Boston Youth Risk Behavior Survey

Background

The core mission of schools is to educate children. Schools fulfill this mission by striving for all children to acquire the knowledge and skills they need for academic success, career readiness and personal well-being. Underlying this mission is the precondition that children arrive to school healthy and prepared to learn. What is becoming increasingly clear is that significant numbers of children arrive to school not fully prepared to learn because of physical, social, emotional and behavioral health issues or circumstances. These include, but are not limited to obesity, asthma, vision problems, physical inactivity, poor nutrition, pregnant and/or parenting teen status, anxiety, violence, and depression. Research strongly suggests that children with these health conditions have higher absenteeism and dropout rates, feel less connected to schools, and perform worse on cognitive and academic assessments than students without these conditions. Thus, addressing student health and wellness is vital if children are to arrive to school ready to learn and schools are to fulfill their core mission.

Health and Health-Risk Behaviors

The Youth Risk Behavior Surveillance System was founded in 1990 by the Centers for Disease Control and Prevention (CDC) to monitor the most critical health-related behaviors that either improve health or contribute to poor health outcomes among adolescents:

- Physical Activity
- Dietary Behaviors
- Weight Management
- Sexual Health
- Mental Health
- Bullying
- Tobacco Use
- Alcohol and Other Drug Use
- Unintentional Injuries & Violence

Understanding that physical and mental health, emotional well-being, and positive development are inextricably linked with academic success, the Boston Public Schools (BPS) has monitored health behaviors through the Boston Youth Risk Behavior Survey (YRBS) since 1993. Survey results continue to help a variety of stakeholders (including: school administrators, teachers, local policy makers, families, community groups, and health personnel) develop policy; plan and improve youth-based health programs; determine existing health needs in order to develop effective intervention programs; provide the most recent and updated information for grant submissions; and improve the development of classroom lessons geared towards reducing health risk behaviors among adolescents.

Healthy Connections Strategic Plan

BPS is transforming the district's capacity to meet the health needs of Boston children. In September 2010, BPS completed ***Healthy Connections****: Strengthening Coordination and Capacity in the Boston Public Schools to Advance Student Health and Wellness*, the district's strategic plan to improve the health and wellness of students. The overarching, district-wide goal of ***Healthy Connections*** is to **actively promote the health and wellness of all BPS students to advance both their healthy development and readiness to learn**.

District Wellness Council

The District Wellness Council was formed in 2007 to identify best practices, to develop policies, and to advise on policy implementation that equitably address student wellness across the district. Through the District Wellness Council, BPS has strengthened the district's wellness organizational structure, as outlined in *Healthy Connections*.

Figure 1. BPS District Wellness Council sub-committees

Youth Risk Behavior Survey

The Council is comprised of a team of BPS and community leaders, family representatives, students, content experts, and academics. In addition, members form sub-committees modeled after the eight areas of the CDC's **Coordinated School Health** (CHS) model. Using this model, the District Wellness Council aims to reduce gaps and redundancies in services; build collaboration across departments and staff; and build partnerships with public health professionals, clinical experts, and other community organizations in order to focus efforts on improving school health, academic performance, and social outcomes.

