

Commonwealth of Virginia School Health Profile 2012



Virginia School Health Profile



© Commonwealth of Virginia
Department of Education
Richmond, VA 23218-2120

2012 Survey Report

December 2012

The Virginia Department of Education does not discriminate on the basis of race, sex, color, national origin, religion, age, political affiliation, veteran status, or against otherwise qualified persons with disabilities in its programs and activities and provides equal access to the Boy Scouts and other designated youth groups.

TABLE OF CONTENTS

LIST OF CHARTS, TABLES, AND FIGURES	i
ACKNOWLEDGEMENTS	iii
EXECUTIVE SUMMARY	iv
I. Introduction	1
A. Purpose	1
B. Methodology	1
II. School-Level Impact Measures (SLIMs) Survey Results	3
A. Coordinated School Health SLIMs	3
B. HIV or AIDS, STD and Pregnancy Prevention SLIMs	5
C. Physical Activity and Physical Education SLIMs	6
D. Nutrition SLIMs	7
E. Tobacco-Use Prevention SLIMs	8
F. Health Services and Asthma Management SLIMs	9
III. Principal and Lead Health Educator Survey Results	12
A. Administrative Policies and Practices	12
B. Coordination of Health Education and Health Topic Policies and Activities	14
C. School Programs	16
D. Sexual Orientation and Gender Identity	16
E. Professional Development and Preparation	17
F. HIV or AIDS, STD, and Pregnancy Prevention Policies and Practices	22

G. Physical Education and Physical Activity Policies, Practices and Curriculum	24
H. Nutrition Policies, Practices and Curriculum	26
I. Tobacco Policies, Practices, and Curriculum	28
J. Health Services and Asthma Management	32
IV. Conclusion	35
V. References	36

LIST OF CHARTS, TABLES, AND FIGURES

Chart 1: Percentage of Schools that Ever Used the School Health Index or Other Self-Assessment Tool to Assess School Policies, Activities, and Programs, 2012	13
Table 1: Percentage (%) of Schools with a School Improvement Plan that Includes Health-Related Goals and Objectives on the Various Topics, 2010 and 2012	14
Table 2: Percentage of Schools that Have the Various Groups Represented on Any School Health Council, Committee, or Team*, 2008, 2010, and 2012	15
Table 3: Percentage of Schools in Which Students' Families and Community Members Helped Develop or Implement Policies and Programs Related to the Various Topics During the Two Years Before the Survey, 2008, 2010, and 2012	16
Figure 1: The percentage of schools in which the lead health education teacher received professional development on human sexuality since 2000.	18
Table 4: Percentage Lead Health Education Teachers Who Had Received Staff Development in the Past Two Years and Who Desire Staff Development on Specified Health Education Topics, 2006-2012	19
Table 5: Percent of Lead Health Teachers Who Had Received Staff Development in the Past Two Years and Who Desire Staff Development on Specified Teaching Topics, 2006-2012	19
Table 6: Percentage of Schools that Have Adopted a Policy that Addresses HIV and AIDs Prevention, 2008 - 2012	22
Table 7: Percentage of Schools in which Teachers Taught HIV, STD, and/or Pregnancy Prevention Topics in a Required Course, Grades 6, 7, or 8, and Grades 9 through 12, 2010 - 2012.	24
Table 8: Percentage of schools that taught a required physical education course in the following grades, 2006 - 2012	25
Table 9: Percent of Schools Making Various Snacks and Beverages Available for Purchase by Students, 2006-2012	27

Table 10: Percent of Schools Teaching Various Nutrition and Dietary Behavior Topics in a Required Health Education Course in Grades 6-12, 2008, 2010, and 2012	28
Table 11: Percent of Schools Prohibiting Tobacco Use by Group and Location, 2012	29
Table 12: Percent of Schools Taking Specified Actions When Students Are Caught Smoking Cigarettes, 2012	30
Table 13: Percent of Schools Teaching Various Tobacco-Use Prevention Topics in a Required Health Education Course in Grades 6-12, 2008 - 2012	31
Table 14: Percent of Schools Using Various Events to Identify Students with Poorly Controlled Asthma , 2008 - 2012	32
Table 15: Percent of Schools That Provide Various Services for Students with Poorly Controlled Asthma , 2008 - 2012	33
Table 16: Percentage of Schools that Have Policy and Procedures for Self-Administered Asthma Medications , 2008 - 2012	34

ACKNOWLEDGMENTS

Virginia Department of Education

Caroline Fuller, MAT, CHES
Comprehensive School Health Specialist
Office of Special Education and Student Services
Virginia Department of Education

Elaine Kitchen
Administrative and Office Specialist III
Office of Special Education and Student Services
Virginia Department of Education

Sample Selection, Scanning of Survey Forms, and Data Compilation

WESTAT, Rockville, Maryland

Data Analysis and Report Preparation

Agata Kowalewska, PhD, RD
Consultant
Department of Population Health Sciences
Virginia Tech

Project Funding

The survey and the report preparation were supported by the Virginia Department of Education through a Grant/Cooperative Agreement (U87/DP001199) from the Centers for Disease Control and Prevention (CDC), Division of Adolescent and School Health. Report contents are solely the responsibility of the authors and do not necessarily represent official views of the CDC.

