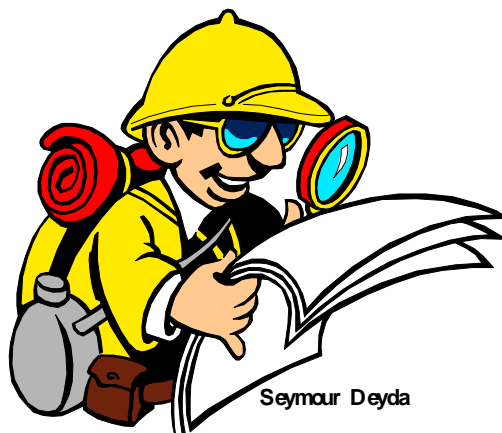


## Understanding, Analyzing, and Presenting Your YRBS Data

The Youth Risk Behavior Survey (YRBS) results in your report binder will be of great interest to many people in your state or district. Students, parents, school administrators, policymakers, and the general public will find the results relevant and useful. This brochure is designed to assist you in understanding, analyzing, and presenting the results of your YRBS. This brochure has three major sections:

- Understanding Your Data - This section describes the two major parts of your report binder – Survey Results and Survey Documentation. This section also describes additional data sources you can use to supplement your YRBS data.
- Analyzing Your Data - This section describes how to compare subgroup results and provides guidelines for doing further analysis of your data, including comparing data from two survey years.
- Presenting Your Data - This section includes guidelines for developing accurate and effective graphics and suggested methods of data presentation.



# Understanding Your Data

Effective reporting of your YRBS results enables you to provide a broad audience with factual information on the priority health-risk behaviors of students in your state or district. Concrete data-supported recommendations can be made to education agencies, public health officials, parents and those who assist in the development of your health education programs. This section of the booklet provides information to help you understand the two major parts of your YRBS results report binder – Survey Results and Survey Documentation. In addition, this section describes additional data sources to supplement your YRBS report.

## Youth Risk Behavior Survey Report Binder

The section describes the information in your report binder:

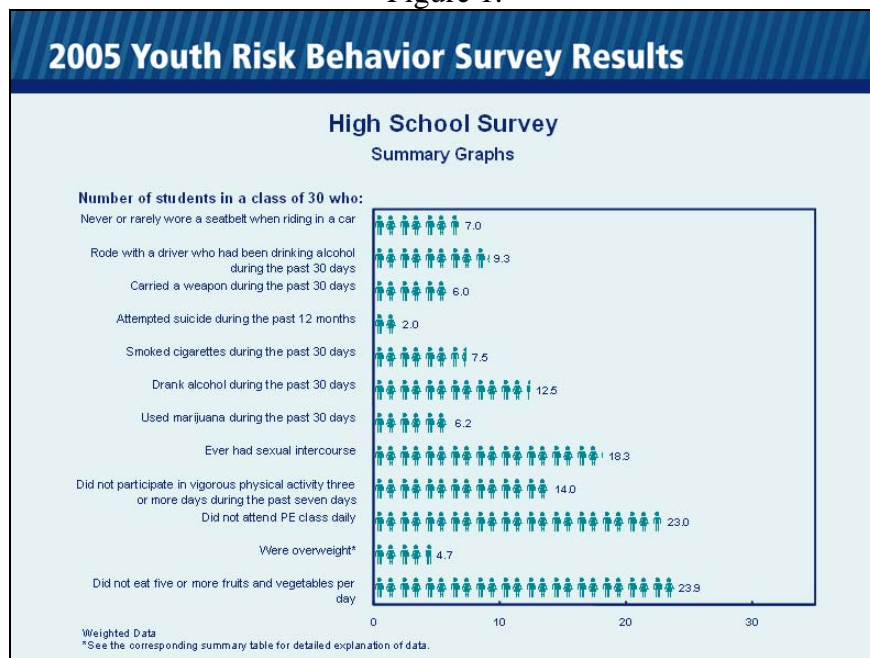
- Survey Results
  - Summary Results
  - Demographic Table
  - Summary Tables
  - Detail Tables
  - Graphs
  - Trend Report (if applicable)
- Survey Documentation
  - Questionnaire
  - Using Your Data
  - Data Analysis Resources
  - Sampling and Weighting
  - CD-ROM Contents

## SURVEY RESULTS

**Summary Results:** The Summary Results includes both the Survey Summary and the Summary Graphs. The **Survey Summary** provides information on the number of students and the number of schools that participated in your survey, when the survey was administered, and the number of

questions on your questionnaire. The school, student, and overall response rates are given, as well as a description of the sample by gender, grade, and race/ethnicity. Also included is a brief description of the Youth Risk Behavior Surveillance System. There are two sets of **Summary Graphs**. The first set shows the number of students in a class of 30 that participated in positive health-related behaviors and in health risk behaviors. The second set of graphs shows the percent of students who participated in health-related behaviors and in health risk behaviors. Figure 1 is the graph showing the number of students practicing health risk behaviors in a class of 30.

Figure 1.



While these summary graphs are a good place to begin looking at your data, the Demographic Table, the Summary Tables, and the Detail Tables provide detailed information on all of the questions from your survey.

**Demographic Table:** The Demographic Table (Figure 2) presents the number and percentage of students by gender, age group, grade, and race/ethnicity. The footnote provides the number of students who did not report their gender. This demographic table also contains your total sample size. In the example below, the total sample size is 1,487 and is outlined in blue. The number of

observations in each summary and detail table will add up to this number, if you include the number of missing observations reported in the footnote. The red outlined cell in Figure 2 shows that the number of 10<sup>th</sup> grade males, aged 15 or younger is 47 and that they represent 3.8% of the sample size.

The rows provide the number of observations and percentages for the overall sample, for males, and for females. Those three groups are subdivided to provide, in rows, the number of observations and percentages by grade and race/ethnicity. The columns provide the number of observations and percentages by age group. The ‘missing’ column represents the number of missing observations for all age groups.

Figure 2.

2006 YOUTH RISK BEHAVIOR SURVEY RESULTS

**High School Survey  
Demographic Table**

		Age Group									
		Overall		15 or younger		16 or 17		18 or older		Missing	
		N	Weighted Percentage	N	Weighted Percentage	N	Weighted Percentage	N	Weighted Percentage	N	Weighted Percentage
Overall	Total	1,487	100.0	450	34.8	726	49.8	304	15.0	7	
Grade	9th	383	30.6	320	25.4	63	5.2	0	0.0	0	
	10th	341	26.0	126	9.0	212	16.7	3	0.3	0	
	11th	317	22.5	3	0.2	281	20.0	31	2.2	2	
	12th	440	20.4	0	0.2	168	7.7	269	12.5	3	
	Other	1	0.1	0	0.2	0	7.7	1	0.1	0	
	Missing	5		1		2		0		2	
Race/Ethnicity	African American	665	48.3	176	14.7	323	24.6	161	8.7	5	
	Hispanic/Latino	14	0.4	4	0.1	7	0.2	3	0.1	0	
	White	749	49.6	251	19.3	374	24.4	124	5.9	0	
	All other races	37	0.9	10	0.3	16	0.4	11	0.2	0	
	Multiple races	16	0.4	8	0.2	5	0.1	3	0.1	0	
	Missing	6	0.4	1	0.1	1	0.1	2	0.1	2	

Note: There were 5 students who did not provide data on gender.

1

2006 YOUTH RISK BEHAVIOR SURVEY RESULTS

High School Survey  
Demographic Table

		Overall		15 or younger		Age Group		18 or older	Missing	
		N	Weighted Percentage	N	Weighted Percentage	16 or 17				
						N	Weighted Percentage			
<b>Male</b>	Total	690	48.8	198	16.3	345	24.6	145	7.7	2
Grade	9th	185	15.4	149	12.3	36	3.1	0	0.0	0
	10th	149	12.9	47	3.8	100	8.9	2	0.2	0
	11th	167	10.8	2	0.1	144	9.2	20	1.4	1
	12th	187	9.5	0	0.1	63	3.2	123	6.2	1
	Missing	2	0	0	0	2	0	0	0	0
Race/Ethnicity	African American	314	23.9	72	6.5	159	12.6	81	4.8	2
	Hispanic/Latino	5	0.1	2	0.1	2	0.1	1	0.0	0
	White	339	23.7	113	9.3	172	11.6	54	2.7	0
	All other races	23	0.6	5	0.2	11	0.3	7	0.1	0
	Multiple races	5	0.2	5	0.2	0	0.3	0	0.1	0
	Missing	4	0.3	1	0.1	1	0.1	2	0.1	0

Note: There were 5 students who did not provide data on gender.