District Wellness Policy

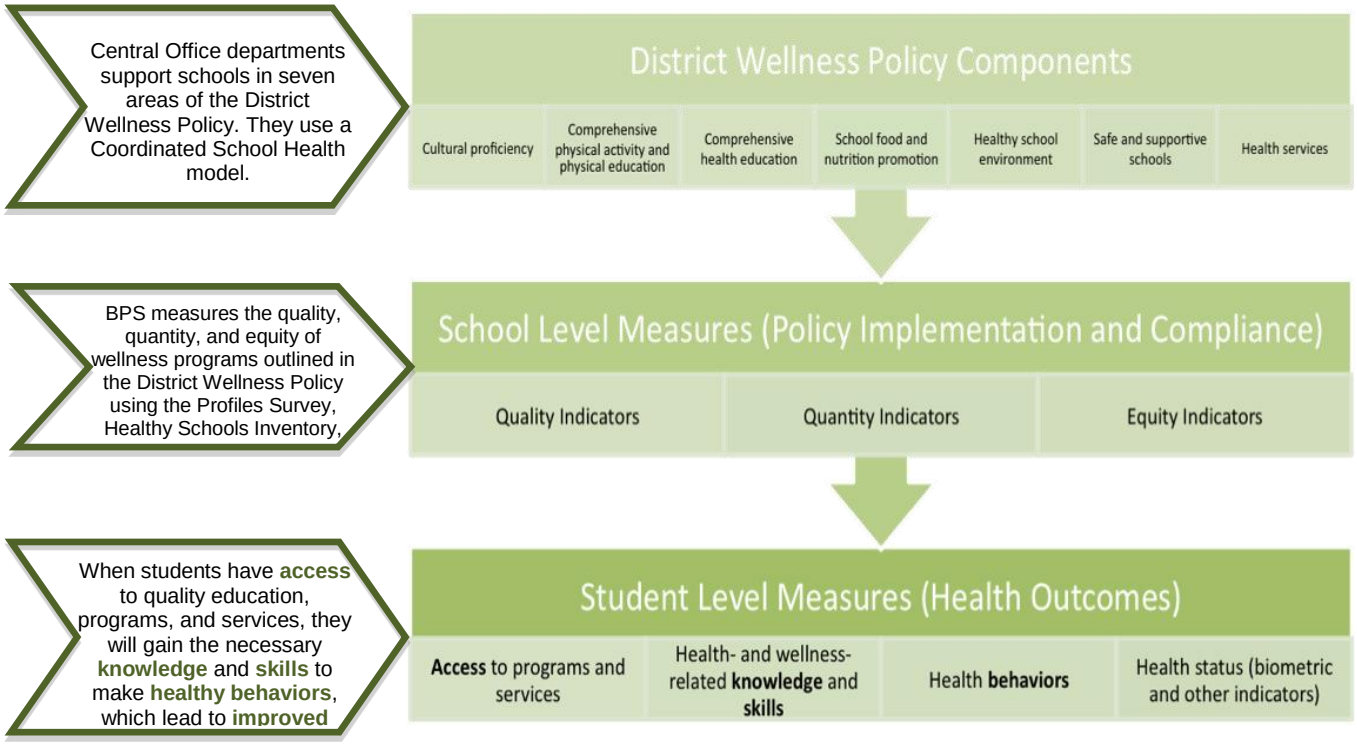
In June 2013, BPS passed a landmark District Wellness Policy that reflects the comprehensive approach stated in the *Healthy Connections* Strategic Plan, brings together content areas recommended in the CSH Model, and addresses the critical health and health-risk behaviors monitored by the YRBS. This policy is inclusive of all students, staff and families. This includes but is not limited to individuals' identities that are related to culture, race, ethnicity, sexual orientation, gender, and ability.

Understanding Student Impact

To understand the extent to which the District Wellness Policy will impact student health over time, the District Wellness Council developed a monitoring and evaluation plan that assesses both school-level and student-level outcomes for each policy component. *Figure 2* demonstrates how policy serves to improve the quality, quantity, and equity of school-level programmatic outcomes, which in turn address various aspects of student-level health outcomes. The District Wellness Policy Annual Report will annually report both school- and student-level outcomes against the District Wellness Policy initiatives. *The District Wellness Policy was passed in June 2013, while the 2013 YRBS was administered January-March 2013. Therefore, 2013 YRBS data will serve as a baseline for policy monitoring and evaluation.*

When students have **access** to an environment providing quality education, programs, and services, they will gain the **knowledge** and **skills** to make **healthy behaviors**, leading to **improved health**.

Figure 2. Policy Impacts at the School- and Student-Level



To learn more about the *Healthy Connections* Strategic Plan or Coordinated School Health in Boston, visit: http://www.bpshealthyconnections.org/
To learn more about the District Wellness Council or District Wellness Policy, visit: http://www.bpshealthandwellness.org/healthy-school-environment/

THE BOSTON YRBS

About this Report

The purpose of this report is 1) to highlight significant trends and differences in health and health-risk behaviors among Boston adolescents over time and between demographic sub-groups and 2) to disseminate significant results which may inform future wellness-related programs, practices, and policies that aim to improve the health and wellness of Boston youths. The intent of this report is not to attempt to provide solutions, but rather to highlight significant results to spark future conversations and collaborations.

Throughout this report, results are presented in the form of fact sheets by health risk-behavior area. Within each health risk-behavior area, data are presented in the following ways:

- 2013 results (increase, decrease, or no change compared to 2011 indicated)
- 10 year trend
- By race/ethnicity
- By academic achievement
- By sexual orientation
- By school connectedness
- By years spent in the US
- And other special considerations by topic area

Health inequities exist between different sub-populations and may vary by health topic. Therefore, results are stratified by demographic factors to illustrate where these differences might exist and to identify areas or sub-populations of critical need. Comparisons by sex (female vs. male) and by location (Boston vs. MA) were not available during the writing of this report, but can be accessed on the CDC Youth Online website.

Survey Methods

The 2013 Boston High School YRBS was modified from the Standard YRBS to accommodate questions that meet local needs and interests. The questionnaire was comprised of 99 multiple-choice questions within the YRBS topic areas previously described.

