 (1.7-2.5)	1.2 (0.8-1.9)	1.8 (1.3-2.4)	2.8 (2.3-3.3)	1.7 (1.3-2.2)	4.3 (3.3-5.5)	3.1 (2.2-4.2)	3.2 (2.5-4.0)	2.9 (2.1-4.0)	2.4 (1.6-3.8)	2.2 (1.4-3.6)
Solvents	7.4 (6.5-8.5)	7.2 (6.3-8.2)	4.4 (3.3-5.8)	4.6 (3.8-5.5)	3.1 (2.5-3.7)	4.2 (3.1-5.6)	3.4 (2.8-4.3)	1.8 (1.2-2.7)	2.6 (2.0-3.2)	3.2 (2.7-3.9)	2.8 (2.1-3.7)	8.3 (6.8-10.1)	6.7 (5.4-8.4)	6.6 (5.5-7.8)	5.8 (4.5-7.5)	6.3 (4.8-8.2)	5.4 (4.0-7.1)
LSD	6.0 (5.1-7.1)	9.0 (7.7-10.5)	9.4 (7.6-11.6)	8.5 (7.2-9.9)	7.1 (5.6-8.9)	5.8 (4.2-7.9)	5.4 (3.8-7.4)	4.9 (4.2-5.9)	6.8 (5.8-7.9)	9.5 (7.2-12.5)	7.7 (7.0-8.5)	6.5 (4.8-8.6)	3.6 (2.7-4.7)	6.5 (2.3-3.6)	2.9 (1.3-2.6)	1.8 (1.2-2.5)	1.5 (1.1-2.2)
PCP	—	—	2.4 (1.7-3.4)	2.2 (1.6-2.8)	1.7 (1.3-2.2)	1.4 (0.8-2.3)	1.2 (0.8-1.8)	0.6 (0.3-1.1)	0.6 (0.3-1.2)	1.8 (1.0-3.1)	2.1 (1.4-3.0)	3.2 (2.2-4.5)	2.6 (1.9-3.5)	2.0 (1.6-2.6)	1.1 (0.7-1.6)	0.8 (0.5-1.2)	0.7 (0.4-1.1)
Hallucinogens (other than LSD, PCP)	3.9 (3.2-4.7)	5.2 (4.3-6.4)	4.2 (2.9-6.1)	5.6 (4.4-7.1)	4.5 (3.5-5.8)	4.0 (2.6-6.1)	3.8 (2.7-5.4)	3.0 (2.4-3.7)	2.8 (2.2-3.6)	7.6 (5.5-10.4)	9.6 (8.3-11.2)	11.7 (9.4-14.4)	9.7 (7.7-12.1)	9.5 (8.0-11.2)	5.8 (4.7-7.2)	5.3 (4.4-6.4)	4.4 (3.4-5.8)
Methamphetamine	2.7 (2.2-3.2)	3.7 (3.0-4.4)	2.8 (2.0-3.9)	4.2 (2.4-7.0)	3.2 (2.7-3.9)	3.3 (2.5-4.2)	2.5 (2.0-3.2)	1.9 (1.4-2.5)	2.2 (1.6-3.0)	4.7 (3.4-6.6)	3.7 (3.1-4.5)	4.5 (3.2-6.4)	3.2 (2.4-4.3)	3.6 (2.9-4.4)	2.0 (1.6-2.6)	1.6 (1.2-2.3)	1.2 (0.8-1.7)
Crystal Meth (Ice)	—	—	—	—	—	—	—	0.9 (0.5-1.6)	1.2 (0.5-2.8)	1.7 (1.2-2.5)	†	1.6 (0.6-4.1)	0.5 (0.2-1.5)	1.2 (0.7-2.0)	1.1 (0.7-1.7)	0.9 (0.6-1.4)	0.5 (0.3-0.9)
Cocaine	3.6 (3.0-4.3)	5.3 (4.4-6.2)	4.6 (3.8-5.6)	4.0 (3.1-5.3)	4.0 (3.1-5.3)	3.4 (2.5-4.7)	2.4 (1.7-3.4)	1.7 (1.2-2.4)	1.5 (0.9-2.4)	2.5 (2.1-3.0)	2.7 (2.4-3.1)	3.7 (2.8-4.9)	4.0 (3.1-5.3)	5.1 (4.2-6.1)	4.2 (3.5-5.2)	3.3 (2.6-4.1)	1.9 (1.5-2.6)