2

2006 YOUTH RISK BEHAVIOR SURVEY RESULTS

High School Survey  
Demographic Table

		Overall		15 or younger		Age Group		18 or older	Missing	
		N	Weighted Percentage	N	Weighted Percentage	16 or 17				
						N	Weighted Percentage			
<b>Female</b>	Total	792	50.8	252	18.5	379	25.0	158	7.2	3
Grade	9th	196	15.0	171	13.1	25	1.9	0	0.0	0
	10th	192	13.1	79	5.2	112	7.8	1	0.1	0
	11th	150	11.7	1	0.1	137	10.7	11	0.9	1
	12th	253	10.9	0	0.1	105	4.5	146	6.3	2
	Missing	1	0	1	0	0	0	0	0	0
Race/Ethnicity	African American	349	24.2	104	8.3	162	11.9	80	3.9	3
	Hispanic/Latino	8	0.2	2	0.0	5	0.1	1	0.0	0
	White	410	25.9	138	9.9	202	12.8	70	3.2	0
	All other races	14	0.3	5	0.1	5	0.1	4	0.1	0
	Multiple races	11	0.3	3	0.1	5	0.1	3	0.1	0

Note: There were 5 students who did not provide data on gender.

3

**Summary Tables:** Each Summary Table (Figure 3) represents one survey question or supplemental variable and provides data for the ‘response of interest’ for that question. ‘The response of interest’ is generally the percentage of students who engaged in a given behavior. Specific information on the ‘response of interest’ is in the Data Processing and Editing Procedures document in the Data Analysis Resources section of the report binder. The question number is either a QNxx or a QNword. The QNxx corresponds to the standard YRBS question

number. Site added questions begin with QN88. The QNword corresponds to supplemental variables. The Map Form in Survey Documentation provides a cross-walk between your questionnaire and the standard YRBS question number if you modified the core YRBS questionnaire.

There are three columns of data in each summary table: one for the total sample, one for males, one for females. In the Summary Table in Figure 3, the set of columns for the total sample is outlined in purple. The first column in each set contains the weighted or unweighted percentages. If your data are weighted, the percentages can be used to describe the entire high school or middle school population of your district or state (or any other population from which you selected your sample). If your data are unweighted, the Summary Tables provide unweighted percentages. These refer only to students who participated in your survey.

The next column in each set contains the 95% confidence intervals. If your data are not weighted, this column is not included in your report. A **confidence interval** is a range of values within which the "true" percentage lies. A 95% confidence interval means that if a survey were repeated many times, the "true" value would fall within the interval 95% of the time. The confidence interval is related to the number of observations and the survey design. Be cautious about reporting results with a "wide" confidence interval. For the YRBS, wide confidence intervals are common for the "Hispanic" and "Other" race/ethnicity categories and for the "18 or older" age category, because many sites survey a small number of students in these categories.

Under the column heading "N" is the number of students responding to each response category (i.e., unweighted responses).

The first row of each Summary Table contains overall percentages, confidence intervals, and "N" for the whole sample and separate results by gender. Subsequent rows contain results by age group, grade, and race/ethnicity for the total sample and by gender.

Footnotes provide the following information:

- the number of observations with missing data, that is, the number of students who did not respond or whose response was deleted during the data editing process

- an explanation of the symbol (N), which is used as a column heading to indicate the number of unweighted responses (number of students responding)
- an explanation of the symbol (-), which is used if there are fewer than 100 observations in a cell

Figure 3.

2006 YOUTH RISK BEHAVIOR SURVEY RESULTS

**High School Survey  
Summary Table - Weighted Data**

Q8: Among students who rode a bicycle during the past 12 months, the percentage who never or rarely wore a bicycle helmet

	Total			Males			Females		
	Percentage	95% confidence interval	N	Percentage	95% confidence interval	N	Percentage	95% confidence interval	N
<b>Total</b>	95.7	( 94.2 - 97.2)	729	97.4	( 96.4 - 98.4)	423	93.1	( 90.1 - 96.1)	308
<b>Age</b>									
15 or younger	96.6	( 93.8 - 99.4)	251	97.2	( 94.4 - 100.0)	138	95.7	( 92.2 - 99.3)	113
16 or 17	95.8	( 93.8 - 97.7)	338	97.9	( 96.2 - 99.6)	203	92.1	( 87.6 - 96.7)	133
18 or older	93.0	( 89.5 - 96.5)	138	-	-	81	-	-	56
<b>Grade</b>									
9th	97.1	( 94.6 - 99.6)	221	98.4	( 96.1 - 100.0)	128	-	-	91
10th	94.5	( 91.2 - 97.8)	180	97.1	( 94.5 - 99.9)	102	-	-	78
11th	95.0	( 91.9 - 98.1)	144	-	-	89	-	-	55
12th	95.6	( 91.6 - 99.7)	181	96.5	( 91.2 - 100.0)	103	-	-	78
<b>Race/Ethnicity</b>									
African American	95.7	( 93.9 - 97.6)	348	97.1	( 95.2 - 99.0)	206	93.5	( 89.5 - 97.5)	140
Hispanic/Latino	-	-	10	-	-	4	-	-	5
White	95.8	( 92.9 - 98.6)	338	97.8	( 96.0 - 99.7)	193	92.7	( 87.5 - 97.9)	145
All other races	-	-	22	-	-	14	-	-	8
Multiple races	-	-	9	-	-	4	-	-	5

Note: There were 758 students who were excluded from this analysis or who did not provide usable data for Q8.  
 N = Number of unweighted observations.  
 - = fewer than 100 cases.

The QNword variables are supplemental variables that are calculated based on results from one or more than one question. The following is a list of those variables and where their summary table appears in your report. You will not have these supplemental variables if you modified or deleted any of the questions needed to generate those variables.

2005 High School Supplemental Variables

- qnfrcig - Percentage of students who smoked cigarettes on 20 or more of the past 30 days. This variable is based on responses to standard question 30 and appears after question 30.
- qnanytob - Percentage of students who smoked cigarettes or cigars or used chewing tobacco, snuff, or dip on one or more days during the past 30 days. This variable is based on responses to standard questions 30, 36, and 38, and appears after question 38.

- qnrovwgt - Percentage of students who were at risk for becoming overweight (i.e., at or above the 85<sup>th</sup> percentile but below the 95<sup>th</sup> percentile for body mass index, by age and sex.) This variable is based on responses to standard questions 1, 2, 6, and 7 and appears after question 65.
- qnovwgt - Percentage of students who were overweight (i.e., at or above the 95<sup>th</sup> percentile for body mass index, by age and sex.) This variable is based on responses to standard questions 1, 2, 6, and 7, and appears after qnrovwgt.
- qnfrvg - Percentage of students who ate five or more servings per day of fruits and vegetables during the past seven days. This variable is based on questions standard 71, 72, 73, 74, 75, and 76, and appears after question 76.
- qnminpa - Percentage of students who had not participated in at least 20 minutes of vigorous physical activity on three or more of the past seven days and had not participated in at least 30 minutes of moderate physical activity on five or more of the past seven days. This variable is based on responses to standard questions 78 and 79 and appears after question 79.
- qnnopa - Percentage of students who had not participated in any vigorous or moderate physical activity during the past seven days. This variable is based on responses to standard questions 78 and 79 and appears after qnminpa.
- qndlype - Percentage of students who attended physical education (PE) classes daily in an average week when they were in school. This variable is based on responses to standard question 82 and appears after question 82.
- qnasatck – Among students with current asthma, the percentage who had an episode of asthma or an asthma attack during the past 12 months. This variable is based on responses to standard questions 86 and 87 and appears after question 87.

#### 2005 Middle School Supplemental Variables

- qnfrcig - Percentage of students who smoked cigarettes on 20 or more of the past 30 days. This variable is based on responses to standard question 20 and appears after question 20.
- qnanytob - Percentage of students who smoked cigarettes or cigars or used chewing tobacco, snuff, or dip on one or more days during the past 30 days. This variable is



based on responses to standard questions 20, 24, and 25 and appears after question 25.

- qnrovwgt - Percentage of students who were at risk for becoming overweight (i.e., at or above the 85<sup>th</sup> percentile but below the 95<sup>th</sup> percentile for body mass index, by age and sex.) This variable is based on responses to standard questions 1, 2, 6, and 7 and appears after question 37.
- qnovwgt - Percentage of students who were overweight (i.e., at or above the 95<sup>th</sup> percentile for body mass index, by age and sex.) This variable is based on responses to standard questions 1, 2, 6, and 7, and appears after qnrovwgt.
- qndlype - Percentage of students who attended physical education (PE) classes daily in an average week when they were in school. This variable is based on responses to standard question 47 and appears after question 47.

