



**Alcohol Use and Related Problems
Among Students in the Cayman Islands:
CISDUS Findings 1998 - 2006**

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TABLE OF CONTENTS

1.	INTRODUCTION & METHOD.....	4
2.	RESULTS	
	Prevalence of Alcohol Use: Lifetime, Past Year and Past Month.....	6
	Frequency of Drinking Alcohol in the Past Year.....	10
	Binge Drinking in the Past Month.....	12
	New Drinkers and Early Onset of Drinking.....	14
	Hazardous Drinking, Alcohol-Related Problems, and Treatment.....	16
	Perceptions About Alcohol: Availability, Source, Risk, and Disapproval.....	20
3.	COMPARISONS WITH OTHER SURVEYS.....	25
4.	SUMMARY.....	26
5.	APPENDIX.....	30

1.0 INTRODUCTION & METHOD

In this report we describe the extent and patterns of alcohol use and related-problems among students in grades 7 to 12 across the Cayman Islands. The findings are based on the 2006 cycle of the *Cayman Islands Student Drug Use Survey* (CISDUS 2006). Previous survey cycles were conducted in 1998, 2000, and 2002. Therefore, we are able to present data on changes in alcohol use that have occurred over the past 8 years (1998-2006).

This report is one of a series of focused CISDUS reports published by the National Drug Council (NDC) regarding substance use among Cayman Islands students. Readers should also be aware of the NDC's short "CISDUS Briefs," which provide highlights of selected CISDUS findings

Surveys such as CISDUS contribute to a better understanding of both current and changing rates of alcohol and other drug use. Although the survey is based on a core set of questions, changes have been made to reflect contemporary public health issues.

Survey Design

The *CISDUS* employs a census (i.e., a 100% sample) of students enrolled in grades 7-12. In 2006, 2,480 students in the twelve private and public schools were asked to complete anonymous, self-administered questionnaires between February 6th and 10th. Also, 2,187, 2,186, and 1,946 students were interviewed in 2002, 2000 and 1998 respectively. (Please see the Appendix for the details about the procedure and questionnaire).

Although sample surveys are preferable for collecting data in large populations, there are several advantages to complete surveys when the population is small, as is the case for the Cayman Islands school population. First, public acceptance and compliance is often enhanced in complete surveys. In turn, this also strengthens political acceptance and credibility, especially in new research endeavors. Second, data analysis is less complicated because calculation of sampling error is irrelevant. Third, survey administration is easier. And fourth, complete surveys provide the maximum numbers required to study subgroup differences. In sum, complete surveys can increase reliability of collected data and public acceptance of it.

Sample Participation and Characteristics

All twelve middle and high schools in the Cayman Islands participated in the 1998, 2000, 2002 and 2006 surveys. Of the 2,945 enrolled students, 2,480 completed questionnaires in 2006; 2,187 completed questionnaires in 2002; 2,186 completed questionnaires in 2000 and 1,946 completed questionnaires in 1998. Student participation rates were 84% in 2006, 88% in 2002, 94% in 2000 and 86% in 1998, which is comparable to or exceeds other large-scale surveys conducted elsewhere (e.g., Ontario Student Drug Use Survey, 77%; U.S. Monitoring The Future survey, 85%).

As seen in Table 1, the major characteristics of the sample did not change significantly between 1998 and 2006. In sum, the high response rate and comparability between samples suggests a representative sample.

Table 1. Sample Characteristics, CISDUS 1998-2006

	1998		2000		2002		2006	
	Number Interviewed	%	Number Interviewed	%	Number Interviewed	%	Number Interviewed	%
Total	1946		2186		2187		2480	
Male	952	48.9	1063	48.9	1036	48.5	1228	49.7
Female	982	50.5	1111	51.1	1148	51.5	1242	50.3
Grade 7	359	18.4	409	18.7	429	19.6	427	17.3
Grade 8	376	19.3	378	17.3	420	19.2	432	17.5
Grade 9	329	16.9	361	16.5	340	15.5	452	18.3
Grade 10	349	17.9	372	17.0	368	16.8	438	17.8
Grade 11	300	15.4	369	16.9	321	14.7	405	16.4
Grade 12	228	11.7	297	13.6	309	14.1	313	12.7
West Bay	422	21.7	524	24.1	505	23.1	562	22.8
George Town	866	44.5	941	43.3	886	42.9	990	40.2
Bodden Town	390	20.	423	19.5	481	20.6	562	22.8
East End	71	3.6	79	3.6	79	3.7	99	4.0
North Side	76	3.9	77	3.5	75	3.6	84	3.4
Cayman Brac	110	5.7	127	5.8	140	6.0	168	6.8

Notes: sex-year difference: $X^2(3df)=2.6$, $p=0.46$; grade-year difference: $X^2(15df)=23.6$, $p=0.07$; region-year difference: $X^2(15df)=21.9$, $p=0.11$.

Data Analysis, Interpretation and Presentation

Because the survey is based on a complete sample (i.e., a census) there is no sampling error attached to estimates (although estimates still have error based on non-sampling error such as mis-reporting). Thus, the calculation of confidence intervals is inappropriate. Although these data are population derived, there are still important reasons to perform inferential statistical analysis. First, a complete census can be regarded as a sample because it is subject to observational error (rates of ganja use could vary slightly if the census was replicated the following day) and it has a population limited in time and space. Second, random sampling is not a prerequisite for drawing statistical inference. For example, if we were to find numerical differences in alcohol use among districts, we still need to rule out the possibility of chance processes in generating the differences. Consequently, in this report we employ statistical tests, primarily the chi-square (χ^2) test, to ensure that differences are not due to chance processes. We report a difference as statistically significant if the probability is at the .05 level or lower.

In order to analyze changes in substance use across time, we employ logit models that allow us to assess the overall change across the four survey cycles (1998, 2000, 2002, 2006). In addition, we assess the two most relevant point comparisons: (1) we compare the two most recent surveys (i.e., 2006 vs 2002), and (2) we compare the most recent survey (2006) and the first survey in 1998. In addition, to test for differential change according to sex, grade, or district, we assess the year-by-sex, year-by-grade, and year-by-district interactions.

Readers should note the following important points regarding the data analyses in this report, or any survey report: (1) Since there is still the element of chance findings, the element of non-sampling errors (such as mis-reporting), we cannot treat all absolute differences in percentages as meaningful and important; and (2) small percentages are more unreliable than larger percentages.

2.0 RESULTS

Lifetime Alcohol Use, 2006 CISDUS

Alcohol remains the most common drug used by adolescents in the Cayman Islands, with 68.8% of all students surveyed reporting lifetime use. As shown in Figure 1, lifetime use of alcohol does not significantly vary by sex (69.1% of males vs 68.5% of females). As expected, there are significant increases in lifetime drinking prevalence as grade increases, ranging from 45.8% of 7th-graders up to 88.4% of 12th-graders. There are also significant differences among the districts, with students in West Bay, George Town, and Bodden Town most likely to have consumed alcohol in their lifetime (about 70%), whereas students in Cayman Brac (47.6%) were least likely.