Students take this self-reported, paper and pencil survey during a single class period, generally lasting no more than 45 minutes. A trained and independent Survey Administrator proctors the survey and follows strict protocols to ensure that each survey response remains **anonymous** and **confidential**.

All students are eligible to participate in the survey. Survey inclusion criteria require that a participating student must be able to complete the written survey independently without the help of a teacher, dictionary, or translation aid. Therefore, ESL level 1 and 2 classes are excluded from the sample. Inclusion of ESL level 3 and 4 classes are determined on a by school basis. Questions are written in English at or below an 8th grade level.

The YRBS sampling procedure ensures that each eligible student has an equal chance of being selected to participate in the survey. Within each of the 32 BPS high schools, a number of eligible classes proportional to school size are randomly selected to participate. Between January and March 2013, 1,237 students from 32 BPS high schools participated in the survey (74% overall response rate). Boston has achieved weighted data at each survey cycle since 1993, including 2013. Therefore, the results presented in this report are **representative of all** Boston students in grades 9-12. Due to resource constraints, BPS is not currently able to draw samples or produce results for individual schools.

Survey Demographics

Total Respondents: 1,237	Participation Rate: 74%	Participating Schools: 32
Demographics	Weighted %	Unweighted Frequency
Female	49.6%	593
Male	50.4%	638
Total	100%	1,231
9th grade	28.2%	366
10th grade	23.0%	328
11th grade	22.7%	358
12th grade	25.4%	170
Other	0.7%	8
Total	100%	1,230
Asian	9.6%	132
Black	42.3%	399
Hispanic/Latino	33.5%	448
White	12.8%	129
All other races	0.6%	24
Multiple races	1.1%	54
Total	100%	1,186
Heterosexual	85.8%	1,033
LGB	9.1%	103
Not Sure	5.1%	59
Total	100%	1,195

How to Read and Interpret Data Presented in this Report

The YRBS is administered during January-March of every other odd-numbered year. New samples are drawn for each survey cycle. Moreover, to maintain student confidentiality and anonymity, surveys do not record identifying information for any individual. This means that individual students cannot be and are not tracked over time. Aggregated data for any given year are cross-sectional in nature and represent Boston prevalence estimates for the year of interest. Moreover, further investigation of the data represented in this report may yield additional insights, especially in cases of conflicting results within a risk-behavior area or small sample size.

2013 Snapshot - Results for each question included in the 2013 survey are reported. Each circle is color-coded to demonstrate whether there was an increase, decrease, or no change from 2011. The three bubble sizes are meant to provide a visual cue to the relative prevalence of a risk-behavior and are not exactly proportional to prevalence.

10 Year Trend – Available data points between 2003 and 2013 were analyzed using a logistic regression model, controlling for race/ethnicity, sex, and grade to determine if a particular risk behavior changed significantly during this period. The symbol, †, indicates if a statistically significant change ($p<0.05$) was detected for a particular behavior over time. The years included in the parenthesis indicate the years where this change occurred.

Race/ethnicity – Prevalence estimates are provided, including 95% Confidence Intervals (CI's). CI's can be used to determine how precise your results are and serve as a conservative statistical test of difference between prevalence estimates of two groups.

- If the CI's of two groups overlap, there is no statistical difference between the estimates.
- If the CI's of two groups do not overlap, there is a statistical difference between the estimates.

Academic Performance – A logistic regression model (controlling for race/ethnicity, sex, and grade) was used to determine if a significant association exists between academic performance and a given health behavior. The symbol, †, indicates if the association (or correlation) is statistically significant ($p<0.05$). A behavior without the symbol means that there is no correlation between the behavior and academics.

Sexual Orientation – For each behavior, a t-test analysis was used to determine if a statistical difference exists between students who identified as gay, lesbian, or bisexual and students who identified as heterosexual. The symbol, †, indicates if a statistical difference ($p < 0.05$) was observed.

School Connectedness, Time Spent in the US, and other Exposure Variables of Interest
For each behavior, statistical difference between two groups was determined using the Chi-square method or Fisher's exact test in instances where a small sample size was detected. In instances where multiple comparisons were made, the Bonferroni correction method was applied to account for significant p-values due to chance. The symbol, †, indicates if a significant p-value was observed between the two groups for a particular behavior. A behavior without the symbol means that there is no statistical difference between the two groups.

Causation vs. Correlation
When interpreting results, it is important to keep in mind that **correlation does not imply causation**. If a particular sub-group (exposure) and behavior (outcome) are found to be significantly associated ($p<0.05$), it is incorrect to say that the behavior (outcome) occurred *because* the individual is a part of a particular group (exposure). This is called "logical fallacy" and may result in incorrect interpretation of results.