**Detail Tables:** Detail Tables provide results for every response option for every question in separate rows. Each question has three Detail Tables: results for the entire sample (Figure 4), for all males, and for all females. The Detail Tables consist of a column for the overall sample and columns for each of the respondent categories of age group, grade, and race/ethnicity. The first row of each response option contains the weighted or unweighted percentages. The next row contains the "N" (the number of unweighted responses for that category). Question numbers match the Summary Table numbers. Figure 4 shows results for the overall sample.

Footnotes provide the following information:

- the number of observations with missing data, that is, the number of students who did not respond or whose response was deleted during the data editing process
- an explanation of the symbol (N), which is used as a column heading to indicate the number of unweighted responses (number of students responding)
- an explanation of the symbol (-), which is used if there are fewer than 100 observation in a cell

Figure 4.

2006 YOUTH RISK BEHAVIOR SURVEY RESULTS

**High School Survey**  
Detail Table - Weighted Data

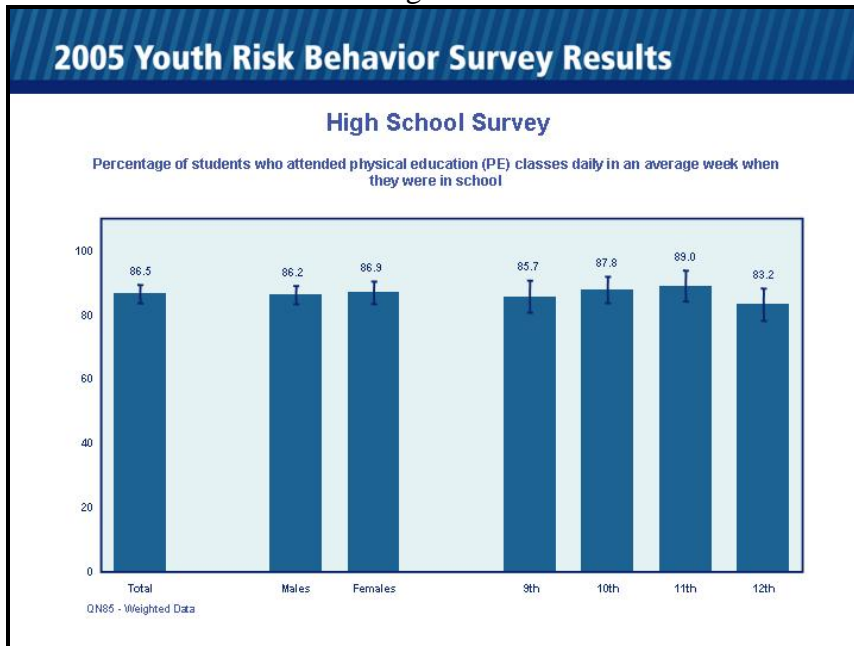
Q8. When you rode a bicycle during the past 12 months, how often did you wear a helmet?

Overall	Overall	Age			Grade				Race/Ethnicity				
		15 or younger	16 or 17	18 or older	9th	10th	11th	12th	African American	Hispanic/Latino	White	All other races	Multiple races
Did not ride a bicycle	% 48.1	42.7	50.4	52.7	40.9	43.8	53.7	58.5	43.7	-	52.7	-	-
	N 732	194	374	161	157	154	165	255	301	4	409	15	7
Never wore a helmet	% 48.2	53.2	46.8	41.4	55.2	51.7	42.9	38.4	52.5	-	43.7	-	-
	N 675	233	318	122	207	165	133	167	324	10	312	19	8
Rarely wore a helmet	% 1.5	2.2	0.7	2.6	2.2	1.3	1.1	1.2	1.4	-	1.6	-	-
	N 21	9	5	7	8	4	3	6	9	0	11	1	0
Sometimes wore a helmet	% 0.7	0.5	0.7	1.2	0.9	1.0	0.0	0.9	1.0	-	0.4	-	-
	N 10	2	4	4	3	3	0	4	6	0	3	1	0
Most of the time wore a helmet	% 0.6	0.2	0.8	0.9	0.0	1.0	1.1	0.5	0.7	-	0.5	-	-
	N 9	1	6	2	0	3	4	2	4	0	4	1	0
Always wore a helmet	% 0.9	1.3	0.6	1.2	0.8	1.1	1.2	0.5	0.7	-	1.1	-	-
	N 14	6	5	3	3	5	4	2	5	0	8	0	1
Total	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	-	-
	N 1,461	445	712	299	378	354	309	436	649	14	741	37	16

Note: There were 26 students who did not provide usable data for Q8.  
N = Number of unweighted observations.  
- = Fewer than 100 cases.

**Graphs:** There is a graph for every question and supplemental variable. Each graph provides information for the total population, for males and females, and for each grade. If your data are weighted, there is an I-bar that shows the confidence interval. The actual percentage is presented above each bar. An example of a graph with weighted data is shown in Figure 5. The graphs are on the CD ROM as a PowerPoint presentation.

Figure 5.



**Trend Report:** If your 2005 data are weighted and you have at least one other previous year with weighted data, your report will include a Trend Report and Trend Analysis Report document. The Trend Report includes prevalence estimates from 2005 and previous years with weighted data. The Trend Report indicates if there has been any significant change over time and whether that change was linear or quadratic. The Trend Analysis Report document describes the criteria for generating a Trend Report, explains the Trend Report column headings, and describes how to interpret the results.

## **SURVEY DOCUMENTATION**

**Questionnaire:** This section includes your 2005 YRBS questionnaire, a Map Form (if you modified your questionnaire), and the 2005 YRBS Item Rationale. The Map Form provides the following information for your questionnaire: Summary information about your questionnaire, a table that compares the standard question numbers to your site's question numbers, and a table with your questions in the order of the standard questions followed by any site-added questions. The Item Rationale can be used to provide background information on the importance of YRBS questions.

**Using Your Data:** This section contains this booklet -- "Understanding, Analyzing, and Presenting Your YRBS Data."

**Data Analysis Resources:** This section includes the Codebook, the Data Processing and Editing Procedures document, and a Sample SAS/SUDAAN program.

The **Codebook** provides the following information about the data files on your CD-ROM:

- Data location, which is the beginning and ending position of the variable on the data set. This column is useful for the ASCII file only.
- Variable name on the data set.
- Question, code, and label which are the question text, the response data code, and the response labels.
- Unweighted frequency, which is the number of actual students who chose a specific response option. These are unweighted counts even if the data are weighted. The

- unweighted frequencies in this table are the same as the value given for N in the Overall Detail Table for each response category for each question.
- Weighted (or unweighted) percent which is the percentage of students across your site who engaged in a specific behavior. The percentages in the codebook are the same as the percentages in the Overall Detail Table for each response category for each question.

The **Data Processing and Editing Procedures** document has two parts – Editing and Calculated Variables. **Editing** describes the single question edits; the height, weight, and BMI edits; the logical consistency edits; and the subversion of records. **Supplemental Variables** describes the race/ethnicity calculation; the BMI percentile, overweight, and risk of becoming overweight calculations; and the dichotomous and supplemental variable calculations for high school and middle school.

The **Sample SAS/SUDAAN Program** provides an example of a SAS and SUDAAN program that can be used with the SAS data set and format library included on the CD-ROM. The sample program includes code to assign locations, create a temporary data set containing the weighted records, sort the data in preparation for SUDAAN PROC DESCRIPT, and run PROC DESCRIPT for a single variable. It also includes the nest statement necessary to specify the complex sample design to SUDAAN.

**Sampling and Weighting:** This section includes the Sample Description and Weighting Procedures, the 2005 Weighting Procedures Document, the Design Effects Document, and the Sample Statistics table.

The **Sample Description and Weighting Procedures** provides a description of the sample, the response rates for schools and students as well as the overall response rate, a description of the formula used in weighting your sample (if your data are weighted), and a recommendation on how to interpret your results.

The **2005 Weighting Procedures Document** provides detailed information on how the data were weighted.

The **Design Effects Document** describes sampling error and provides an explanation of the ‘design effect.’

The **Sample Statistics Table** provides the average design effect for the survey and, for each standard question, the percent, standard error, 95% confidence interval, number of valid responses, and the design effect.

**CD-ROM Contents:** A CD-ROM is included with your report. This section provides the **CD-ROM Table of Contents**. All tables and text documents in your report are included on the CD-ROM as PDF files. The graphs are included as a Power Point file. The data files are available in SAS, SPSS, MS Access, and ASCII formats. The PDF files can be opened, viewed, and printed with Adobe Acrobat Reader software. Acrobat Reader is free and is included on the CD. It also can be downloaded from the Adobe website at <http://www.adobe.com>.

## **SUPPLEMENTAL DATA SOURCES**

Combining data from your YRBS and other information will present a clearer and more complete picture of what your results tell you about your state or district. Information from other sources is readily available.