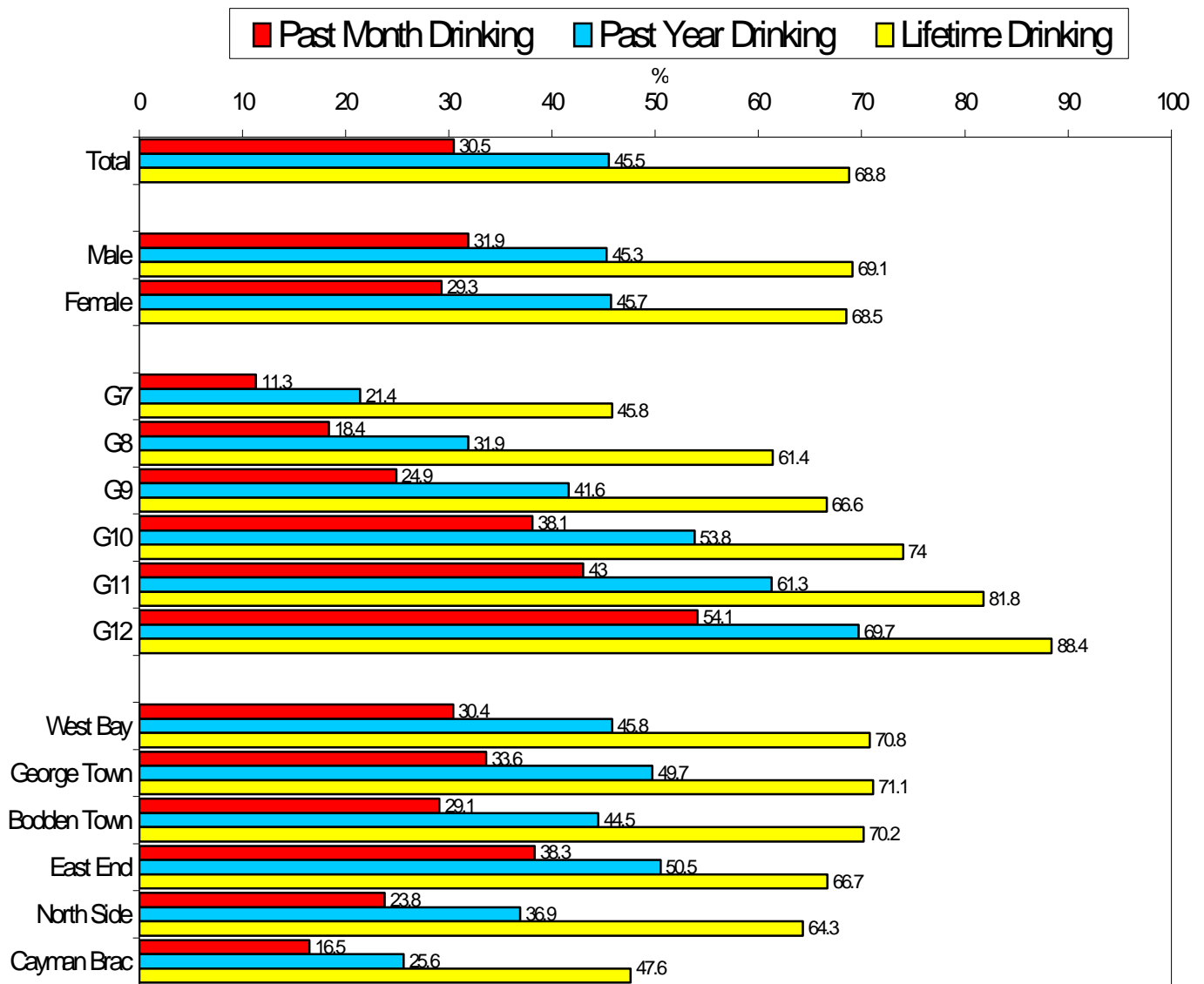
Past Year Alcohol Use, 2006 CISDUS

Almost half (45.5%) of all students reported drinking at least once during the 12 months before the 2006 survey (see Figure 1). There is no significant difference in past year drinking between males (45.3%) and females (45.7%). However, the likelihood of past year drinking significantly increases with grade, from 21.4% of 7th-graders up to 69.7% of 12th-graders. There are also significant differences among the districts, with students in George Town and East End most likely (about 50%) to have consumed alcohol in the past year, whereas those in Cayman Brac (25.6%) were least likely.

Past Month Alcohol Use, 2006 CISDUS

Just under one third (30.5%) of students report drinking alcohol at least once in the month (4 weeks) prior to the survey (see Figure 1). Again, there is no significant difference by sex (31.9% of males, 29.3% of females). The grade variation is significant, ranging from 11.3% of 7th-graders up to 54.1% of 12th-graders. There are significant district differences, with students in East End (38.3%) and George Town (33.6%) most likely to have consumed alcohol in the past month, and students in Cayman Brac (16.5%) least likely.

Figure 1. Percentage of Students Reporting Past Month, Past Year, and Lifetime Alcohol Use, by Sex, Grade and District, 2006 CISDUS



<u>Past Month Drinking (N=2416)</u>	<u>Past Year Drinking (N=2447)</u>	<u>Lifetime Drinking (N=2447)</u>
Sex difference not significant	Sex difference not significant	Sex difference not significant
Grade difference, p<.001	Grade difference, p<.001	Grade difference, p<.001
District difference, p<.001	District difference, p<.001	District difference, p<.001

TRENDS IN PAST YEAR ALCOHOL USE, 1998-2006

As seen in Table 2, past year alcohol use significantly increased from 39.9% in 1998 to 45.5% in 2006, although the increase mainly occurred between the years 2002 (38.1%) and 2006.

- **Sex:** Males showed an increase in past year drinking prevalence between 2002 (37.7%) and 2006 (45.3%). The rate among females in 2006 (45.7%) is significantly higher than 1998 (38.4%) as well as 2002 (38.6%).
- **Grade:** Compared to 1998 estimates, past year drinking was significantly higher in 2006 for students in grades 10 to 12: from 42.0% in 1998 up to 53.8% in 2006 among 10th-graders; from 50.5% to 61.3% among 11th-graders; and 57.5% to 69.7% among 12th-graders. Since 2002, increases in alcohol use were found for students in grades 7, 8, 9, and 12: from 14.6% in 2002 to 21.4% in 2006 among 7th-graders; from 21.1% to 31.9% among 8th-graders; from 32.8% to 41.6% among 9th-graders; and from 61.5% to 69.7% among 12th-graders.
- **District:** George Town students showed a higher prevalence in 2006 (49.7%) compared to 1998. Increases between 2002 and 2006 were significant for students in George Town (from 37.3% up to 49.7%) and East End (30.4% up to 50.5%).

Table 2. Trends in Past Year Alcohol Use (%) by Sex, Grade, and District, 1998-2006 CISDUS

	(N=)	1998 (1946)	2000 (2186)	2002 (2187)	2006 (2447)	Overall Change 1998 to 2006	Comparing 2006 vs 2002	Comparing 2006 vs 1998
Total		39.9	38.0	38.1	45.5	***	***	***
Sex	Male	41.6	40.7	37.7	45.3	**	***	ns
	Female	38.4	35.6	38.6	45.7	***	***	***
Grade	7	20.6	14.2	14.6	21.4	**	**	ns
	8	32.4	20.1	21.1	31.9	***	***	ns
	9	45.2	37.2	32.8	41.6	**	*	ns
	10	42.0	45.8	48.8	53.8	**	ns	***
	11	50.5	53.8	62.6	61.3	**	ns	**
	12	57.5	64.4	61.5	69.7	*	*	**
District	West Bay	39.8	41.2	43.2	45.8	ns	ns	ns
	George Town	38.0	37.7	37.3	49.7	***	***	***
	Bodden Town	44.4	38.6	40.6	44.5	ns	ns	ns
	East End	47.1	30.3	30.4	50.5	**	**	ns
	North Side	45.9	35.1	34.7	36.9	ns	ns	ns
	Cayman Brac	30.0	29.4	24.5	25.6	ns	ns	ns

Notes: (1) * p<0.05; ** p<0.01; *** p<0.001; ns=not significant; (2) sex*year interaction=ns, grade*year interaction=p<.001, district*year interaction=p<.05.

Question: "In the last 12 months, how often did you drink alcohol – liquor (rum, whiskey, etc.), wine, beer, coolers?" (Use includes drinking at a special event, but excludes a sip.)

TRENDS IN PAST MONTH ALCOHOL USE, 1998-2006

In 2006, 30.5% of students reported drinking alcohol at least once during the month before the survey. Past month drinking significantly increased since 1998, from a low of 17.8%, increasing to 22.6% in 2000, remaining stable in 2002 (23.5%), and increasing once again to 30.5% in 2006 (see Table 3).

- **Sex:** Past month drinking has increased over time for both males and females. The rate for males in 2006 (31.9%) is significantly higher than that from 1998 (18.2%) and 2002 (23.0%). The rate for females in 2006 (29.3%) is higher than 1998 (17.6%) and 2002 (23.9%).
- **Grade:** Compared to 1998 rates, past month drinking is significantly higher in 2006 for students in all grades, except for grade 9. Significant increases since 2002 were found for students in grades 7, 8, and 12 only.
- **District:** Increases in drinking between 1998 and 2006 were found to be significant for West Bay, George Town, Bodden Town, and East End. Increases between 2002 and 2006 were significant among students in West Bay, George Town, and East End. Students in North Side and Cayman Brac showed no significant changes over time.

Table 3. Trends in Past Month Alcohol Use (%) by Sex, Grade, and District, 1998-2006 CISDUS

	(N=)	1998 (1869)	2000 (2132)	2002 (2162)	2006 (2416)	Overall Change 1998 to 2006	Comparing 2006 vs 2002	Comparing 2006 vs 1998
Total		17.8	22.6	23.5	30.5	***	***	***
Sex	Male	18.2	25.3	23.0	31.9	***	***	***
	Female	17.6	20.1	23.9	29.3	***	***	**
Grade	7	4.5	7.0	5.9	11.3	***	**	***
	8	12.0	9.2	11.8	18.4	***	**	**
	9	19.3	19.3	22.0	24.9	ns	ns	ns
	10	17.2	25.3	32.3	38.1	***	ns	***
	11	28.4	37.8	39.1	43.0	***	ns	***
	12	32.4	42.3	38.2	54.1	***	***	***
District	West Bay	19.3	20.9	25.1	30.4	***	*	***
	George Town	17.0	22.8	23.2	33.6	***	***	***
	Bodden Town	17.6	25.2	24.9	29.1	***	ns	**
	East End	16.7	20.0	18.2	38.3	***	**	**
	North Side	24.7	19.7	24.3	23.8	ns	ns	ns
	Cayman Brac	15.0	20.2	18.0	16.5	ns	ns	ns

Notes: * p<0.05; ** p<0.01; *** p<0.001; ns=not significant; (2) sex*year interaction=ns, grade*year interaction=p<.001, district*year interaction=ns.