EXECUTIVE SUMMARY

2012 VIRGINIA SCHOOL HEALTH PROFILE

Overview

This report of the results of the 2012 Virginia School Health Profile (SHP) survey, developed by the Centers for Disease Control and Prevention (CDC), provides information regarding health education in Virginia public schools housing any of the grades six through twelve. The survey name was changed in 2004, from School Health Education Profile to School Health Profile. Similar, but not identical, surveys have been administered biennially since 1996. In this report, some longitudinal comparisons are made between the current results and past results. To make additional comparisons, it will be necessary to refer to copies of the earlier reports. (Note: The last Virginia SHP report that was written was in 2006. A 2008 report was not written. The structure of this report reflects the 2008, 2010, and 2012 changes in the survey and differs slightly from the 2006 and 2010 reports.)

Purpose and Methodology

The purpose of this survey is to assess school health policies and programs and school health curricula. It further examines changes that occur in these areas over time, providing information for developing and/or revising education programs and policies statewide. The results from this survey can be used to assist state and local education and health agencies in monitoring and assessing characteristics of school health education; physical education; school health policies related to HIV infections/AIDS, tobacco-use prevention, and nutrition; asthma management activities; and family and community involvement in school health programs. In addition, data from the SHP can be used to improve school health programs.

A descriptive design was used to determine the status of the health curriculum and health policies and practices in middle, middle/junior high, and senior high schools in Virginia. All public schools in Virginia with at least one of the grades 6 through 12 (except schools in which the 6th grade was the final grade) were included in the population from which the sample was drawn. Two questionnaires were used to collect data; one for school principals and one for lead health education teachers. The principal and lead health education teacher (may be the only health education teacher, the department chair, or the most senior health education teacher) in each school were asked to complete different SHP questionnaires. The two questionnaires were mailed to 420 regular secondary public schools containing any of grades 6 through 12 in Virginia during the spring of 2012. Usable questionnaires were received from 73 percent of principals and 71 percent of teachers. Because the response rates exceeded 70 percent, the results are weighted and, therefore, can be used to describe school health policies and practices of all regular secondary public schools in Virginia

having at least one of grades 6 through 12. (Note: All percentages in the results of this report are rounded to the nearest whole percent.)

Major Findings

School Health Assessment and Plan

New questions were added to the 2008 and the 2010 survey and retained for 2012 survey. The questions measured whether schools have conducted an assessment or diagnosis as a critical first step in improving implementation of policies, programs or environmental strategies. And has that step effected change or improvement in school health using the *School Health Index (SHI)* or a similar self-assessment tool. About one-third (29 percent) of schools indicated that they have used such a self-assessment tool for all three topics; physical activity, nutrition, or tobacco-use prevention and about half (49 percent) that used the tool for one or more of the topics. The majority of schools, 72 percent, indicated that they have a written *School Improvement Plan (SIP)*, which includes health-related goals and objectives on a variety of health topics.

Sexual Orientation and Gender Identity

New questions have been added to the survey for 2008 and 2010 and retained for 2012 that address sexual orientation and gender identity to determine how many schools create a safe school climate for *lesbian, gay, bisexual, transgender, and questioning (LGBTQ)* youth. Most schools prohibit harassment and about half identify “safe spaces” where LGBT youth can receive support from school staff. Fifty-two (52) percent of schools encourage staff to attend professional development on safe and supportive school environments for all students, regardless of sexual orientation or gender identity but fewer schools facilitate access to providers not on school property who have experience in providing health services, including HIV/STD testing and counseling (38 percent) or social and psychological services (40 percent) to LGBT youth. More than a quarter (29 percent) of schools indicated that they had a “student-led club that aims to create a safe, welcoming, and accepting school environment for all youth, regardless of sexual orientation or gender identify.”

Prevention Policies and Programs

Most schools (91 percent) have a *designated individual* that is responsible for coordinating school health and safety programs and activities. There are 61 percent of schools that have *one or more group* that offers guidance on the development of policies or coordinates activities on health topics.