### **Health Outcome Data**

**Morbidity and Mortality Data:** The CDC publishes annual mortality data on the 10 leading causes of death in the United States by age, sex, race, and ethnicity in National Vital Statistics Reports. This report is available at [www.cdc.gov/nchs](http://www.cdc.gov/nchs). The most current version of this report can be found at [http://www.cdc.gov/nchs/data/dvs/nvsr52\\_09p9.pdf](http://www.cdc.gov/nchs/data/dvs/nvsr52_09p9.pdf)

**Health Indicators:** The CDC publishes State Health Profiles for each state and the District of Columbia which presents mortality, health indicators, demographic characteristics, and prevention and control efforts on a state-by-state basis. This report is available at <http://www.cdc.gov/nchs/dataawh/stprofiles.htm>.

**HIV and AIDS Data:** The CDC publishes the HIV/AIDS Surveillance Report that provides information on the prevalence and incidence of HIV and AIDS for each state and the District of Columbia. This report is available at <http://www.cdc.gov/hiv/stats/2003SurveillanceReport.pdf>.

**Other Health Outcome Data:** State and local health departments can provide data on a variety of health outcomes, such as HIV infection, teen pregnancies, sexually transmitted diseases, and leading causes of death. Including this kind of information in a YRBS report will highlight the relationship between health risk behaviors and health outcomes.

### **National Risk Behavior Data**

**National Youth Risk Behavior Survey:** The CDC conducts biennially a YRBS on the prevalence of risk behaviors including unintentional injuries and violence, suicide ideation and attempts, tobacco use, alcohol and other drug use, sexual behaviors, dietary behaviors, and physical inactivity among a nationally representative sample of high school students. The data are published in a Morbidity and Mortality Weekly Report Surveillance Summary. The reports are available at [www.cdc.gov/yrbs](http://www.cdc.gov/yrbs).

**National Youth Tobacco Survey (NYTS):** The CDC conducted a NYTS among a nationally representative sample of high school students in Spring 2004. Prior to 2004, the American Legacy Foundation conducted the survey. The reports are available at [www.cdc.gov/tobacco/youth.htm](http://www.cdc.gov/tobacco/youth.htm).

**National Survey on Drug Use and Health (NSDUH) (formerly the National Household Survey on Drug Abuse (NHSDA):** The Substance Abuse and Mental Health Services Administration (SAMHSA) conducts annually the NSDUH on the prevalence, patterns, and consequences of drug and alcohol use in the general U.S. civilian non-institutionalized population, age 12 and older. Information is available at <http://oas.samhsa.gov/nhsda.htm>

**Monitoring the Future (MTF):** The Survey Research Center in the Institute for Social Research at the University of Michigan, through a research grant from the National Institutes of Health,

conducts annually the MTF on the prevalence of tobacco, alcohol, and drug use behaviors, attitudes, and values of 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade students. The reports are available at [www.monitoringthefuture.org](http://www.monitoringthefuture.org).

### **State and Local Risk Behavior Data**

**Youth Tobacco Survey (YTS):** State and local health departments periodically conduct a YTS among a representative sample of high school students. The reports are available at [www.cdc.gov/tobacco/youth.htm](http://www.cdc.gov/tobacco/youth.htm).

### **School Policy and Program Data**

**School Health Policies and Programs Study (SHPPS):** The CDC conducts SHPPS every 6 years among all states and the District of Columbia, and among a representative sample of school districts and schools. SHPPS provides information about health education, physical education, health services, mental health and social services, food service, school policy and environment, faculty and staff health promotion, and family and community involvement. The reports are available at [www.cdc.gov/shpps](http://www.cdc.gov/shpps).

**School Health Profiles (Profiles):** State and local education and health departments conduct biennially a School Health Profiles among a representative sample of middle schools and senior high schools. Profiles provides information about the provision of health education; the content of health education courses; school health policies related to HIV infection/AIDS, tobacco use prevention, unintentional injuries and violence, physical activity, and nutrition; physical education; asthma management activities; and family and community involvement. The reports are available at [www.cdc.gov/nccdphp/dash/profiles](http://www.cdc.gov/nccdphp/dash/profiles).

## Analyzing Your YRBS Data

You can use the data in your YRBS report to prepare state- or district-level reports and presentations. This section describes how you can use data in this report to compare subgroups from one survey year and how you can compare results across two survey years.

The CD-ROM contains the data from your 2005 YRBS in SAS, SPSS, MS Access, and ASCII formats. Those data files can be used along with the documentation to conduct additional analyses of the current year data. They can also be used with data from previous YRBS surveys. Given the complex sample design, you need to use a statistical software package, such as SUDAAN<sup>1</sup> or STATA<sup>2</sup>, which accounts for the clustered sample. Sample SAS and SUDAAN programs are located in the Data Analysis Resources section of your report.

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<sup>1</sup> Documentation for SUDAAN is available from Research Triangle Institute, 3040 Cornwallis Road, Research Triangle Park, NC 27709.

<sup>2</sup> Documentation for STATA is available from STATA Corporation, 4905 Lakeway Drive, College Station, TX 77845.



## Comparing Subgroup Results from Any One Survey Year

Follow these guidelines to determine if you can compare subgroup results from any one survey year: Use the results reported in the Summary Tables

1. Are the data weighted?
  - a. No - STOP! The comparison should not be made.
  - b. Yes - Continue.
2. Write in the question for which subgroups are being compared.

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3. Write in the subgroups of interest (e.g., males and females or 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grade students) on the chart below.
4. Write in the confidence intervals for each estimate on the chart below.

**Subgroups of Interest**

**Confidence Intervals**

_____	_____
_____	_____

5. Do the confidence intervals overlap?

No, then it is likely that the estimates are significantly different.  
Example of non-overlapping confidence intervals: (42.0 - 52.0) and (55.0 - 65.0).

Yes, then it is likely that there is no significant difference between the estimates.

Example of overlapping confidence intervals: (42.0 - 52.0) and (45.0 - 55.0)

## Comparing Results from Multiple Survey Years

The Trend Report is based on logistic regression analysis and provides trends based on all years with weighted YRBS data for the overall population and for males and females. If you want to compare results between two years for subgroups, follow these guidelines. The first step is to determine if you can compare results from two survey years:

1. Write in the survey years being compared. \_\_\_\_\_  
Survey Year 1                      Survey Year 2

2. Are the data from both years weighted?

a. No - STOP! The comparison should not be made.

b. Yes - Continue.

3. Describe the population surveyed each year (e.g., public schools, grades 9-12).

Survey Year 1: \_\_\_\_\_

Survey Year 2: \_\_\_\_\_

4. Was the same population surveyed each year?

a. No - STOP! The comparison should not be made.

b. Yes - Continue.

5. Write in the question and response category to be compared from Survey Year 1.

\_\_\_\_\_  
\_\_\_\_\_

Write in the question and response category to be compared from Survey Year 2.

\_\_\_\_\_  
\_\_\_\_\_

6. Are the questions and response categories from each survey worded identically?

a. No - STOP! The comparison should not be made.

b. Yes - Continue.

7. Write in the confidence intervals for each estimate.

Survey Year 1: \_\_\_\_\_

Survey Year 2: \_\_\_\_\_

8. Do the confidence intervals overlap:

a. No, then it is likely that the estimates are significantly different.

Example of non-overlapping confidence intervals: (42.0 - 52.0) and (55.0 - 65.0)

b. Yes, then it is likely that there is no significant difference between the estimates.

Example of overlapping confidence intervals: (42.0 - 52.0) and (45.0 - 55.0)

## Presenting Your YRBS Data

In reporting statistical data, graphic representation can be extremely useful in displaying results in an easy-to-understand manner. Graphics are charts, graphs, and other visual forms for presenting information. Graphic presentation of data is a powerful tool when effectively used. Graphic enhancements are often the sparks that bring life, attention, and interest to a report or presentation. Graphic images help demonstrate group differences and aid in the explanation of survey findings.

This section has been developed to help you prepare accurate and effective graphics. The guidelines are not intended to constrain creativity, but rather to encourage and support accuracy and consistency in the display of information. Your YRBS report CD-ROM contains graphs for all of your questions in a PowerPoint presentation format. If you want to add additional “slides” or modify this presentation, you can make these changes yourself or find out about services available in your education or health agency.

Graphics help you communicate your YRBS results better by allowing you to:

- Disseminate information
- Increase the audience's retention of information
- Streamline presentations and meetings
- Establish relationships between data and ideas
- Emphasize important ideas or findings
- Prevent misinterpretation of your data or message
- Project a professional image of yourself and your agency
- Add credibility to your presentation

### Planning Your Graphic Presentation

The first step to preparing effective graphic presentations is to ensure that they have a clear purpose. Think about what you are trying to say with the graphic. Keep your message simple and straightforward. Remember that your graphic presentation should highlight your major findings.