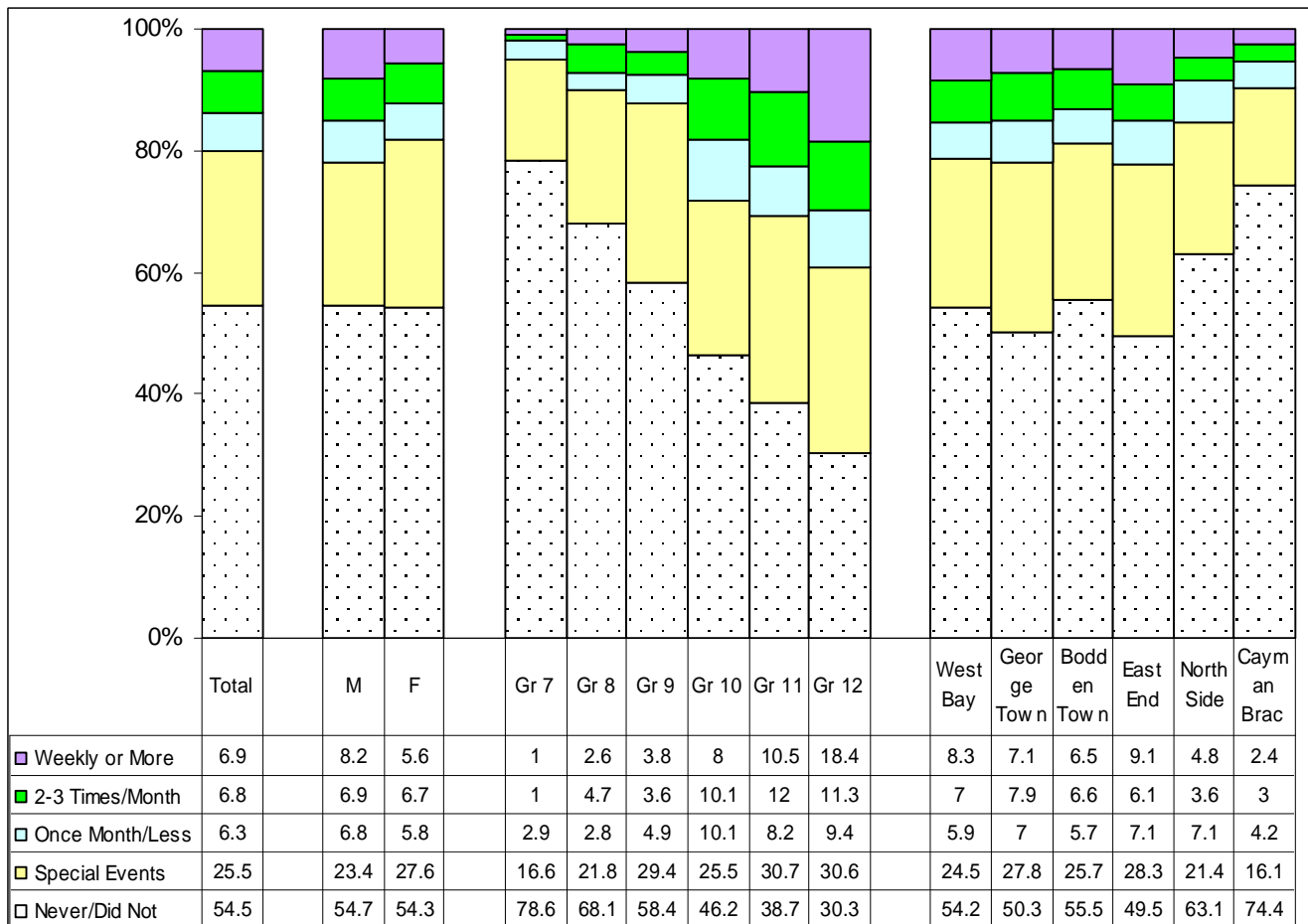
Question: "During the last 4 weeks, how often did you drink alcohol (liquor, wine, beer, or coolers)?"

FREQUENCY OF DRINKING ALCOHOL IN THE PAST YEAR

As seen in Figure 2, the most common pattern of drinking among the total sample of students in 2006 was only at special events (25.5%), while 6.3% reported drinking once a month or less often, 6.8% reported drinking 2 to 3 times a month, and 6.9% reported drinking on a weekly or daily basis (less than 1% reported daily drinking).

There is a significant sex difference as to the frequency of drinking in the past year, with females (27.6%) more likely than males (23.4%) to drink only at special events, whereas males were more likely to report drinking weekly or more frequently compared to females (8.2% vs 5.6%, respectively). There is grade variation, as all frequency categories tend to increase with grade (e.g., weekly or more frequent drinking increases from 1.0% among 7th-graders up to 18.4% among 12th-graders). There is also significant variation by district. Students in the districts of West Bay (8.3%), George Town (7.1%), and East End (9.1%) are most likely to report weekly or more frequent drinking. Students in Cayman Brac are least likely to drink at any frequency.

Figure 2. Frequency of Drinking Alcohol During the Past Year, by Sex, Grade and District, 2006 CISDUS



Notes: sex difference $X^2(4df)=11.6$, $p<.05$; grade difference $X^2(20df)=349.3$, $p<.001$; district difference $X^2(20df)=43.1$, $p<.01$

Frequency Of Drinking Alcohol, 1998-2006

The trends in frequency of drinking alcohol during the 12 months before the survey are presented in Table 4. Over time, there has been a significant drop in the percentage of students reporting that they never drank alcohol or not in the past 12 months (from about 62% in both 2000 and 2002, down to 54.4% in 2006). The percentages reporting drinking at the two highest frequency categories have increased since 1998. For example, the percentage of students who drink weekly or more frequently in 2006 (6.9%) is significantly higher than the percentage found in 1998 (5.0%).

Table 4. Frequency (%) of Drinking Alcohol During the Past Year, 1998-2006 CISDUS (Grades 7-12)

(N=)	1998 (1946)	2000 (2186)	2002 (2187)	2006 (2447)
Never/Not Used in Past 12 Months	60.1	62.0	61.9	54.4
Special Events only	24.5	22.8	21.8	25.5
Once Month or Less Often	6.4	4.7	5.6	6.3
2-3 Times a Month	4.0	5.3	4.6	6.8
Weekly or More Often	5.0	5.2	6.1	6.9

Notes: (1) "Never/Not Used" includes those reporting having a sip to see what it was like; (2) "Weekly or More Often" ranges from once a week to almost every day; (3) $\chi^2(12df) = 56.7, p < .001$.

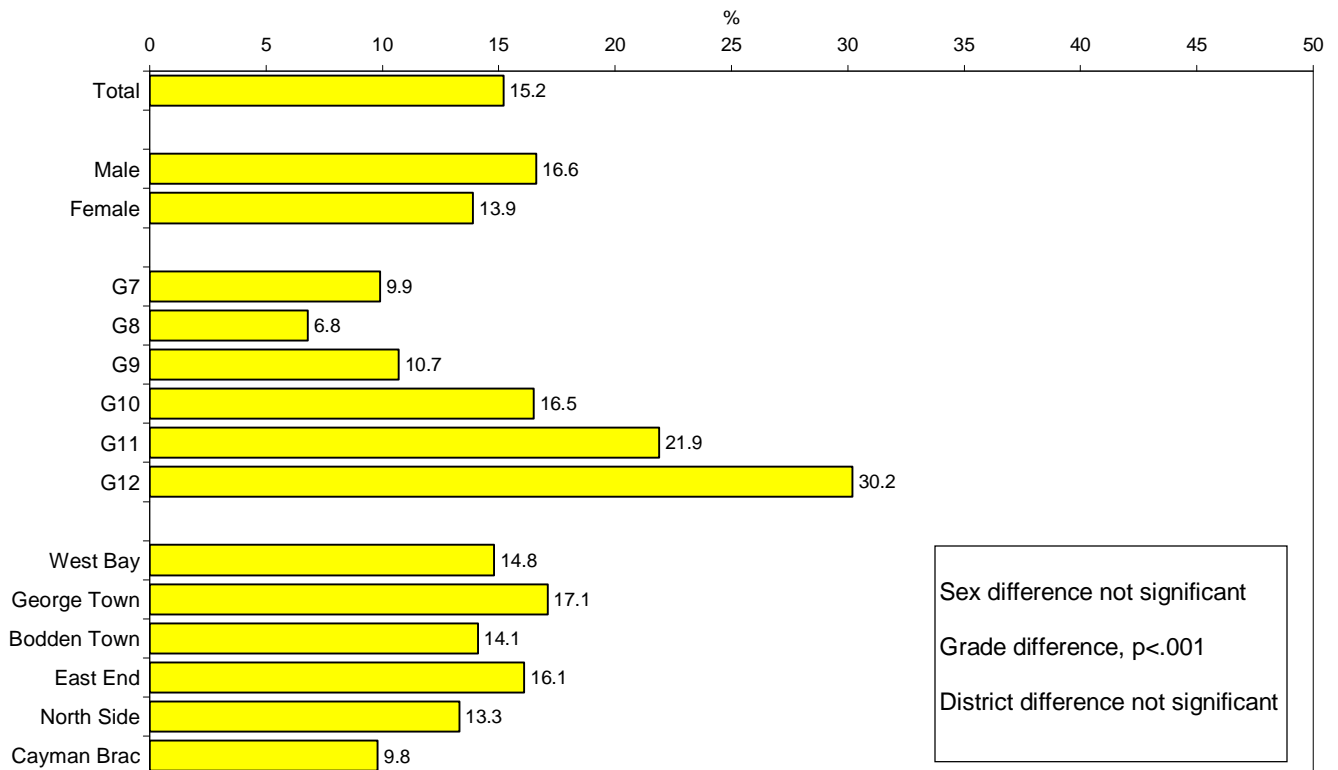
BINGE DRINKING IN THE PAST MONTH

Heavy episodic drinking, commonly referred to as “binge” drinking, is defined as consuming five or more alcoholic drinks at one sitting. This pattern of drinking among youth warrants special attention because of the increased likelihood for harmful consequences such as injury, driving while intoxicated, violence and unsafe sex.

In 2006, 15.2% of students in grades 7 to 12 reported binge drinking at least once in the month before the survey. About 6.3% of students binged only once, 3.7% binged twice, and 5.2% did so three or more times in the past month.

As presented in Figure 3, there is no significant difference in binge drinking between males (16.6%) and females (13.9%). However, binge drinking does significantly increase with grade, from about 10% of students in grades 7 to 9 up to 30.2% of 12th-graders. Despite some variation, there are no significant differences among the six districts.

Figure 3. Percentage of Students Reporting Binge Drinking During the Past Month By Sex, Grade and District, 2006 CISDUS



TRENDS IN PAST MONTH BINGE DRINKING, 1998-2006

Binge drinking among Cayman Island students has significantly increased over time. Specifically, in 1998, 7.2% of students reported binge drinking in the past month. This percentage increased to 12.7% in 2000, remained steady in 2002 at 12.6%, and increased again in 2006, up to 15.2% (see Table 5).