Crack	—	—	—	—	—	1.5 (1.0-2.2)	1.3 (0.8-2.0)	1.1 (0.6-1.9)	1.1 (0.6-2.0)	1.8 (1.5-2.3)	2.4 (1.7-3.3)	2.5 (1.7-3.6)	2.4 (1.7-3.2)	3.0 (2.2-3.8)	1.9 (1.5-2.5)	1.3 (1.0-1.8)	1.0 (0.7-1.5)
Heroin	2.0 (1.6-2.6)	2.5 (1.9-3.2)	1.5 (1.0-2.2)	1.8 (1.3-2.5)	1.6 (1.2-2.3)	1.5 (1.0-2.3)	1.2 (0.8-1.9)	1.1 (0.7-1.7)	1.3 (0.9-1.8)	2.1 (1.4-2.9)	1.8 (1.6-2.2)	1.7 (1.2-2.4)	1.3 (0.9-2.0)	1.4 (1.0-1.9)	0.9 (0.7-1.3)	1.1 (0.8-1.7)	0.7 (0.4-1.1)
Ecstasy (MDMA)	—	—	—	—	—	—	—	†	†	2.0 (1.2-3.3)	2.9 (1.7-5.1)	4.3 (3.0-6.2)	5.8 (4.7-7.3)	3.8 (3.2-4.7)	3.9 (3.0-4.9)	3.1 (2.4-4.0)	2.5 (1.9-3.3)
Stimulants (NM)	7.3 (6.4-8.3)	11.0 (9.5-12.6)	11.0 (9.4-12.8)	14.3 (12.2-16.8)	10.9 (9.4-12.5)	7.6 (6.4-8.9)	5.8 (5.0-6.6)	3.8 (2.9-4.8)	5.2 (3.7-7.4)	6.4 (5.3-7.7)	7.2 (6.2-8.3)	6.7 (5.3-8.5)	5.7 (4.6-7.2)	5.4 (4.6-6.3)	4.5 (3.6-5.6)	5.6 (4.8-6.6)	4.5 (3.7-5.6)
Tranquillizers (NM)	4.8 (4.0-5.7)	5.8 (5.0-6.8)	4.6 (3.8-5.6)	5.0 (3.8-6.4)	3.3 (2.6-4.2)	3.0 (2.2-4.0)	2.2 (1.9-2.7)	1.6 (1.2-2.2)	1.0 (0.6-1.7)	1.6 (1.0-2.4)	1.7 (1.4-2.2)	1.8 (1.2-2.6)	1.7 (1.1-2.7)	2.3 (1.8-3.0)	1.7 (1.2-2.3)	1.6 (1.2-2.2)	1.1 (0.8-1.5)
Steroids (lifetime)	—	—	—	—	—	—	1.3 (0.9-1.8)	1.7 (1.4-2.1)	1.6 (1.1-2.4)	1.4 (1.0-2.0)	1.4 (1.0-2.0)	3.1 (2.2-4.3)	3.4 (2.4-4.6)	2.4 (1.8-3.3)	1.7 (1.2-2.5)	1.1 (0.6-1.8)	1.0 (0.5-1.8)
Any illicit, incl. cannabis	26.0 (23.7-28.5)	33.4 (30.4-36.7)	28.0 (25.4-30.8)	26.6 (24.0-29.3)	24.2 (21.0-27.7)	19.3 (16.2-22.8)	16.6 (14.7-18.8)	14.0 (12.6-15.5)	16.4 (14.6-18.3)	25.8 (22.7-29.2)	28.1 (26.2-30.0)	30.8 (27.6-34.2)	30.0 (26.1-34.2)	30.3 (27.9-32.9)	24.4 (22.2-26.7)	25.6 (23.2-28.1)	22.7 (20.7-24.9)
Any illicit, excl. cannabis	15.1 (13.6-16.7)	20.4 (18.4-22.5)	17.0 (15.2-19.0)	20.0 (17.8-22.3)	16.6 (14.4-19.0)	13.7 (11.9-15.8)	11.8 (10.4-13.3)	9.8 (8.7-11.0)	11.8 (9.9-13.9)	17.0 (14.7-19.6)	17.5 (16.0-19.0)	19.2 (16.5-22.3)	16.4 (14.4-18.7)	14.3 (12.6-16.2)	11.2 (9.7-12.9)	11.4 (10.1-12.9)	9.2 (7.9-10.6)