Graphic presentations provide an opportunity for you to acquaint various audiences with your program. You must know your audience members so you can design a presentation to best fit their needs. For example, knowing whether your graphics will be viewed by policy makers, such as district superintendents, or by parent groups will help you decide what information to present.

A graphic's primary function is to inform. This can best be done when data are presented clearly and simply. Simple graphics that are easy to understand will communicate your survey findings much more effectively than tables of raw data. Ideally, your graphics should be both accurate and visually appealing.

Graphics within a presentation should have a consistent style and format. Although many type or font styles are available, using too many different styles can add an inconsistent, cluttered, unprofessional look to an otherwise clean and simple presentation. If you add “slides” to your YRBS report presentation, limit your choices to one or two fonts, and use boldface or italics for emphasis.

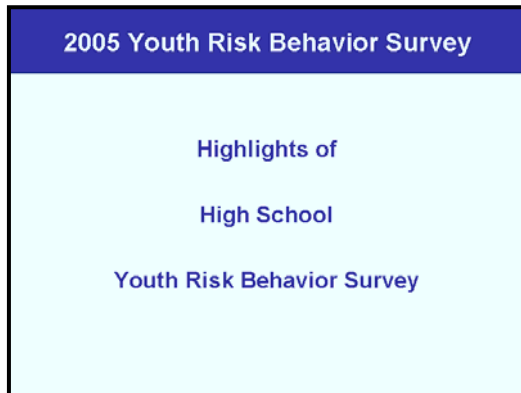
Another key factor to consider is the amount of information to convey in a single graphic. Too much information makes a graphic difficult to comprehend, which in turn detracts from your ability to demonstrate important programmatic needs. A series of simple graphics may be far more effective than a single complicated graph. However, be careful not to summarize the information to the point that it misrepresents the actual data.

Keeping presentation graphics as simple as possible forces you to interpret and discuss them in a conversational tone rather than reading them verbatim to your audience. Reading your slides and overhead transparencies is boring for both you and your audience. Your graphics should contain the framework rather than all of the details of your presentation.

### **Selecting Chart Types**

Several types of charts can be used to display your data. Choose the one that will best highlight the point you want to make.

## Text Charts



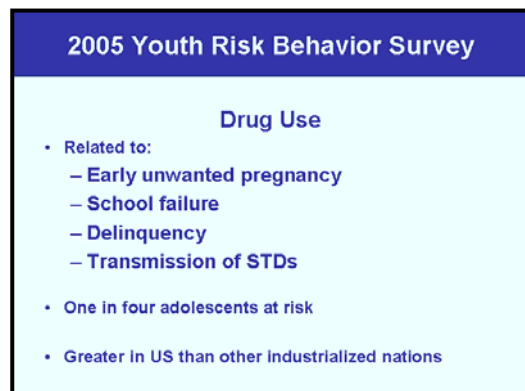
Use text charts to introduce nonnumeric data in a presentation, for example, to introduce or summarize your findings. Text charts should be short and precise in meaning, using the minimum number of short, key words needed to convey your message. Keep lines short by highlighting only the main idea. Limit text charts to 8 lines, with no more than 8 to 10 words on a line. Paraphrase rather than use complete sentences.

Use initial capital letters and lowercase (as in the example shown) for the rest of the text.

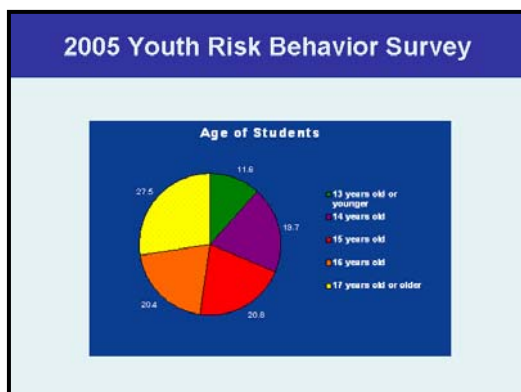
USING ALL UPPERCASE LETTERS MAKES TEXT DIFFICULT TO READ.

Avoid jargon. Be careful when using abbreviations or acronyms. For example, be sure your audience knows that YRBS stands for Youth Risk Behavior Survey.

Use bulleted lists to group and emphasize related ideas. If you have more than one bulleted list in your report or presentation, the symbol you choose for the bullets should be consistent for all of your graphics. Use a minimum number of indent levels, providing more detail verbally. To avoid monotonous presentations, be careful not to overuse bulleted lists.



## Pie Charts



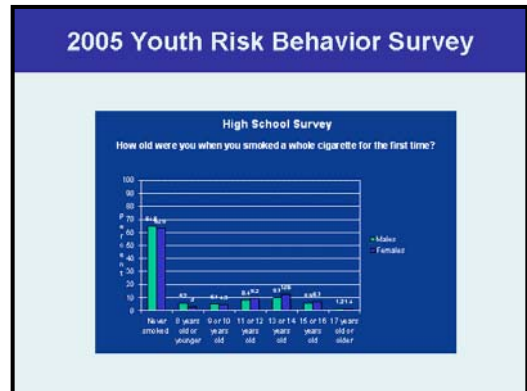
A pie chart is the graphic that answers simple questions about proportions. Each slice represents an individual part of a particular group. "Cutting" (separating) one of the slices emphasizes an element that is part of the whole. For clarity, place labels next to the slices, not in a legend. Include percentages or values in the labels to add detail to the interpretation.

Pie charts should contain eight slices at most. When you have more than eight data values, use a bar chart. Use multiple pie charts cautiously; bar charts are more effective in comparing proportions between groups.

Arrange your data from the largest element to the smallest, unless you want to emphasize a particular element, or there is a logical order to your categories or elements. Your most important element should start at the 3 o'clock position on the pie. The other elements should progress in importance in a counterclockwise direction, with each slice being a lighter color or shading. For the best color or pattern effects, work from dark to light. Fluctuating between dark and light makes it difficult to see pie shading differences.

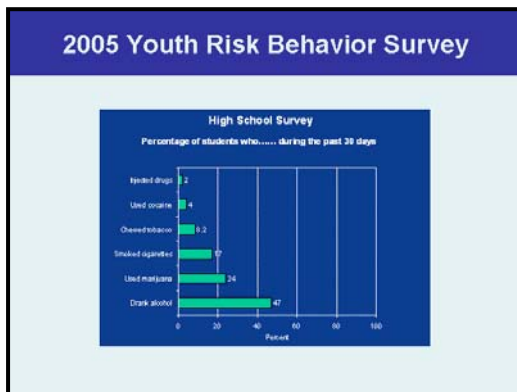
### Vertical Bar or Column Charts

Vertical bars are used to present trends in data such as changes over time or differences among groups. Use bar charts for a relatively small number of discrete data points or groups. Use a clustered bar chart to compare data in more than one category. However, keep the number of clusters small, and limit the number of bars in each cluster to three or fewer.



Results for each of your YRBS questions are reported in this format.

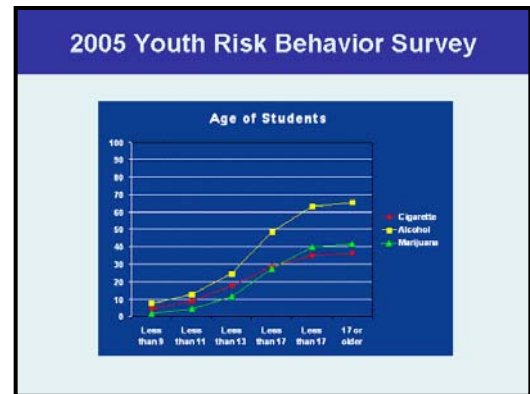
### Horizontal Bar Chart



Horizontal bar charts are used to show comparisons between parts, groups, or categories. This type of chart will accommodate many values without visual clutter and can indicate exact quantities as well as proportions. Arrange the bars from largest to smallest to emphasize extremity. Use the same color or fill pattern for all bars. To emphasize one bar, select a contrasting fill pattern or color. Your YRBS summary charts are in this format.

## Line Charts

Line charts are used to show changes in data over time or to represent continuous measurements. Like bar charts, line charts answer questions about trends, and they can support an almost unlimited number of data points.



## Titles and Labels

Graphics should have clear, concise titles and subtitles. Both axes of a graph should be labeled with the names of the variables, and the scales should be indicated. Titles should be centered at the top or bottom of the graphic. All information necessary to understand the graphic should be included.