- **Sex:** Both males and females showed increases in binge drinking over time. Among males, the rate increased mainly between 1998 (7.5%) and 2000 (15.4%) and has since stabilized, remaining at 16.6% in 2006. Females show a similar pattern, but with a smaller increase between 1998 (6.9%) and 2000 (10.2%) and a non-significant increase between 2002 (11.3%) and 2006 (13.9%).
- **Grade:** Binge drinking among 7th-graders in 2006 (9.9%) is significantly higher than the rate found in 1998 (1.5%) as well as 2002 (5.4%). There were no significant changes for students in grades 8 and 9. Tenth and 11th-grader showed increases in 2006 compared to 1998. Twelfth graders significantly increased their binge drinking in 2006 (30.2%) compared to 1998 (12.7%) and to 2002 (19.5%).
- **District:** Students in the districts of West Bay, George Town, and Bodden Town all showed significant increases in binge drinking between 1998 and 2006. Between 2002 and 2006, binge drinking remained stable among all districts except for George Town, where the rate increased from 13.0% to 17.1%. (There were no significant changes over time among students in the remaining three districts.)

Table 5. Trends in Past Month Binge Drinking (%) by Sex, Grade, and District, 1998-2006 CISDUS

	(N=)	1998 (1892)	2000 (2158)	2002 (2168)	2006 (2410)	Overall Change 1998 to 2006	Comparing 2006 vs 2002	Comparing 2006 vs 1998
Total		7.2	12.7	12.6	15.2	***	**	***
Sex	Male	7.5	15.4	14.0	16.6	***	ns	***
	Female	6.9	10.2	11.3	13.9	***	ns	***
Grade	7	1.5	6.1	5.4	9.9	***	*	***
	8	3.8	6.1	7.4	6.8	ns	ns	ns
	9	8.8	13.7	11.5	10.7	ns	ns	ns
	10	6.6	12.2	18.9	16.5	***	ns	***
	11	12.8	16.5	16.3	21.9	*	ns	**
	12	12.7	24.3	19.5	30.2	***	**	***
District	West Bay	8.3	10.1	12.4	14.8	**	ns	**
	George Town	7.7	13.8	13.0	17.1	***	*	***
	Bodden Town	4.5	11.8	12.2	14.1	***	ns	***
	East End	5.9	10.4	9.2	16.1	ns	ns	ns
	North Side	8.1	17.1	16.2	13.3	ns	ns	ns
	Cayman Brac	9.3	15.4	11.5	9.8	ns	ns	ns

Notes: * p<0.05; ** p<0.01; *** p<0.001; ns=not significant; (2) (2) sex*year interaction=p<.001, grade*year interaction=p<.01, district*year interaction=ns.

Question: "How many times in the last 4 weeks have you had 5 or more drinks of alcohol on the same occasion?"

NEW DRINKERS AND EARLY ONSET OF DRINKING

New Drinkers, 2006

“New drinkers” refers to those students who had their first alcoholic drink during the past 12 months. In 2006, one-third (33.2%) of students used alcohol for the first time at some point during the year before the survey (see Table 6). There is no significant difference between the percentage of males (33.6%) and females (32.8%) who are new drinkers, nor is there significant grade variation. However, there is significant variation according to district, with North Side most likely to have new drinkers (42.9%), whereas Cayman Brac (21.6%) is least likely.

New Drinkers, 1998-2006

There was a significant increase in the percentage of new drinkers between 1998 (27.3%) and 2006 (33.2%). This increase is significant among males and females. The percentage of new male users increased from 27.1% in 1998 to 33.6% in 2006, and new female users increased from 27.6% in 1998 to 32.8% in 2006. The percentage of new drinkers in 7th-, 8th-, 9th- and 12th-grade has increased over time, but there were no significant changes for grades 10 and 11. Between 2002 and 2006, the percentage increased among 7th-graders (from 19.4% up to 29.8%) and among 8th-graders (from 29.3% up to 36.9%). Since 1998, new drinkers increased in the districts of George Town, Bodden Town, and North Side.

Table 6. Trends in First Use of Alcohol During the Past Year (%) by Sex, Grade, and District, 1998-2006 CISDUS

	(N=)	1998 (1882)	2000 (2134)	2002 (2161)	2006 (2435)	Overall Change 1998 to 2006	Comparing 2006 vs 2002	Comparing 2006 vs 1998
Total		27.3	27.3	30.6	33.2	***	ns	***
Sex	Male	27.1	28.1	31.7	33.6	**	ns	***
	Female	27.6	26.8	29.6	32.8	**	ns	**
Grade	7	21.8	20.4	19.4	29.8	***	***	**
	8	26.6	22.0	29.3	36.9	***	*	**
	9	26.2	37.2	39.6	33.4	**	ns	*
	10	33.7	28.1	34.2	30.9	ns	ns	ns
	11	29.2	30.0	34.9	33.5	ns	ns	ns
	12	25.8	27.1	28.9	34.7	ns	ns	*
District	West Bay	31.1	26.6	26.7	32.0	ns	ns	ns
	George Town	26.9	28.6	32.8	33.9	***	ns	***
	Bodden Town	26.3	25.8	29.8	34.1	*	ns	*
	East End	31.9	34.2	38.2	39.6	ns	ns	ns
	North Side	23.3	29.6	32.9	42.9	ns	ns	**
	Cayman Brac	19.6	19.4	26.1	21.6	ns	ns	ns

Notes: * p<0.05; ** p<0.01; *** p<0.001; ns=not significant; (2) (2) sex*year interaction=ns, grade*year interaction=p<.001, district*year interaction=ns.

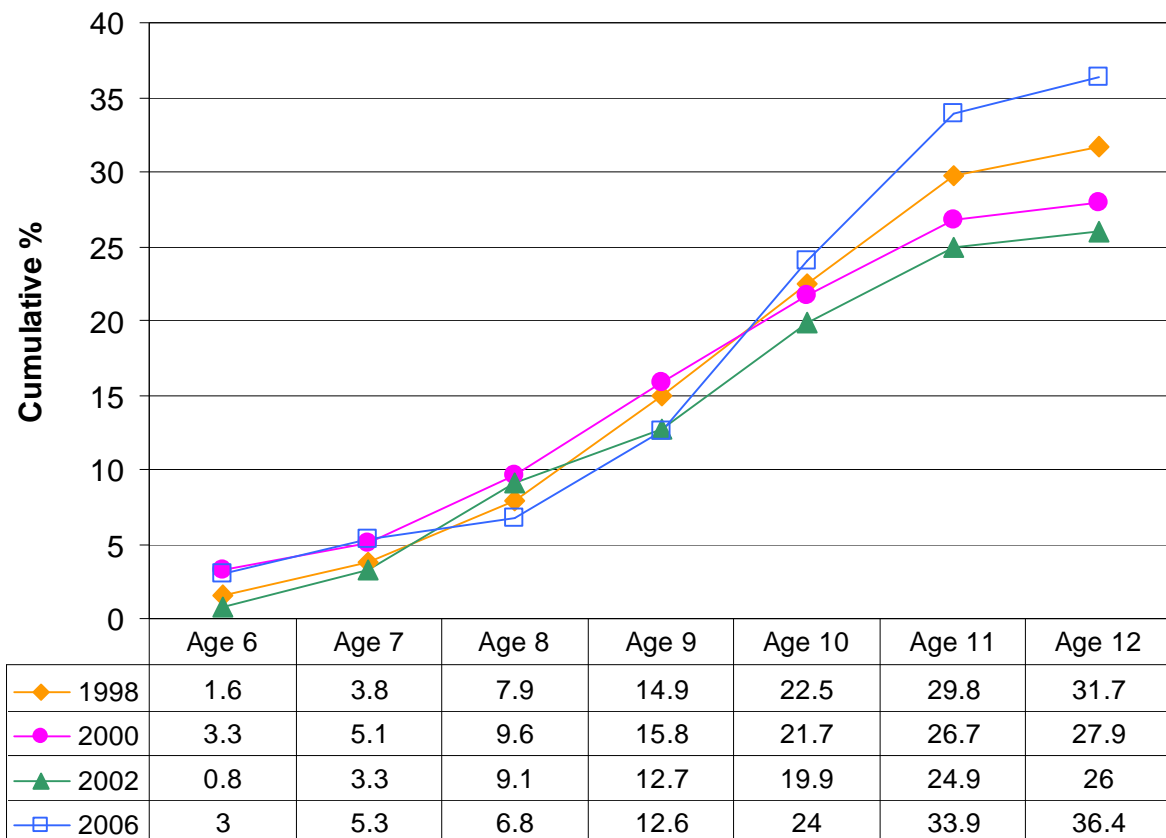
Question: “During the last 12 months, have you tried alcohol (beer, wine or liquor) for the very first time?”

Early Onset of Drinking

One important predictor of future problems with alcohol, or any other substance, is early onset of use. “Early age” of drinking onset is defined here as first drinking alcohol, excluding a sip only, between the ages of 6 and 11. In 2006, about 44% of lifetime drinkers (N=1,428) in all grades reported early onset, that is they had their first drink between the ages of 6 and 11. The average age of first use among those reporting ever drinking alcohol was 11.7 years.

One way to monitor changes in early onset over time is to examine onset among the youngest cohort of students surveyed, namely the 7th-graders. Figure 4 presents the trends in first age of alcohol use among all grade 7 students between 1998 and 2006. Generally, more 7th-graders in 2006 drank at an earlier age than did their counterparts in 1998. For example, the percentage of 7th-graders who report having their first drink by age 11 is higher in 2006 (33.9%) compared to all previous years (e.g., 29.8% in 1998).

