Comprehensive YRBS Methods Report

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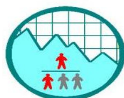
New York City Department of Health and Mental Hygiene
Bureau of Epidemiology Services
Survey Unit



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Background

The New York City Youth Risk Behavior Survey (YRBS) is conducted by the New York City Department of Health and Mental Hygiene (DOHMH) in collaboration with the New York City Department of Education (DOE). The YRBS is part of the National Centers for Disease Control and Prevention's (CDC) Youth Risk Behavior Surveillance System (YRBSS). As such, the NYC survey follows the protocol developed by CDC, and the NYC questionnaire is adapted from the CDC-developed core instrument.

The YRBS has been conducted in odd-numbered years since 1997[1] to monitor priority health-risk behaviors that contribute to the leading causes of mortality, morbidity, and social problems among youth in New York City. The questionnaire measures tobacco, alcohol and drug use; behaviors that contribute to unintentional injury and violence; sexual behaviors; dietary behaviors; and physical activity. It also monitors the prevalence of obesity and asthma. The results are representative of public high school students in grades 9 though 12, excluding students in juvenile detention centers, and alternative and special education schools. English as a Second Language (ESL) and special education classes in eligible high schools are also excluded from the sample. From 1997 to 2001 the YRBS was conducted by the DOE, and since 2003, the DOHMH has worked in collaboration with the DOE in designing and implementing the survey.

Purpose

The New York City YRBS, like the national YRBS, is "designed to determine the prevalence of health-risk behaviors among high school students; assess whether these behaviors increase, decrease, or stay the same over time; and examine the co-occurrence of health-risk behaviors."[2]

Questionnaire

To support trend analysis, the majority of questions on the New York City YRBS come from the CDC's State and Local core instrument. This instrument is provided to all state and local agencies planning to conduct a YRBS. The CDC protocol requires that two thirds of the core instrument questions must be used,[3] and no questionnaire may contain more than 99 questions. The number of questions in the NYC questionnaire has ranged from 87 to 99 (see Table 1). In addition to the CDC-developed items, the NYC YRBS contains questions designed to address needs unique to New York City. Justifications for questions used in the survey are provided to the Institutional Review Boards of both agencies.

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[1] The survey was also conducted in 1993 and 1995, but the data are not used due to low response rates.

[2] Nancy D. Brener, et. al. 2004. "Methodology of the Youth Risk Behavior Surveillance System." Morbidity and Morality Weekly Report, Department of Health and Human Services, Centers for Disease Control and Promotion, Vol. 53, No. RR-12, p.2.

[3] In 2009, two thirds of the 87 core YRBS questions equaled 58 questions.

Table 1. Number of Questions in NYC YRBS Questionnaire

Year	Number of questions
1997	89
1999	87
2001	87
2003	87
2005	99
2007	99
2009	99

Sampling, Response Rates, and Weighting

From 1997 through 2001, the NYC YRBS was designed to provide data on a citywide level. In 2003 the survey was expanded to provide borough-level data, and in 2005 it was further expanded to provide data for the three District Public Health Office (DPHO) areas in the South Bronx, North and Central Brooklyn, and East and Central Harlem. The DPHOs were developed by the Health Department in areas with the highest morbidity and mortality in the city. The 2005 survey design was replicated in subsequent surveys.[4] Response rates over time for the YRBS are listed in Table 2, and Table 3 provides specific response rates by area for the 2009 survey.

Table 2. Response Rates, NYC YRBS 1997-2007

Year	**Number of usable completed surveys (N)**	**School Response Rate (%)**	**Student Response Rate (%)**	**Overall Response Rate (%)**	**Supported Estimates**
1997	2014	100	78	78	Citywide
1999	1580	96	74	70	Citywide
2001	1616	96	77	74	Citywide
2003	7390	97	67	65	Citywide & Boroughs
2005	8140	98	70	68	Citywide & Boroughs & DPHOs
2007	9080	98	70	68	Citywide & Boroughs & DPHOs
2009	11,887	95	83	79	Citywide & Boroughs & DPHOs

[4] Between 2005 and 2007, the catchment area for the Brooklyn DPHO was expanded to include East New York. Eligible schools in this area that were considered “non-DPHO” in 2005 were included in the “DPHO” sample frame in 2007 and 2009. Data from the Brooklyn DPHO are not directly comparable between 2005 and subsequent years. For more information on the comparability of Brooklyn DPHO YRBS data between 2005 and subsequent years, please e-mail survey@health.nyc.gov.