## Production

Graphics produced for paper copies and those created for computerized digital display require different design formats. It is important to consider the purpose and presentation medium when choosing among pattern, shading, and color options. Computer presentations benefit from use of color. Photocopying printed graphics (unless using a color copier) will obscure color or shading patterns.

## Electronic Presentation

You can present your results in the PowerPoint presentation format without any modification, or you can tailor the report to meet more specific needs. The PowerPoint presentation allows you to add transitions between slides, text builds, and even animation and sound. Transitions are special visual effects that appear when moving from slide to slide. Text builds allow you to show main bullet points on a slide one at a time. These special effects should be used sparingly. You need to preview your presentation to be sure that everything looks good. Another advantage of this type of presentation is the room lights do not need to be dimmed allowing your audience to take notes more easily.



When doing an electronic presentation, you will need a computer, a diskette or CD with your “slides,” and an LCD projector. Hopefully in the future, LCD projects connected to computers will become as commonplace as slide and overhead projectors. We are not, however, there yet, so be prepared and bring your equipment. You may want to bring overheads or a printed version as a backup in case of equipment problems.

### **Overhead Transparencies**

An alternative to a computer presentation is overhead transparencies. You can print each of the “slides” in your YRBS report on overhead transparency film. Transparencies are shown in normal or slightly reduced lighting. You may remain in the front of the room, maintain eye contact with the audience, and more easily respond to their questions. The audience can take notes easily or follow along on any handouts you may use to supplement your overhead transparencies. Overhead transparencies are lightweight and easy to carry. They allow you to change the order of your presentation just before or even during the presentation. You can remove or rearrange your graphics, and even write on them before or during your presentation. You can point to, circle, or underline text to emphasize important points.

Several overheads can be "hinged" together to create a building effect. Begin with the first page and "build" by laying down the others as you discuss additional points. You can create a similar effect by listing several points on a single overhead transparency and covering all but the first with a board. Then move the board down to introduce the others as you discuss them.

Black-and-white overhead transparencies are the easiest to produce. You can simply make a photocopy of the paper-printed version. Some laser printers will allow you to print directly onto transparency film. Color printers have become more readily available and can be used to add color to your presentation.

### **Internet Website**

Presenting data on the Internet has become more commonplace. This format makes it readily available to many audiences. Having data available on the World Wide Web emphasizes the

importance of the data and encourages an exchange of information to enhance analysis and presentation.

Preparing data for an Internet site is not difficult. Software packages are available to convert your paper presentation text and graphics into HTML (hypertext markup language) or PDF (portable document file), so it can be viewed on the Internet. Like your paper presentation, you will want to keep it simple and easy to read. Some formats will change in the HTML conversion, so take the time to adjust the format the way you like. Highlight important headings and keep basic facts bulleted. Converting to HTML will allow you to draw attention to links including appendices, tables, graphs, and pie charts, if you chose. By using hyperlinks, you can allow the user to move within your report or to jump to supplemental information available elsewhere on the Internet. Converting to PDF format will keep your document true to the original format.

Several agencies have websites that include reports of YRBS data. As of February 2005, the following URLs were active:

<b>State or District Name</b>	<b>Year</b>	<b>URL</b>
Alaska	2003	<a href="http://www.epi.hss.state.ak.us/pubs/YRBS/2003/YRBS%202003.pdf">http://www.epi.hss.state.ak.us/pubs/YRBS/2003/YRBS%202003.pdf</a>
Alaska	1999	<a href="http://www.epi.hss.state.ak.us/pubs/yrbs/yrbs1999.pdf">http://www.epi.hss.state.ak.us/pubs/yrbs/yrbs1999.pdf</a>
Alaska	1997	<a href="http://www.epi.hss.state.ak.us/pubs/yrbs/yrbs_toc.htm">http://www.epi.hss.state.ak.us/pubs/yrbs/yrbs_toc.htm</a>
Arizona	2003	<a href="http://www.ade.state.az.us/schooleffectiveness/chss/healthsurvey.asp">http://www.ade.state.az.us/schooleffectiveness/chss/healthsurvey.asp</a>
Arkansas	2001	<a href="http://arkedu.state.ar.us/publications/pdf/2001arh_codebook.pdf">http://arkedu.state.ar.us/publications/pdf/2001arh_codebook.pdf</a>
California – San Diego	2001	<a href="http://www.sandi.net/news-releases/news-releases/2002/020226YRBS.html">http://www.sandi.net/news-releases/news-releases/2002/020226YRBS.html</a>
California – San Diego	1991-2001	<a href="http://www.sdcs.k12.ca.us/news-releases/news-releases/2002/2001_YRBS_TABLE_1.pdf">http://www.sdcs.k12.ca.us/news-releases/news-releases/2002/2001_YRBS_TABLE_1.pdf</a>
California – San Francisco	2003	<a href="http://portal.sfusd.edu/data/school_health/pdf/YRBS%20SFUSD%20MS%20Executive%20Summary%202003.pdf">http://portal.sfusd.edu/data/school_health/pdf/YRBS%20SFUSD%20MS%20Executive%20Summary%202003.pdf</a>
California – San Francisco	1997	<a href="http://nature.berkeley.edu/cwh/PDFs/SF-%201997-YRBS.pdf">http://nature.berkeley.edu/cwh/PDFs/SF-%201997-YRBS.pdf</a>
Colorado	2003	<a href="http://www.cdphe.state.co.us/hs/yrbs/">http://www.cdphe.state.co.us/hs/yrbs/</a>
Colorado	2001	<a href="http://www.cdphe.state.co.us/hs/yrbs/2001.html">http://www.cdphe.state.co.us/hs/yrbs/2001.html</a>
Connecticut	2003	<a href="http://www.dph.state.ct.us/BCH/HISR1/survey%20summary%20Oct%202003%20yrbs.pdf">http://www.dph.state.ct.us/BCH/HISR1/survey%20summary%20Oct%202003%20yrbs.pdf</a>

Delaware	1999-2003	<a href="http://www.state.de.us/drugfree/data.htm">http://www.state.de.us/drugfree/data.htm</a>
Florida	2001, 2003	<a href="http://www.doh.state.fl.us/Family/obesity/documents/YRBS2003.pdf">http://www.doh.state.fl.us/Family/obesity/documents/YRBS2003.pdf</a>
Florida – Miami-Dade County	2003	<a href="http://www.dadehealth.org/public/PUBLICnewsarticle.asp?newsID=321&amp;typeID=1&amp;news_type=Press+Releases">http://www.dadehealth.org/public/PUBLICnewsarticle.asp?newsID=321&amp;typeID=1&amp;news_type=Press+Releases</a>
Georgia	2003	<a href="http://health.state.ga.us/epi/cdiee/studenthealth.asp">http://health.state.ga.us/epi/cdiee/studenthealth.asp</a>
Hawaii	2001	<a href="http://www.hawaii.gov/health/statistics/other-reports/yrbs2000-rpt.pdf">http://www.hawaii.gov/health/statistics/other-reports/yrbs2000-rpt.pdf</a>
Idaho	2003	<a href="http://www.sde.state.id.us/admin/docs/YRBS2003.pdf">http://www.sde.state.id.us/admin/docs/YRBS2003.pdf</a>
Indiana	2003	<a href="http://www.in.gov/isdh/dataandstats/yrbs/">http://www.in.gov/isdh/dataandstats/yrbs/</a>
Kentucky	2003	<a href="http://www.uky.edu/RGS/PreventionResearch/yrbs2003/index.htm">http://www.uky.edu/RGS/PreventionResearch/yrbs2003/index.htm</a>
Louisiana	1997	<a href="http://www.oph.dhh.louisiana.gov/familyplanning/adhealth/docs/1999%20Adolescent%20Data%20Book.pdf">http://www.oph.dhh.louisiana.gov/familyplanning/adhealth/docs/1999 Adolescent Data Book.pdf</a> (in Chapter 7)
Maine	1997	<a href="http://www.state.me.us/education/hiv/yrbs/yrbs3.htm">http://www.state.me.us/education/hiv/yrbs/yrbs3.htm</a>
Maine	1999	<a href="http://www.state.me.us/education/hiv/yrbs/99survey/homepage.htm">http://www.state.me.us/education/hiv/yrbs/99survey/homepage.htm</a>
Maine	2001	<a href="http://www.maineeshp.com/PDFs/2001%20YRBS%20Report.pdf">http://www.maineeshp.com/PDFs/2001%20YRBS%20Report.pdf</a>
Maine	2003	<a href="http://www.state.me.us/education/hiv/yrbs.htm">http://www.state.me.us/education/hiv/yrbs.htm</a>
Maine	2003	<a href="http://www.maine.gov/education/hiv/MSRiskBehaviors2003.htm">http://www.maine.gov/education/hiv/MSRiskBehaviors2003.htm</a>
Massachusetts	1995 – 2003	<a href="http://www.doe.mass.edu/hssss/program/youthrisk.html">http://www.doe.mass.edu/hssss/program/youthrisk.html</a>
Massachusetts	1995	<a href="http://www.doe.mass.edu/hssss/yrb95/yrb95ltr.html">http://www.doe.mass.edu/hssss/yrb95/yrb95ltr.html</a>
Massachusetts	1997	<a href="http://www.doe.mass.edu/hssss/yrbs97/97yrbsexec.html">http://www.doe.mass.edu/hssss/yrbs97/97yrbsexec.html</a>
Massachusetts	1999	<a href="http://www.doe.mass.edu/hssss/yrbs99/letter.html">http://www.doe.mass.edu/hssss/yrbs99/letter.html</a>
Massachusetts	2001	<a href="http://www.doe.mass.edu/hssss/yrbs/01/results.pdf">http://www.doe.mass.edu/hssss/yrbs/01/results.pdf</a>
Massachusetts	2003	<a href="http://www.doe.mass.edu/hssss/yrbs/03/results.pdf">http://www.doe.mass.edu/hssss/yrbs/03/results.pdf</a>
Michigan	2001	<a href="http://www.emc.cmich.edu/YRBS/2001.htm">http://www.emc.cmich.edu/YRBS/2001.htm</a>
Michigan	1999	<a href="http://www.emc.cmich.edu/YRBS/99ExecRpt.pdf">http://www.emc.cmich.edu/YRBS/99ExecRpt.pdf</a>
Mississippi	2001	<a href="http://www.msdh.state.ms.us/msdhsite/index.cfm/12,706,97.pdf/Yrbs2001reportFinal%2Epdf">http://www.msdh.state.ms.us/msdhsite/index.cfm/12,706,97.pdf/Yrbs2001reportFinal%2Epdf</a>
Mississippi	1999	<a href="http://www.msdh.state.ms.us/msdhsite/index.cfm/14,171,110.pdf/epiyrbs99%2Epdf">http://www.msdh.state.ms.us/msdhsite/index.cfm/14,171,110.pdf/epiyrbs99%2Epdf</a>
Missouri	1995 to 2003	<a href="http://www.dese.state.mo.us/divimprove/curriculum/hiveducation/Youth-Risk-Behavior-Survey-1995-2003.pdf">http://www.dese.state.mo.us/divimprove/curriculum/hiveducation/Youth-Risk-Behavior-Survey-1995-2003.pdf</a>
Missouri	1995 to 2001	<a href="http://dese.mo.gov/divimprove/curriculum/hiveducation/survey95-01.pdf">http://dese.mo.gov/divimprove/curriculum/hiveducation/survey95-01.pdf</a>