Figure 4. Reported First Age of Drinking Alcohol Among All Grade 7 Students, 1998-2006 CISDUS



HAZARDOUS DRINKING, PROBLEMATIC CONSEQUENCES, & TREATMENT

Hazardous Drinking (AUDIT), 2006

The 2000, 2002, and 2006 CISDUS cycles included the World Health Organization’s “Alcohol Use Disorders Identification Test” (AUDIT), which is a 10-item screening tool 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 (e.g., accidents), whereas harmful drinking refers to a pattern of drinking that is already causing damage to one’s health (e.g., alcohol-related injuries). Those with a score of 8 or more (out of 40) are considered to be drinking at a hazardous or harmful level. We restrict the term to “hazardous” for convenience.

Table 7 presents the percentage reporting experiencing the ten AUDIT symptoms, as well as the percentage drinking at a hazardous level in 2006. Among all students, 10.4% are considered to be drinking at a hazardous level. About one-fifth (20.2%) of drinkers drink hazarously.

Males (11.7%) are significantly more likely to drink hazarously compared to females (9.1%), and there are significant increases as grade increases, with 12th-graders (18.6%) most likely to drink hazarously (see Table 8). Although there is some variation by district, these differences are not statistically significant.

Table 7. Percentage of All Students, and of Past Year Drinkers, Reporting Hazardous Drinking Indicators (AUDIT), 2006 CISDUS

	% “yes”	
	All Students (N=2480)	Past-Year Drinkers (N=1116)
<i>Alcohol Intake</i>		
1. Usually consume alcohol:	48.3	--
2. Number of drinks usually consume on typical day when drink (% reporting 2+ drinks):	22.0	43.5
3. Consumed 5 or more drinks on one occasion during the past 12 months:	24.8	45.9
<i>Dependence Indicators (past 12 months)</i>		
4. Were not able to stop drinking once you had started:	7.9	14.6
5. Failed to do what was normally expected from you because of drinking:	5.6	10.2
6. Needed a first alcoholic drink in the morning to get yourself going after a heavy drinking session:	3.1	5.7
<i>Adverse Consequences</i>		
7. Had a feeling of guilt or remorse after drinking, during past 12 months:	8.2	14.0
8. Been unable to remember what happened the night before because you had been drinking, during past 12 months:	9.8	18.1
9. You or someone else ever been injured as a result of your drinking:	11.6	15.8
10. Relative/friend or a doctor/health worker ever been concerned about your drinking or suggested that you cut down:	6.1	9.0
AUDIT 8+ Score:	10.4	20.2

Notes: (1) The “AUDIT” is a screener that measures hazardous and harmful drinking, as indicated by a score of 8 or more out of 40; (2) “Past-Year Drinkers” are those who drank alcohol, excluding a sip, at least once during the past 12 months.

Trends in Hazardous Drinking (AUDIT), 2000-2006

As seen in Table 8, the percentage of all students who drink at a hazardous level in 2006 (10.4%) is significantly higher than that found in 2000 (8.2%), but statistically similar to 2002 (8.8%).

- **Sex:** There was no significant change over time in hazardous drinking among males. The rate among females in 2006 (9.1%) is significantly higher than that from 2000 (6.4%).
- **Grade:** Compared to rates in 2000, hazardous drinking in 2006 was significantly higher among students in grade 7 (1.6% vs 4.4%, respectively), grade 10 (8.1% vs 13.2%), and grade 11 (11.1% vs 16.8%). Students in grade 9 showed a decline in hazardous drinking between 2002 (10.0%) and 2006 (5.6%). There was no change over time for students in grades 8 and 12.
- **District:** Only students in the district of George Town showed a significant change in hazardous drinking over time, increasing from 7.4% in 2000 to 11.0% in 2006. Although there were fluctuations among students in the other districts, these were not statistically significant.

Table 8. Trends in the Percentage of Students Reporting Hazardous Drinking (AUDIT) by Sex, Grade, and District, 2000-2006 CISDUS

	(N=)	2000 (1918)	2002 (1887)	2006 (2227)	Overall Change 2000 to 2006	Comparing 2006 vs 2002	Comparing 2006 vs 2000
Total		8.2	8.8	10.4	*	ns	*
Sex	Male	10.1	9.9	11.7	ns	ns	ns
	Female	6.4	7.8	9.1	ns	ns	*
Grade	7	1.6	2.3	4.4	ns	ns	*
	8	4.2	3.1	4.6	ns	ns	ns
	9	6.1	10.0	5.6	ns	*	ns
	10	8.1	11.2	13.2	ns	ns	*
	11	11.1	14.7	16.8	ns	ns	*
	12	19.8	13.5	18.6	ns	ns	ns
District	West Bay	8.0	8.1	9.2	ns	ns	ns
	George Town	7.4	8.9	11.0	*	ns	*
	Bodden Town	8.6	9.9	11.5	ns	ns	ns
	East End	11.6	4.6	12.8	ns	ns	ns
	North Side	11.9	12.3	4.3	ns	ns	ns
	Cayman Brac	8.0	7.9	6.9	ns	ns	ns

Notes: (1) Hazardous Drinking is defined as a score of 8+ on the AUDIT screener; (2) * p<0.05; ** p<0.01; *** p<0.001; ns=not significant; (3) sex*year interaction=ns, grade*year interaction=p<.05, district*year interaction=ns.

Alcohol-Related Problems (AUDIT), 2006

This section examines problems experienced due to drinking. Seven of the ten items in the AUDIT screener refer to symptoms of hazardous drinking (listed in Table 7, items #4 to 10). The first three of these are considered symptoms of alcohol dependence, whereas the remaining four address adverse consequences due to drinking. In this section, we present the percentage of students reporting one or more of the seven AUDIT symptoms. (Note: the percentage reported here exceeds that of the 8+ AUDIT (p. 16) because this reflects the presence of *any* reported alcohol problem, whereas the scoring used to indicate hazardous drinking is based on frequency scoring).

Among all students in 2006, over one-quarter (27.1%) have experienced at least one alcohol-related problem. There is no significant difference between males (27.2%) and females (27.0%; see Table 9). There is significant variation by grade, increasing linearly between grade 7 (16.2%) and grade 12 (39.6%). There is no significant variation among the districts.

Trends in Alcohol-Related Problems (AUDIT), 2000-2006

As seen in Table 9, the percentage reporting at least one alcohol problem in 2006 (27.1%) is significantly higher than that found in 2000 (21.9%), but statistically similar to 2002 (24.7%).

- **Sex:** Males and females showed increases in one or more alcohol problems in 2006 compared to rates in 2000 (22.6% up to 27.2% in 2006 for males; 21.4% up to 27.0% for females).
- **Grade:** Compared to rates in 2000, reports of alcohol problems in 2006 were significantly higher among students in grade 8 (13.5% vs 20.4%, respectively) and grade 10 (22.0% vs 32.2%). Students in grade 12 showed a higher rate in 2006 (39.6%) compared to 2002 (27.2%). There was no significant change over time for students in grades 7, 9 and 11.
- **District:** Significant increases one or more alcohol-related problems increased between 2000 and 2006 for students in George Town (from 20.9% up to 26.6%) and East End (from 20.3% to 35.4%). Students in the other districts did not show significant changes over time.

Table 9. Trends in the Percentage of All Students Reporting 1 or More (of 7) Alcohol-Related Problems (AUDIT) by Sex, Grade, and District, 2000-2006 CISDUS

	(N=)	2000 (2186)	2002 (2187)	2006 (2480)	Overall Change 2000 to 2006	Comparing 2006 vs 2002	Comparing 2006 vs 2000
Total		21.9	24.7	27.1	***	ns	***
Sex	Male	22.6	25.9	27.2	*	ns	*
	Female	21.4	23.8	27.0	**	ns	**
Grade	7	12.2	17.0	16.2	ns	ns	ns
	8	13.5	20.5	20.4	*	ns	**
	9	23.5	27.4	23.0	ns	ns	ns
	10	22.0	27.2	32.2	**	ns	***
	11	27.6	32.7	34.1	ns	ns	ns
	12	36.7	27.2	39.6	**	***	ns
District	West Bay	21.8	24.0	25.1	ns	ns	ns
	George Town	20.9	24.2	26.6	**	ns	**
	Bodden Town	24.3	27.2	28.6	ns	ns	ns
	East End	20.3	22.8	35.4	*	ns	*
	North Side	27.3	24.0	28.6	ns	ns	ns
	Cayman Brac	20.3	26.4	25.6	ns	ns	ns

Notes: (1) * p<0.05; ** p<0.01; *** p<0.001; ns=not significant; (2) sex*year interaction=ns, grade*year interaction=p<.01, district*year interaction=ns.

Treatment for Alcohol Use, 2000-2006

The 2000, 2002, and 2006 CISDUS cycles queried students about whether they felt that they were in need of treatment for their alcohol use, drug use, or both. As presented in Table 10, in 2006 very few students (1.3% [n=30]) feel that they are in need of alcohol treatment. The percentage has remained stable since 2000. Even fewer students feel that they need treatment for drug use or both alcohol and drugs.

Starting in 1998, the survey asked students whether they had been in treatment in the past 12 months for alcohol use, drug use, or both. In 2006, 2.2% (n=53) of all students report that they received treatment for alcohol use during the 12 months before the survey (Table 10). The percentage reporting alcohol treatment has significantly increased over time, from 0.4% in 1998, up to 2.2% in 2006. The percentage reporting treatment for drug use, or alcohol and drug use, has not significantly changed over time.

Table 10. Percentage of Students Reporting Treatment Need and Treatment Receipt for Substance Use, 1998-2006 CISDUS

	(N=)	2000 (2047)	2002 (2029)	2006 (2361)	
Do you feel that you are in need of treatment?					
Yes, for Alcohol Use	--	1.1	1.4	1.3	
Yes, for Drug Use	--	0.1	0.2	0.4	
Yes, for Both	--	0.2	0.4	0.6	
	(N=)	1998 (1875)	2000 (2051)	2002 (2048)	2006 (2359)
Have you been in treatment in the past 12 months?					
Yes, for Alcohol Use	0.4	1.5	1.4	2.2	
Yes, for Drug Use	0.5	0.9	0.9	0.8	
Yes, for Both	0.4	0.7	0.6	0.8	

Notes: year effect for need treatment: $X^2(6df)=7.4, p=.29$; year effect for received treatment, $X^2(9df)=30.4, p<.001$.