Table 3. Response Rates for Boroughs and DPHOs, NYC YRBS 2009

Borough	BOROUGH/ DPHO	Number of Usable Completes	School Response Rate %	Student Response Rate %	Overall Response Rate %
Bronx	BOROUGH, INCLUDING DPHO	2833	92%	77%	71%
Brooklyn	BOROUGH, INCLUDING DPHO	2530	88%	81%	72%
Manhattan	BOROUGH, INCLUDING DPHO	2647	100%	83%	83%
Queens	BOROUGH	2311	100%	89%	89%
Staten Island	BOROUGH	1566	100%	86%	86%
South Bronx	DPHO	1650	92%	77%	71%
North and Central Brooklyn	DPHO	1487	91%	80%	73%
East and Central Harlem	DPHO	1367	100%	87%	87%

The NYC YRBS employs a stratified, two-stage cluster sample designed to produce a representative sample of students. In the first stage, schools, which are the Primary Sampling Units, are randomly selected with probability proportional to the schools' enrollment sizes. The schools are drawn from a list supplied by the DOE, which reports the most recent status of schools and student enrollment.

As noted above, from 1997 to 2001 schools were selected for citywide representation; since 2003 they have been selected to be representative of borough-level strata, as well as representative of the city, overall. Beginning in 2005, the three DPHO areas have been oversampled to obtain representative samples of these sub-areas. The 2009 YRBS also included an oversample of schools served by School-Based Health Centers (SBHC).[5]

In the second sampling stage, classrooms falling within a designated period of the school day (for example, second period) or a required class (such as English) are listed in a classroom-level sampling frame. English as a Second Language and special education classes are not eligible for inclusion in the sampling frame. Classes are then randomly selected from the sampling frame for each school. In each selected classroom, all students complete the questionnaire, other than those students who choose to opt-out (see below).

After the data are collected, a weighting factor is applied to each student record to adjust for nonresponse and for varying probabilities of selection. Weights are also determined by a post-stratification adjustment factor calculated with gender within grade and with race/ethnicity. Weights are scaled so that: (a) the weighted count of students is equal to the total NYC public school student population and (b) the weighted proportion of students in each grade matches the citywide proportions. In addition, when borough and DPHO strata are used, borough and DPHO population proportions are matched to those citywide. For more information on weighting of the NYC YRBS data, please e-mail survey@health.nyc.gov.

[5] The SBHC oversampling was included to accommodate program evaluation needs and combine survey efforts. Requests for access to this data should be made at survey@health.nyc.gov.

Data-Collection Protocols

One week before the survey is administered, parents are sent a letter with an opt-out form that can be used if they decide against having their child participate in the YRBS. On the day of data collection, the survey is conducted in classrooms and is self-administered with a data collector present. Data collectors read students a script that introduces the survey; distribute pencils, questionnaires, and answer forms; and wait in the classroom while students complete the survey. When students are finished, they place their answer sheets in a manila envelope, and data collectors give students cards or pamphlets listing phone numbers they can call if they would like to talk to anyone about issues raised in the survey. Survey procedures are designed to protect the anonymity of students. Study methods follow CDC guidelines, and are approved by the DOHMH and DOE Institutional Review Boards.

Data-Processing Procedures

Answer sheets are grouped together by classroom, and classroom-level and school-level information forms are affixed to them, which contain information about absenteeism rates, parental refusals, and student refusals. These packages are sent to CDC's contracted technical assistance provider, Westat, which scans the data and creates a data file for CDC. CDC edits the data "for out-of-range responses, logical consistency, and missing data"[6]and returns the dataset to Westat for weighting. Westat then returns the weighted dataset to DOHMH.

Uses of the Data

YRBS data are used to:

- Determine which health risk-behaviors and conditions are improving, staying the same, or in need of improvement;
- Write grants and program proposals;
- Develop public health programs;
- Evaluate public health programs;
- Set priorities for programs;
- Train staff at DOHMH and DOE;
- Educate community-based groups and local professionals; and
- Create data-focused publications, such as Vital Signs and chartbooks. For more information, visit http://nyc.gov/health/mycommunityshealth.

[6] Nancy D. Brener, et. al. 2004. "Methodology of the Youth Risk Behavior Surveillance System." Morbidity and Morality Weekly Report, Department of Health and Human Services, Centers for Disease Control and Promotion, Vol. 53, No. RR-12, p.9.