Notes: (1) entries in brackets are 95% confidence intervals; (2) NM = non-medical use, without a doctor's prescription; (3) † estimate suppressed or less than 0.5%; (4) estimates for "Any illicit" drug include cannabis, LSD, PCP, other hallucinogens, methamphetamine (speed), cocaine, crack, heroin, stimulants (NM), and tranquilizers/sedatives (NM). The drugs excluded from the indices are: glue, solvents, crystal methamphetamine, ecstasy, and steroids.

Source: OSDUHS, Centre for Addiction & Mental Health

Table A4. Significant Changes in Past Year Drug Use by Subgroup, 2009 vs. 2007 and 2009 vs. 1999 (Grades 7 to 12)

	Cigarettes	Alcohol	Binge Drinking	Cannabis	Glue	Other Solvents	LSD	PCP	Hallucinogens other than LSD, PCP	Methamphetamine	Crack	Heroin	Ecstasy	Rohypnol (NM)	OxyContin (NM)	Opioid Pain Relievers (NM)	Stimulants (NM)	Any Illicit Drug, including Cannabis	Any Illicit Drug, excluding Cannabis
Total	▽	▽			▽	▽	▽	▽	▽	▽	▽	▽	▽	▽			▽	▽	▽
Males	▽	▽	▽				▽	▽	▽	▽	▽	▽	▽	▽				▽	▽
Females	▽						▽	▽	▽		▽		▽	▽			▽		▽
Grade 7	▽	▽		↓▽						▽								▽	
Grade 8	▽	▽	▽	▽			▽	▽	▽	▽			▽			↓		▽	▽
Grade 9	▽	▽					▽	▽	▽	▽			▽					▽	▽
Grade 10	▽	▽					▽	▽	▽	▽	▽				△				▽
Grade 11	▽						▽	▽	▽	▽			▽					▽	▽
Grade 12	▽						▽		▽	▽							▽		▽
Toronto	▽						▽	▽	▽	▽									▽
North	▽	▽					▽	▽	▽	▽						↓			▽
West	▽	▽					▽	▽	▽	▽	▽	▽	▽	▽			▽	▽	▽
East	▽				▽	▽	▽	▽	▽	▽	▽	▽		△					▽

Notes: (1) ↓ significant decrease in 2009 vs. 2007, p<.01; (2) △▽ significant increase or decrease in 2009 vs. 1999, p<.01 (vs. 2001 for ecstasy and Rohypnol, and vs. 2005 for OxyContin); (3) NM = non-medical use, without a doctor's prescription; (4) "Any Illicit Drug" indices are based on only ten drugs asked about over time; (5) no significant year differences for jimson weed, crystal methamphetamine (Ice), cocaine, GHB, ketamine, ADHD drugs (NM), tranquilizers/sedatives (NM), or OTC sleeping medication, and therefore not presented.

Source: OSDUHS, Centre for Addiction & Mental Health

Table A5: Significant Subgroup Differences in the 2009 OSDUHS

	Cigarettes	Alcohol	Binge Drinking	Cannabis	Glue	Other Solvents	LSD	Hallucinogens other than LSD, PCP	Jimson Weed	Salvia Divinorum	Methamphetamine	Cocaine	Heroin	Ecstasy	Ketamine	OxyContin (NM)	Opioid Pain Relievers (NM)	Stimulants (NM)	Tranquilizers (NM)	OTC Cough/Cold Medication	Any NM Prescription Drug Use	Any Illicit Drug, incl. NM Prescription Drug	
Sex Effect	**	*	ns	***	ns	*	ns	***	ns	***	*	ns	**	ns	ns	ns	***	***	*	ns	***	ns	
	M ↑	M ↑		M ↑		F ↑		M ↑		M ↑	M ↑		M ↑				F ↑	F ↑	F ↑		F ↑		
Grade Effect	***	***	***	***	ns	**	**	***	**	***	***	***	*	***	**	***	**	***	**	ns	***	***	
(compared with previous grade)	8 ↑ 7	8 ↑ 7		8 ↑ 7				8 ↑ 7						8 ↑ 7			8 ↑ 7	8 ↑ 7	8 ↑ 7		8 ↑ 7		
	9 ↑ 8	9 ↑ 8	9 ↑ 8	9 ↑ 8				9 ↑ 8						9 ↑ 8		9 ↑ 8	9 ↑ 8				9 ↑ 8	9 ↑ 8	
	10 ↑ 9	10 ↑ 9	10 ↑ 9	10 ↑ 9						10 ↑ 9		10 ↑ 9		10 ↑ 9					10 ↑ 9				
		11 ↑ 10	11 ↑ 10	11 ↑ 10				11 ↑ 10		11 ↑ 10	11 ↑ 10							11 ↑ 10					
		12 ↑ 11	12 ↑ 11	12 ↑ 11																			
Region Effect	***	**	***	***	*	*	ns	ns	ns	*	ns	ns	ns	ns	ns	**	ns	**	ns	*	ns	ns	
(region compared with Ontario)	T ↓	T ↓	T ↓	T ↓	T ↑	T ↑												T ↓		T ↑			
	N ↑	N ↑	N ↑	N ↑						N ↑						N ↑		N ↑					

Notes: (1) overall tests of effect are based on a univariate chi-square statistic: *p<.05, **p<.01, ***p<.001; (2) subgroup comparisons are based on adjusted logistic regressions; (3) ns=non-significant; (4) NM=non-medical use, without a doctor's prescription; (5) grade effect for glue and solvent use compares to the next grade level; (6) use of PCP, crystal methamphetamine (Ice), crack, GHB, Rohypnol, ADHD drugs (NM), and OTC sleeping medication showed no significant differences according to sex, grade, or region and therefore are not presented.

Source: OSDUHS, Centre for Addiction & Mental Health

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