PERCEPTIONS ABOUT ALCOHOL: AVAILABILITY, SOURCE, RISK, AND DISAPPROVAL

Perceived Alcohol Availability, 2006

In this section, we present the percentage reporting that it is “easy” or “very easy” to get alcohol, as well as the reported “usual” source of alcohol. In 2006, 46.8% of all students in grades 7 to 12 reported that it is “easy” or “very easy” to obtain alcohol (see Table 11). There is no significant difference between male (48.7%) and female (45.2%) students. Availability significantly increases with grade, from 21.1% of 7th-graders to 77.6% of 12th-graders reporting that it is easy or very easy to obtain alcohol. There is also significant variation by district, with students in George Town, Bodden Town, and East End most likely to report easy availability of alcohol (about 50%).

Trends in Availability, 1998-2006

The percentage of all students reporting easy alcohol availability 2006 (46.8%) is significantly higher than that found in 2002 (44.0%), but statistically similar to 1998 (45.7%).

- **Sex:** Neither males nor females showed a significant change in reported availability over time.
- **Grade:** Reported availability in 2006 was significantly higher compared to 2002 among grade 7 students (21.1% vs 14.2%). Eighth graders showed a decrease in 2006 (27.3%) versus 1998 (35.9%). Reported availability among 12th-graders in 2006 (77.6%) was significantly higher than the rate found in 1998 (65.8%)
- **District:** Reported availability increased among George Town students between 1998 and 2006 (43.6% vs 49.3%). An increase was also found for students in East End between 2002 and 2006 (30.4% vs 50.5%). Cayman Brac students showed a decline in availability between 1998 and 2006 (48.2% vs 35.7%).

Table 11. Trends in the Percentage of Students Reporting it is “Easy” or “Very Easy” to Obtain Alcohol by Sex, Grade, and District, 1998-2006 CISDUS

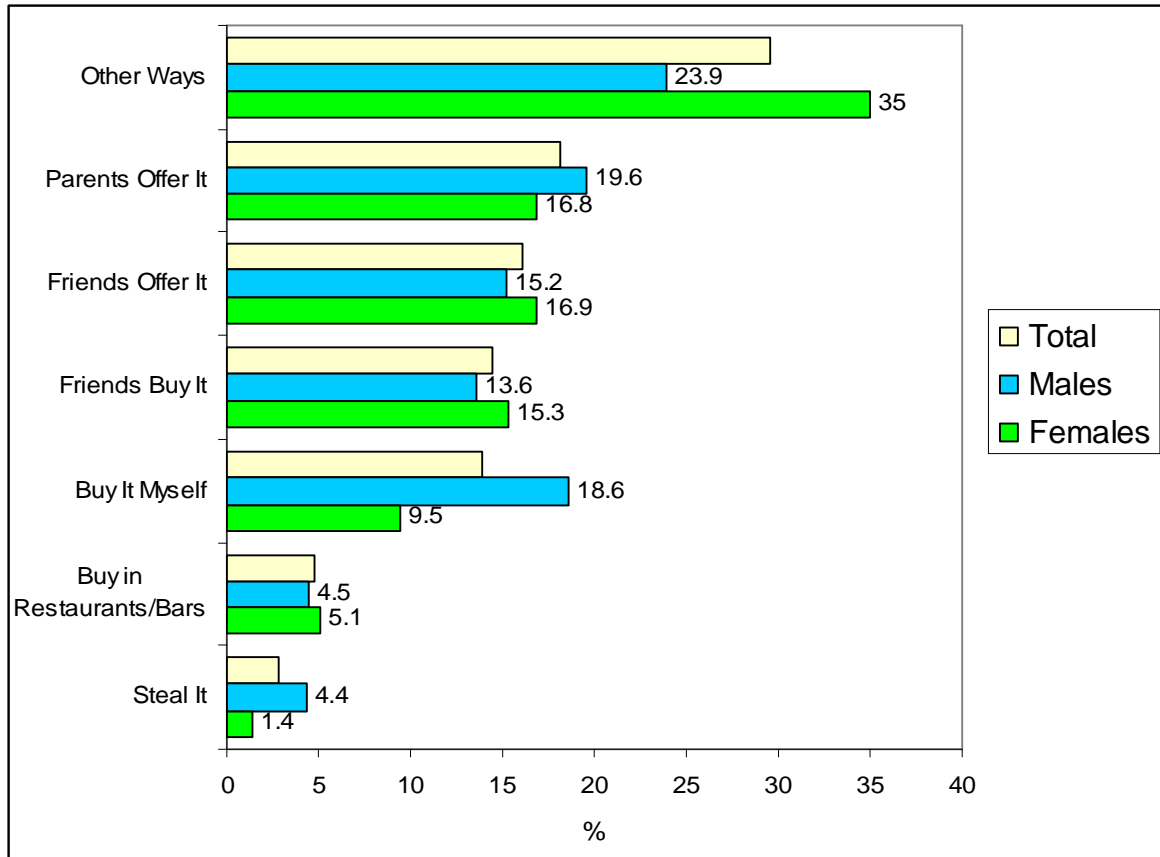
	(N=)	1998 (1946)	2000 (2186)	2002 (2187)	2006 (2480)	Overall Change 1998 to 2006	Comparing 2006 vs 2002	Comparing 2006 vs 1998
Total		45.7	43.0	44.0	46.8	*	*	ns
Sex	Male	47.6	45.3	44.8	48.7	ns	ns	ns
	Female	44.5	41.0	43.4	45.2	ns	ns	ns
Grade	7	18.4	13.0	14.2	21.1	**	**	ns
	8	35.9	21.2	26.2	27.3	***	ns	**
	9	42.9	42.4	40.3	39.8	ns	ns	ns
	10	55.3	51.3	55.4	57.8	ns	ns	ns
	11	67.7	65.3	68.8	67.4	ns	ns	ns
	12	65.8	74.7	74.4	77.6	*	ns	*
District	West Bay	43.6	43.5	43.5	44.7	ns	ns	ns
	George Town	43.6	43.6	46.3	49.3	*	ns	*
	Bodden Town	50.5	43.0	43.9	48.4	ns	ns	ns
	East End	54.9	38.0	30.4	50.5	**	**	ns
	North Side	48.7	45.5	37.3	40.5	ns	ns	ns
	Cayman Brac	48.2	40.6	37.9	35.7	ns	ns	*

Notes: (1) * p<0.05; ** p<0.01; *** p<0.001; ns=not significant (2) sex*year interaction=ns, grade*year interaction=p<.01, district*year interaction=p<.01.

Question: “How easy or difficult would it be for you to get alcohol if you wanted some?”

Students were also asked how they usually get their alcohol. Of those who drank alcohol in the past year, about 14% said they usually buy it themselves, 15% said friends usually buy it, 16% said friends offer it, 5% buy it in restaurants/bars, 18% said parents offer it, 3% report stealing it, and the remaining 30% obtain it in “other” ways. There is some variation by sex: males are more likely to report buying their alcohol, whereas females are more likely to get it from “other” sources not asked about (see Figure 5).

Figure 5. Usual Source of Alcohol by Sex (Past Year Drinkers), 2006 CISDUS



Perceptions of Risk from Daily Drinking

Research shows that students' attitudes and beliefs about substances correlate with both increases and decreases in rates of substance use over time, although there may be a lag effect.

Students were asked how much risk they thought daily drinking poses to one's health and well-being. Table 12 presents the percentage of students who perceive "great risk" of harm to one's health from daily drinking. In 2006, 24.6% of students reported that they believe drinking daily poses a great risk, with females significantly more likely than males to feel this way (29.2% vs 20.0%). The perception of great risk from daily drinking increases with grade, from a low of about 20% of 7th- and 8th-graders up to about one-third of 11th- and 12th-graders. While there is variation by district, this is not significant.

Overall, the perception that daily drinking poses a great risk of harm to one's health is significantly lower in 2006 (24.6%) compared to that reported in 1998 (28.9%).

Table 12. Trends in the Percentage of Students Reporting that Daily Drinking Poses a "Great Risk" of Harm by Sex, Grade, and District, 1998-2006 CISDUS

	(N=)	1998 (1946)	2000 (2186)	2002 (2187)	2006 (2480)		Overall Change 1998 to 2006	Comparing 2006 vs 2002	Comparing 2006 vs 1998
Total		28.9	31.4	25.9	24.6		***	ns	***
Sex	Male	23.3	27.1	22.9	20.0		***	ns	ns
	Female	34.3	35.6	28.7	29.2		***	ns	**
Grade	7	21.2	22.2	19.3	20.6		ns	ns	ns
	8	24.2	23.5	23.1	18.1		ns	ns	*
	9	29.5	30.7	24.7	24.3		ns	ns	ns
	10	29.8	31.5	24.2	22.1		**	ns	*
	11	33.0	38.2	32.7	28.6		*	ns	ns
	12	42.1	46.1	35.3	37.4		*	ns	ns
District	West Bay	25.1	32.3	24.0	23.8		**	ns	ns
	George Town	32.2	31.1	28.7	24.5		***	*	***
	Bodden Town	31.5	30.3	24.1	26.0		ns	ns	ns
	East End	19.7	27.8	19.0	14.1		ns	ns	ns
	North Side	22.4	48.1	20.0	27.4		***	ns	ns
	Cayman Brac	21.8	26.6	30.0	28.6		ns	ns	ns

Notes: (1) * p<.05; ** p<.01; *** p<.001; ns=not significant; (2) sex*year interaction=ns, grade*year interaction=ns, district*year interaction=ns1.