Missouri	1999	<a href="http://dese.mo.gov/divimprove/curriculum/hiveducation/survey1999.pdf">http://dese.mo.gov/divimprove/curriculum/hiveducation/survey1999.pdf</a>
Montana	1991 to 2003	<a href="http://www.opi.state.mt.us/YRBS/">http://www.opi.state.mt.us/YRBS/</a>
Montana	2003	<a href="http://www.opi.state.mt.us/PDF/YRBS/HSREPORT.pdf">http://www.opi.state.mt.us/PDF/YRBS/HSREPORT.pdf</a>
Nebraska	2001	<a href="http://www.hhs.state.ne.us/tfn/2001_YRBS_FullReport.pdf">http://www.hhs.state.ne.us/tfn/2001_YRBS_FullReport.pdf</a>
Nebraska	2001	<a href="http://www.hhs.state.ne.us/tfn/2001_YRBS_brochure.pdf">http://www.hhs.state.ne.us/tfn/2001_YRBS_brochure.pdf</a>
Nebraska	2003	<a href="http://www.hhs.state.ne.us/srd/2003_YRBS.pdf">http://www.hhs.state.ne.us/srd/2003_YRBS.pdf</a>
Nebraska	2003	<a href="http://www.hhs.state.ne.us/new/1204nr/risky.htm">http://www.hhs.state.ne.us/new/1204nr/risky.htm</a>
Nevada	2001, 2003	<a href="http://health2k.state.nv.us/nihds/yrbs/">http://health2k.state.nv.us/nihds/yrbs/</a>
New Hampshire	1999	<a href="http://www.plustime.org/_pdf/_statistics/13.pdf">http://www.plustime.org/_pdf/_statistics/13.pdf</a>
New Hampshire	2001	<a href="http://www.plustime.org/_pdf/_statistics/14.pdf">http://www.plustime.org/_pdf/_statistics/14.pdf</a>
New Hampshire	2003	<a href="http://www.ed.state.nh.us/education/doe/organization/instruction/HealthHIVAIDS/2003YRBSpress_release.htm">http://www.ed.state.nh.us/education/doe/organization/instruction/HealthHIVAIDS/2003YRBSpress_release.htm</a>
New Hampshire	2003	<a href="http://www.ed.state.nh.us/education/doe/organization/instruction/HealthHIVAIDS/2003SchoolWideReportSummary.pdf">http://www.ed.state.nh.us/education/doe/organization/instruction/HealthHIVAIDS/2003SchoolWideReportSummary.pdf</a>
New Jersey	1999	<a href="http://www.state.nj.us/njded/students/yrbs/1999/">http://www.state.nj.us/njded/students/yrbs/1999/</a>
New Jersey	2001	<a href="http://www.state.nj.us/njded/students/yrbs/2001/yrbs.pdf">http://www.state.nj.us/njded/students/yrbs/2001/yrbs.pdf</a>
New Mexico	2001	<a href="http://www.healthierschools.org/NM00MSYRBSfinalreport.pdf">http://www.healthierschools.org/NM00MSYRBSfinalreport.pdf</a>
New Mexico	2001	<a href="http://www.sde.state.nm.us/press/2002/may/may09.html">http://www.sde.state.nm.us/press/2002/may/may09.html</a>
New Mexico	2000	<a href="http://www.mascotcoalition.org/education/behavior_survey.html">http://www.mascotcoalition.org/education/behavior_survey.html</a>
New York City	2003	<a href="http://www.nyc.gov/html/doh/html/public/press04/pr144-1019.html">http://www.nyc.gov/html/doh/html/public/press04/pr144-1019.html</a>
North Carolina	1995, 1997, 2001	<a href="http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/yrbsindex.html">http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/yrbsindex.html</a>
North Carolina	1995	<a href="http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/high_school_95/index.html">http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/high_school_95/index.html</a>
North Carolina	1995	<a href="http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/middle_school_95/index.html">http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/middle_school_95/index.html</a>
North Carolina	1997	<a href="http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/high_school_97/index.html">http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/high_school_97/index.html</a>
North Carolina	1997	<a href="http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/middle_school_97/MSindex.html">http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/middle_school_97/MSindex.html</a>
North Carolina	2001	<a href="http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/high_school_01/YRBShigh.pdf">http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/high_school_01/YRBShigh.pdf</a>
North Carolina	2001	<a href="http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/middle_school_01/YRBSmiddle.pdf">http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/middle_school_01/YRBSmiddle.pdf</a>
North Carolina	2003	<a href="http://www.nchealthyschools.org/nchealthyschools/htdocs/YRBS%20Data/2003NCH%20Survey%20Summary.pdf">http://www.nchealthyschools.org/nchealthyschools/htdocs/YRBS%20Data/2003NCH%20Survey%20Summary.pdf</a>