The majority of schools have prevention policies and programs in place for asthma management, physical education and physical activity, and for HIV or AIDS-infected students and staff. Very few school schools (2 percent) have programs that deliver HIV, STD and pregnancy prevention programs that meet the needs of high risk ethnic/racial minority youth.

About half of schools have a tobacco policy (52 percent) that mandates a “tobacco-free environment.” However, almost all schools (95-96 percent)

responded that they have adopted a policy prohibiting tobacco use for students, for faculty/staff (89-90 percent), and for visitors (87-90 percent), but few schools indicated that they provided tobacco cessation services for students, faculty, and staff (28 percent).

Although there has been a significant increase in schools that did not sell less nutrition foods and beverages, including sport drinks, anywhere outside the school food service program (43 percent), overall there are less policies and strategies to promote healthy eating than compared to the other health topics; HIV/AIDs and pregnancy prevention, tobacco-use prevention, and asthma management.

Health Education

Among schools that taught a required health education course, in the majority (83 percent) of schools student take two or more required health education courses. The schools taught the bulk of key prevention and promotion topics in all four health categories; HIV or AIDS, STD and pregnancy prevention (56 percent), physical education and physical activity (86-96 percent), nutrition (78 percent), and tobacco (80 percent). When teachers were asked if they tried to increase student knowledge about specified health topics in any of grades 6 through 12 during the current school year, over 90 percent of teachers responded that they did for alcohol- or other drug-use prevention, emotional and mental health, human immunodeficiency virus (HIV) prevention, and injury prevention and safety.

Professional Development

Almost all schools (96 percent) indicated that all staff who taught health education were licensed, certified, or endorsed by the state in health education. The majority of schools (84 percent) follow a written health education curriculum and 61 percent of health education teachers said that they were provided with key materials for teaching health education. The majority lead health education teachers indicated that they desired staff development in the past two years on a variety of health topics with significant increases in two topics; HIV prevention and human sexuality. However, less than a quarter (24 percent for each of the two) of teachers indicated that they received the staff development in each of those categories. The 24 percent of teachers who received professional development on “human sexuality” represent a negative trend and decrease in number of teachers who are trained in this area when compared with earlier surveys (41 percent in 2006, 37 percent in 2008, and 31 percent in 2010).

Family and Community Involvement

Only 7 percent of schools indicated that they had students’ family helped develop or implement policies and programs related to HIV, STD, or teen pregnancy prevention and 10 percent indicated that they had community

involvement in the same manner. Half or less than half of schools provided student's families information about following topics: HIV prevention, STD prevention, or teen pregnancy prevention (22 percent), tobacco-use prevention (28 percent), physical activity (51 percent), nutrition and healthy eating (45 percent) and asthma (22 percent).

Conclusion

The SHP survey has been conducted on even-numbered years since 1996. Each time, there have been some changes in the survey content. This year the changes were minimal and no new questions were added since 2010. The survey was designed to monitor the characteristics of and trends in school health education and health services in middle/junior and senior high schools. Included in the survey are administrative health policies and programs related to school health assessment/plan, sexual orientation and gender identity, health and physical education requirements, health education content, physical activity, tobacco-use prevention policies, nutrition-related policies and practices, school safety and security, HIV policies, health services, teacher preparation, and staff development.

Schools may benefit from using the School Health Index (SHI) or another self-assessment tool that assesses and diagnoses the school health environment. Few schools are using the SHI for injury prevention programs or asthma management, but a majority of schools are implementing a program to prevent bullying and a student-mentoring program. Since academic success is an indicator of overall student well-being and a strong predictor of adult health outcomes, schools may benefit from developing School Improvement Plans (SIP) that include key health-related goals and objectives. In addition, schools may need to consider providing more staff development for key health topics, considering a majority of health education teachers indicated that they desired staff development on a variety of health topics. Staff development appears to be focused more on physical education teachers and physical activity and fitness, when compared to the other health topics.

Health education appears to cover all three health topics (HIV or AIDS and pregnancy prevention, physical education and physical activity, and tobacco-use prevention) in most schools. However, schools may be missing an opportunity to target youth at high risk and racial/ethnic minorities when providing HIV, STD and pregnancy prevention programs. Tobacco cessation services and stronger implementation of tobacco use by visitors may be another areas that schools can improve on to decrease tobacco-use among students, teachers and staff, and visitors.

Policies and programs that are related to HIV/AIDS, tobacco-use prevention, and asthma management seem to continue to improve. However, policies and programs that promote optimal nutrition and healthy eating habits

need improvement. Schools appear to recognize that they have the ability to provide and promote positive health and health behaviors; however there remains to be opportunity for additional progress.