Question: "How much do you think people risk harming themselves physically or in other ways if they take one or two drinks of alcohol nearly every day?"

Disapproval of Daily Drinking

Students were asked whether they disapproved of adults drinking every day. Table 13 presents the percentage of students who “strongly disapprove” of people aged 18 and older drinking alcohol daily. In 2006, almost one-third (32.7%) of all students report that they strongly disapprove of adults drinking on a daily basis. Females (35.9%) are more likely than males (29.6%) to strongly disapprove of daily drinking. Disapproval significantly declines with grade, ranging from a high of 43.3% among 7th-graders down to about 28%-30% of students in grades 10 to 12. There is also significant variation by district, with students in Cayman Brac (42.9%) most likely to strongly disapprove of daily drinking while students in West Bay, George Town, and East End are least likely (about 30%).

Overall, disapproval towards adults drinking on a daily basis has significantly declined over time, from 39.4% in 1998 down to 32.7% in 2006.

Table 13. Trends in the Percentage of Students Reporting that they “Strongly Disapprove” of Adults Drinking Daily by Sex, Grade, and District, 1998-2006 CISDUS

	(N=)	1998 (1946)	2000 (2186)	2002 (2187)	2006 (2480)	Overall Change 1998 to 2006	Comparing 2006 vs 2002	Comparing 2006 vs 1998
Total		39.4	38.4	36.1	32.7	***	**	***
Sex	Male	35.6	35.6	34.4	29.6	**	*	**
	Female	42.9	41.5	37.7	35.9	**	ns	**
Grade	7	42.6	43.3	38.5	43.3	ns	ns	ns
	8	42.6	43.7	40.0	32.6	**	*	**
	9	36.8	38.5	37.4	32.5	ns	ns	ns
	10	38.7	33.1	35.1	29.7	*	ns	**
	11	37.3	37.1	28.7	27.9	**	ns	**
	12	37.3	33.3	35.0	29.7	ns	ns	ns
District	West Bay	38.4	37.6	36.2	29.5	**	*	**
	George Town	41.1	37.5	37.0	30.2	***	**	***
	Bodden Town	40.3	39.5	31.4	37.5	*	*	ns
	East End	31.0	39.2	34.2	30.3	ns	ns	ns
	North Side	23.7	48.1	32.0	33.3	*	ns	ns
	Cayman Brac	45.5	39.1	46.4	42.9	ns	ns	ns

Notes: (1) * p<.05; ** p<.01; *** p<.001; ns=not significant; (2) sex*year interaction=ns, grade*year interaction=ns, district*year interaction=p<.05.

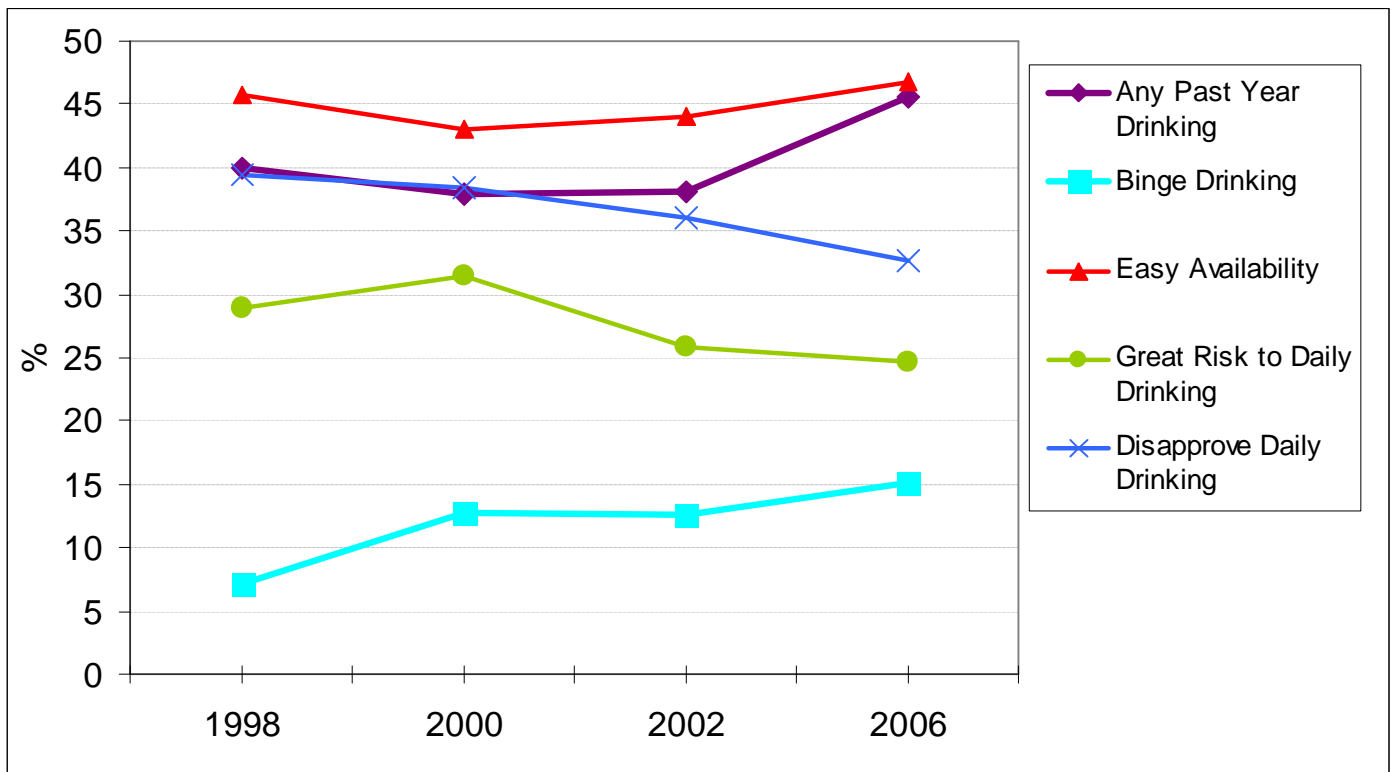
Question: “Do you disapprove of people (18 or older) taking one or two drinks of alcohol nearly every day?”

The Association Between Drinking Alcohol, Reported Alcohol Availability, and Perceptions of Risk and Disapproval

This section presents the relationship over time between students' alcohol use, the reported ease of alcohol availability, and attitudes about alcohol. Research has shown that availability and attitudes are associated with concurrent or subsequent rates of use of that substance. Notably, these associations are correlational and thus, we can only determine whether or not they move together in time, but we cannot know whether one factor causes another.

Figure 6 presents trends in past month binge drinking and any past year drinking by students, as well as reported alcohol availability, perceptions of risk of harm from daily drinking, and disapproval of daily drinking, from 1998 to 2006. Generally, alcohol use increased as reported ease of availability increased, while perceptions of risk and disapproval of drinking gradually decreased. These temporal relationships are especially evident between the years 2000 and 2006.

Figure 6. The Relationship Over Time Between Drinking Behaviours and Perceptions About Alcohol: Availability, Risk and Disapproval, 1998-2006 CISDUS



3.0 COMPARISONS WITH OTHER STUDENT SURVEYS

In this section, we compare the 2006 CISDUS alcohol-related findings with those from similar school surveys in order to gain some perspective as to the extent of drinking among Cayman Islands students. Table 14 compares several alcohol-related behaviors and problems among students in grades 8, 10 and 12 in the Cayman Islands, Ontario, Canada, and the United States.

Generally, past year drinking among students in the Cayman Islands is relatively lower than students surveyed in Ontario, Canada, but similar to students in the United States. The past-month prevalence is lower among students in the Cayman Islands compared to students in Ontario and in the United States. The rates of binge drinking for 8th-graders are similar across the three regions. Tenth graders in the Cayman Islands (17%) are less likely to binge drink compared to Canadian (26%) and American students (22%). Twelfth graders in the Cayman Islands (30%) are less likely to binge drink compared to their Canadian counterparts (43%), but more likely compared to their American counterparts (25%).

Hazardous drinking is similar among 8th-graders in the Cayman Islands and Ontario. However, hazardous drinking is less likely among 10th- and 12th-graders in the Cayman Islands compared to Ontario students. Similarly, the likelihood of reporting at least one alcohol-related problem is similar among the grade 8 groups, but less likely among the 10th- and 12th-graders in the Cayman Islands compared to Ontario.

Table 14. Alcohol-Related Behaviors and Problems for Grades 8, 10, and 12: Comparing the 2006 CISDUS, 2005 OSDUS, and 2006 MTF Survey Findings

	Grade 8			Grade 10			Grade 12		
	2006 CISDUS	2005 OSDUS	2006 MTF	2006 CISDUS	2005 OSDUS	2006 MTF	2006 CISDUS	2005 OSDUS	2006 MTF
Past Year Drinking	31.9	44.3	33.6	53.8	69.6	55.8	69.7	81.8	66.5
Past Month Drinking	6.8	27.4	17.2	16.5	47.9	33.8	30.2	64.5	45.3
Binge Drinking	6.8	7.4	10.9	16.5	26.2	21.9	30.2	42.5	25.4
Hazardous Drinking	4.6	5.5	n/a	13.2	17.7	n/a	18.6	30.2	n/a
1+ Alcohol Problems	20.4	17.8	n/a	32.2	37.1	n/a	39.6	50.1	n/a

Notes: (1) OSDUS is the *Ontario Student Drug Use Survey*, which was conducted in Ontario, Canada; MTF is the *Monitoring the Future* survey, which was conducted across the USA; (2) the time frame for binge drinking is past month for the CISDUS and OSDUS, and the past 2 weeks for the MTF; (3) Hazardous Drinking is defined as is defined as a score of 8+ on the AUDIT screener; (4) 1+ Alcohol Problems is defined as reporting one or more of the seven AUDIT problems.