North Carolina	2003	<a href="http://www.nchealthyschools.org/nchealthyschools/htdocs/YRBS%20Data/2003NCM%20Survey%20Summary.pdf">http://www.nchealthyschools.org/nchealthyschools/htdocs/YRBS%20Data/2003NCM%20Survey%20Summary.pdf</a>
North Dakota	1999, 2001, 2003	<a href="http://www.dpi.state.nd.us/health/YRBS.shtm">http://www.dpi.state.nd.us/health/YRBS.shtm</a>
North Dakota	2003	<a href="http://www.dpi.state.nd.us/health/YRBS/brochure.pdf">http://www.dpi.state.nd.us/health/YRBS/brochure.pdf</a>
North Dakota	2001	<a href="http://www.dpi.state.nd.us/health/YRBS/yrbs01.pdf">http://www.dpi.state.nd.us/health/YRBS/yrbs01.pdf</a>
North Dakota	1999	<a href="http://www.health.state.nd.us/ndhd/pubs/ScheduledItems/yrbs99.pdf">http://www.health.state.nd.us/ndhd/pubs/ScheduledItems/yrbs99.pdf</a>
Ohio	1999	<a href="http://www.odh.state.oh.us/Data/Inf_Dis/HIVhilit/hl0401.PDF">http://www.odh.state.oh.us/Data/Inf_Dis/HIVhilit/hl0401.PDF</a>
Ohio	1997	<a href="http://www.ode.state.oh.us/student/">http://www.ode.state.oh.us/student/</a>
Oklahoma	2003	<a href="http://www.health.state.ok.us/program/yrbs/">http://www.health.state.ok.us/program/yrbs/</a>
Rhode Island	1997 - 2003	<a href="http://www.health.ri.gov/chic/statistics/yrbs.php">http://www.health.ri.gov/chic/statistics/yrbs.php</a>
South Dakota	2001	<a href="http://www.state.sd.us/deca/CSCF/schoolhealth/aids/yrbs01.htm">http://www.state.sd.us/deca/CSCF/schoolhealth/aids/yrbs01.htm</a>
South Dakota	1991-2003	<a href="http://www.state.sd.us/deca/CSCF/schoolhealth/aids/yrbs.htm">http://www.state.sd.us/deca/CSCF/schoolhealth/aids/yrbs.htm</a>
Tennessee	1999-2003	<a href="http://www.k-12.state.tn.us/yrbs/">http://www.k-12.state.tn.us/yrbs/</a>
Tennessee	1999	<a href="http://www.k-12.state.tn.us/yrbs/ciyrbs99resultsintro.htm">http://www.k-12.state.tn.us/yrbs/ciyrbs99resultsintro.htm</a>
Tennessee	2001	<a href="http://www.k-12.state.tn.us/yrbs/ciyrbs01/index.htm">http://www.k-12.state.tn.us/yrbs/ciyrbs01/index.htm</a>
Tennessee	2003	<a href="http://www.k-12.state.tn.us/yrbs/ciyrbs03/index.htm">http://www.k-12.state.tn.us/yrbs/ciyrbs03/index.htm</a>
Tennessee – Memphis	2003	<a href="http://memphisdemo2.extranet.urbanplanet.com/sites/974cdc6f-b867-4129-8e23-506fae79343/uploads/Final_Report_2003_YRBS_Memphis.pdf">http://memphisdemo2.extranet.urbanplanet.com/sites/974cdc6f-b867-4129-8e23-506fae79343/uploads/Final_Report_2003_YRBS_Memphis.pdf</a>
Tennessee – Memphis	2003	<a href="http://www.memphis-schools.k12.tn.us/admin/communications/YOUTH-RISK-BHV-SURVEY.pdf">http://www.memphis-schools.k12.tn.us/admin/communications/YOUTH-RISK-BHV-SURVEY.pdf</a>
Texas	2001	<a href="http://www.tdh.state.tx.us/bdip/Publications.htm">http://www.tdh.state.tx.us/bdip/Publications.htm</a>
Vermont	2001	<a href="http://www.state.vt.us/health/adap/pubs/2001/yrbs2001.pdf">http://www.state.vt.us/health/adap/pubs/2001/yrbs2001.pdf</a>
Vermont	1999	<a href="http://www.state.vt.us/adap/1999YRBS/YRBSST991.htm">http://www.state.vt.us/adap/1999YRBS/YRBSST991.htm</a>
Vermont	1997	<a href="http://www.state.vt.us/adap/yrbs97a.htm">http://www.state.vt.us/adap/yrbs97a.htm</a>
Washington	1999	<a href="http://www.doh.wa.gov/EHSPHL/Epidemiology/NICE/publications/yrbs99.pdf">http://www.doh.wa.gov/EHSPHL/Epidemiology/NICE/publications/yrbs99.pdf</a>
West Virginia	2001	<a href="http://wvde.state.wv.us/data/yrbs/2001/WVYRBS.ppt">http://wvde.state.wv.us/data/yrbs/2001/WVYRBS.ppt</a>
West Virginia	1999	<a href="http://wvde.state.wv.us/healthyschools/1999survey/">http://wvde.state.wv.us/healthyschools/1999survey/</a>
Wisconsin	2003-1997	<a href="http://www.dpi.state.wi.us/dpi/dlsea/sspw/yrbsindx.html">http://www.dpi.state.wi.us/dpi/dlsea/sspw/yrbsindx.html</a>
Wisconsin	2003	<a href="http://www.dpi.state.wi.us/dpi/dlsea/sspw/pdf/yrbs03ex.pdf">http://www.dpi.state.wi.us/dpi/dlsea/sspw/pdf/yrbs03ex.pdf</a>
Wisconsin	2001	<a href="http://www.dpi.state.wi.us/dpi/dlsea/sspw/pdf/yrbs01.pdf">http://www.dpi.state.wi.us/dpi/dlsea/sspw/pdf/yrbs01.pdf</a>

Wisconsin	1999	<a href="http://www.dpi.state.wi.us/dpi/dlsea/sspw/yrbsindx99.html">http://www.dpi.state.wi.us/dpi/dlsea/sspw/yrbsindx99.html</a>
Wisconsin	1997	<a href="http://www.dpi.state.wi.us/dpi/dlsea/sspw/yrbsindx97.html">http://www.dpi.state.wi.us/dpi/dlsea/sspw/yrbsindx97.html</a>
Wyoming	2005-2001	<a href="http://www.k12.wy.us/ao/hs/pubs/yrbs/yrbs.asp">http://www.k12.wy.us/ao/hs/pubs/yrbs/yrbs.asp</a>
Wyoming	2003	<a href="http://www.k12.wy.us/ao/hs/pubs/yrbs/yrbs_2003/RptFinalCoverRev.pdf">http://www.k12.wy.us/ao/hs/pubs/yrbs/yrbs_2003/RptFinalCoverRev.pdf</a>
Wyoming	2001	<a href="http://www.k12.wy.us/ao/hs/pubs/yrbs/yrbs01.pdf">http://www.k12.wy.us/ao/hs/pubs/yrbs/yrbs01.pdf</a>

In addition to web sites that are devoted to YRBS data, references to information collected through the YRBS can be found in many reports available on the Internet and elsewhere.

### Quality Assurance

Quality assurance is the time and effort spent by the graphics developer to ensure that the message conveyed by the graphic is true to the data it represents. Adequate quality assurance ensures that a graphic represents data in a manner that is easily viewed and understood by the observer and is not in any way misleading or incorrect. If the graphic presentation is incorrect, the viewer will have a false sense of the data and their implications.

Proofread your charts. If possible, enlist one or more of your co-workers who are familiar with your YRBS to help with the proofing. Also, check that percentages sum to 100%, when applicable, and that counts sum to the total. If percentages do not sum to 100 due to rounding, be sure to document that in a footnote.

Make sure the numbers on your chart match the numbers in the original data and that they are presented in the correct category. Within a presentation, scale changes should be avoided whenever possible so that between-chart comparisons can be made. For example, you may have two charts side by side showing response rates. One may use a scale of 0 to 100. The second chart may zoom in on a scale of 60 to 100. A person comparing these two charts will probably get a distorted view of the data. If you need to enlarge a selected portion of a scale, be sure it is clearly labeled as such. The vertical scale of bar and line charts should include zero.

Answer the following questions when proofreading your charts:

- Is all the text there? (Did the computer truncate text on long lines?)

- Is the spelling correct? (If your graphics package has one, use the built-in spell checker.)
- Is your message clear?
- Is the chart simple and easy to understand?
- Are the data accurate?
- Would color enhance the presentation of the data?

Whether you are compiling a written report or preparing visuals for a presentation, graphics can be used to add emphasis to your message. Graphics can help make sure your readers or audience leave with the message you want to convey. Effective use of graphics may help you generate interest in your program, gain support for conducting the YRBS, and enhance your report or presentation.

## Checklist for Effective Graphics

### Purpose

- Identify your audience(s).
- Specify your objectives.
- Ensure presentation methods match purpose and audience.

### Planning

- Create rough drafts first.
- Plan on making several drafts of all graphs.
- Remember that producing graphics sometimes takes longer than expected, so plan time accordingly.

### Appropriate Use

- Use graphics to highlight the intended material.
- Use the correct type of chart for your data.
- Be sure the chart demonstrates the comparisons you planned.

### Clarity

- Avoid unnecessary shadowing, 3D effects, and coloring.
- Minimize the number of fonts.
- Use bold and italic versions of fonts for highlighting.
- Avoid red and green adjacent to each other.
- Use accurate and complete labels.

### Simplicity

- Present the data without extraneous material.
- Avoid elaborate fill patterns.
- Avoid too many different patterns.
- Avoid overly decorative backgrounds.

### Consistency

- Use a similar style across all graphics.
- Use comparable scales for accurate comparison.

### Accuracy

- Check that data are correct.
- Check that spelling is correct.
- Double-check everything!