4.0 SUMMARY

As with all studies, there are some limitations which must be acknowledged before any discussion of results and implications can take place. Self-reported data cannot be easily verified. However, under conditions of anonymity, such as class administration, there is evidence that reports of substance use are reasonably accurate. Nevertheless, we must accept that self-reported substance use rates are underestimated to some unknown degree. Fortunately, underreporting would likely not change over time, and thus estimates of change remain valid and unbiased. The high response rate of the study has increased the validity of the results by reducing the bias due to non-responses from students present or absent from school. And finally, this study cannot be generalized to adolescents who are not attending school, for example drop-outs, street youth and adolescents in the workplace.

Table 15 summarizes the subgroup differences found in the 2006 CISDUS for the main alcohol-related measures.

- § There are few sex differences for drinking behaviors, with the exception that males are more likely to drink hazardously. Females are more likely to perceive daily drinking as risky and to disapprove of daily drinking.
- § Grade or age is an important discriminator. Generally, as grade increases so does the likelihood of drinking, binge drinking, and related problems. The availability of alcohol and the perception of daily drinking as risky increases with grade, while disapproval of daily drinking decreases with grade.
- § There are several outcomes that differ by district. Generally, students in Cayman Brac are less likely to drink, less likely to report alcohol availability, and more likely to disapprove of daily drinking. Another pattern is that students in George Town and East End are more likely to drink and to report alcohol availability, and less likely to disapprove of daily drinking.

Table 16 summarizes the main trends found in this report, comparing 2006 to 2002 and to 1998, for the total sample of students as well as by subgroup. The majority of the trends are negative in that they indicate increases in drinking and related problems over time, and therefore should be viewed as warnings for public health professionals and those who work with adolescents.

- § Past year alcohol use increased from 39.9% in 1998 to 45.5% in 2006, although the increase mainly occurred between 2002 (38.1%) and 2006 (45.5%).
- § Drinking on a weekly or more frequent basis in the past year was higher in 2006 (6.9%) compared to 1998 (5.0%).

- § Past month drinking has significantly increased since 1998, from a low of 17.8%, increasing to 22.6% in 2000, remaining stable in 2002 (23.5%), and increasing once again to 30.5% in 2006.
- § Binge drinking has increased over time, from 7.2% of students in 1998, to 12.7% in 2000, remaining steady in 2002 at 12.6%, and increased again in 2006, up to 15.2%
- § There has been an increase in the rate of new drinkers (first time users of alcohol) per year, from 27.3% in 1998 to 33.2% in 2006.
- § The percentage of students who drink at a hazardous level in 2006 (10.4%) is significantly higher than that found in 2000 (8.2%), but similar to 2002 (8.8%).
- § The percentage reporting at least one alcohol problem in 2006 (27.1%) is significantly higher than that found in 2000 (21.9%), but similar to 2002 (24.7%).
- § The percentage of all students reporting easy alcohol availability 2006 (46.8%) is significantly higher than that found in 2002 (44.0%), but statistically similar to 1998 (45.7%).

Table 15. Significant Subgroup Differences in the 2006 CISDUS

	Past Year Drinking	Past Month Drinking	Binge Drinking	New Drinkers	Hazardous Drinking	1+ Alcohol Problems	Availability of Alcohol	Great Risk to Daily Drinking	Disapproval of Daily Drinking
Males vs Females	ns	ns	ns	ns	*	ns	ns	***	***
					M -			F -	F -
Overall Grade Effect	***	***	***	ns	***	***	***	***	***
	Increases with grade	Increases with grade	Increases with grade		Increases with grade	Increases with grade	Increases with grade	Increases with grade	Decreases with grade
Overall District Effect	***	***	ns	**	ns	ns	*	ns	**
Lowest:	Cayman Brac	Cayman Brac		Cayman Brac			Cayman Brac		West Bay George Town East End
Highest:	George Town East End	East End		North Side			George Town Bodden Town East End		Cayman Brac

Notes: overall tests of effect are based on a univariate chi-square statistic: *p<.05, **p<.01, ***p<.001, ns=non-significant.

Table 16. Significant Changes Over Time by Subgroup: 2006 vs. 2002 and 2006 vs. 1998, CISDUS

	Past Year Drinking	Past Month Drinking	Binge Drinking (past month)	New Drinkers	Hazardous Drinking	1+ Alcohol Problem	Availability of Alcohol	Great Risk to Daily Drinking	Disapproval of Daily Drinking
Total	- r	- r	- r	r	r	r	-	s	- s
Males	-	- r	r	r		r			- s
Females	- r	- r	r	r	r	r		s	s
Grade 7	-	- r	- r	- r	r		-		
Grade 8	-	- r		- r		r	s	s	- s
Grade 9	-			r	-				
Grade 10	r	r	r		r	r		s	s
Grade 11	r	r	r		r				s
Grade 12	- r	- r	- r	r		-	r		
West Bay		- r	r						- s
George Town	- r	- r	- r	r	r	r	r	- s	- s
Bodden Town		r	r	r					-
East End	-	- r				r	-		
North Side				r					
Cayman Brac							s		

Notes: (1) - significant increase or decrease in 2006 vs. 2002, p<.05;

(2) r s significant increase or decrease in 2006 vs. 1998, p<.05 (2006 vs. 2000 for the Hazardous Drinking and 1+ Alcohol Problems outcomes)

5.0 APPENDIX

PROCEDURES

With the Ministry of Education's approval, the National Drug Council (NDC) requested permission to survey students, grades 7 to 12, from every public and private high school in the Cayman Islands. In some schools, agreement to participate was conditional upon approval from school boards, teachers and parents. All twelve schools agreed to participate in the survey. An informational flyer was distributed to teachers and parents and students a week before the survey. Unless notified by a parental letter all students were included in the survey.

Volunteers from community service organisations and private corporations agreed to assist with the survey administration. In an effort to standardize survey administration, volunteers attended a training session, which lasted between 20-30 minutes one week prior to conducting the survey, on procedures and guidelines for conducting CISDUS. Two exceptions to these procedures occurred for special needs students with reading difficulties and for Spanish speaking students. In both of these cases, students were read the questions in small groups and recorded the answers themselves. In addition to ensure standardization of administration across islands, seven volunteers were also trained in Cayman Brac to administer the survey. All students recorded their responses directly on the questionnaire, which was then sent to the Institute for Social Research at York University, Toronto for data entry.

THE CISDUS QUESTIONNAIRE

The 2006 CISDUS questionnaire consisted of a total of 148 items presented in booklet form. Most items are in a multiple-choice response format. Students are instructed to choose one answer only, and to not put their names on the questionnaire. The average completion time for the CISDUS is about 45 minutes.

The questionnaire includes two broad areas: substance use outcomes (e.g., prevalence, frequency and consequences of use) and potential risk factors.

Substance Use:

- Lifetime and past year use of alcohol, tobacco, ganja and other drugs
- Problems related to alcohol, tobacco, ganja and other drugs
- New Users and onset of use.

Risk Factors and Correlates of Substance Use:

- Socio-demographic (e.g., sex, age, grade level)
- Family factors (e.g., family structure, parental monitoring)
- School factors (e.g., school performance and attachment)
- Environmental factors (e.g., drug availability, friends' use)
- Psychological health (e.g., self-esteem, depression).

QUESTIONNAIRE DEVELOPMENT: 1998 to 2006

The CISDUS questionnaire is based on an extensive development process, including international and national expert review, expert content review, and student debriefing pilot studies.

1. The initial development of the questionnaire in 1998 began with the evaluation of procedures and items employed by international studies including the Centre for Addiction and Mental Health's *Ontario Student Drug Use Survey*, the American *Monitoring The Future* survey and general guidelines developed by the World Health Organization. Representatives of NDC and CAMH evaluated items for cultural appropriateness and policy and informational needs.
2. National experts then assessed the content of the initial pool of items. The School Committee of the NDC reviewed and amended the questionnaire to ensure cultural and policy relevancy.
3. The questionnaire was administered to three classes (grades 7, 9 and 10) at the George Hicks High School in February 1998. (These students were re-sampled in the full survey because their pilot participation was also anonymous). The results of the pilot study were used to further revise the questionnaire, which was shortened considerably based on timing and content data.

SUBSTANCE USE MEASURES & DEFINITIONS

The CISDUS reports primarily emphasize the prevalence of substance use, i.e., the percentage of students who report using a given drug during the 12 months before the survey. It is important to note that prevalence does not imply regular, frequent or problematic use, but it is an important first-order epidemiological indicator of the size of the population that has, at minimum, tried a substance.

Primary Substance Use Measures Described in the CISDUS Reports

Cigarette Smoking	Percentage smoking more than one cigarette during the last 12 months before the survey
Alcohol Use	Percentage drinking alcohol (liquor, wine or beer) during the 12 months before the survey. Use includes drinking at special events (e.g., weddings, Christmas, etc.) and excludes those who tried a sip of alcohol
Ganja Use	Percentage using ganja (herb or marijuana) at least once during the last 12 months
Inhalant Use	Percentage inhaling glue or solvents in order to get high at least once during the last 12 months
Any Illicit Drug Use (including and excluding ganja)	Percentage reporting use of any of the following illicit drugs at least once during the last 12 months: ganja, sedatives, heroin, methamphetamine ("speed"), crystal methamphetamine ("ice"), stimulants, tranquilizers, LSD, other hallucinogens, cocaine, crack, or MDMA ("ecstasy"). A similar variable with ganja excluded is also presented.