I. INTRODUCTION

The 2012 School Health Profile (SHP) survey of the public schools in the Commonwealth of Virginia was conducted in the spring of 2010. The survey, which has been conducted biennially since 1996, was renamed in 2004. Previous surveys, known as the School Health Education Profile were similar, though not identical, to the 2004 through 2012 surveys. The questionnaires used in the survey were developed by the Division of Adolescent and School Health, National Center for Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, in collaboration with representatives of state, local, and territorial departments of health and education. The survey was developed for the purpose of monitoring the characteristics of and trends in school health education and health policies in middle/junior high schools and senior high schools. Included in the survey are questions on the School Health Index, physical education and health education requirements, physical activity, tobacco-use prevention policies, nutrition-related policies and practices, violence prevention, health services, and HIV infection policies.

The department of Population Health Sciences at Virginia Maryland Regional College of Veterinary Medicine collaborated with Virginia Department of Education to prepare the final report. WESTAT, of Rockville, Maryland, provided technical support in the sampling of schools, the scanning of survey forms, and the compilation of data. The survey and the report preparation were supported by the Virginia Department of Education through a Grant/Cooperative Agreement (U87/DP001199) from the Centers for Disease Control and Prevention, Division of Adolescent and School Health. The report contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

A. Purpose

This study continues a health data collection process among middle and high school principals and lead health education teachers. The investigation, conducted biennially since 1996, assess school health education policies and programs and school health curricula. It further examines changes that occur in these areas over time, providing information for developing and/or revising health education programs and policies statewide.

B. Methodology

The 2012 study used a descriptive design to determine the status of health curriculum and health policies and programs in middle and high schools in Virginia. All public schools in Virginia with at least one of the grades 6 through 12 (except schools in which the 6th grade was the final grade) were included in the population from which the sample was drawn. Systematic equal probability sampling with a random start was used to select schools for the survey. The survey was conducted by mail, with mail and phone follow-up. Two

questionnaires were used to collect data; one for school principals and one for lead health education teachers. The two questionnaires were mailed to 420 regular secondary public schools containing any of grades 6 through 12 in Virginia during the spring of 2012. School principals were asked to: (1) complete and return the principal questionnaires; and (2) to identify *lead health education teachers* in their schools and forward the teacher questionnaires to them. (Note: This teacher may be the only health education teacher, the department chair, or the most senior health education teacher.) Principals and lead health education teachers returned their survey forms independently to the Virginia Department of Education. Usable questionnaires were received from 73 percent of principals and 71 percent of teachers. Because the response rates exceeded 70 percent, the results are weighted and, therefore, can be used to describe school health policies and practices of all regular secondary public schools in Virginia having at least one of grades 6 through 12. (Note: All percentages in the results of this report are rounded to the nearest whole percent.)

The completed questionnaires were forwarded to WESTAT for processing. At WESTAT the questionnaires were scanned and the descriptive results were tabulated. The resulting data were summarized in a series of tables and graphs. It is from these tables and graphs that this report was developed.

II. 2012 Virginia School-Level Impact Measures (SLIMs) Survey Rationale and Results

Below is a summary of the 2012 Virginia School Health Profile (SHP) survey School-Level Impact Measures and their short-term trends. Rationale for the SLIMs as described by the Centers for Disease Control and Prevention (CDC), as well as human sexuality related to sexual orientation and gender identify have also been highlighted in this section. This section was added to the Virginia SHP report with the 2010 survey.

A. Coordinated School Health School-Level Impact Measure (SLIM)

School Health Assessment and Plan Questions about the *School Health Index (SHI)* were added to the survey in 2008, 2010, and 2012. These questions attempt to assess whether the school has conducted an assessment or diagnosis as a critical first step in improving implementation of policies, programs, or environmental strategies to effect change or improvement in school health⁽¹⁾. Thirty-four (34) percent of principals indicated that they used the SHI or another self-assessment tool to address their policies, activities, and programs for all three topics; physical activity, nutrition, tobacco-use prevention or injury and violence prevention. This is the same with the 2010 results. The question and calculation of results varied slightly from 2010 to 2012 particular in section about asthma as a category that could be assessed using the SHI. There were 22 percent of all schools that reported using the SHI or another self-assessment tool to assess their asthma levels for establishing prevention policies, activities, and programs.

A set of questions in the 2012 survey asks Principals about whether or not various *asthma* services and initiatives are being offered at schools. The SLIM for 2012 was calculated differently than 2008 and 2010 therefore this year results could not be compared directly to the previous years. All students with known asthma have an asthma action plan on file in 65 percent of schools. Schools monitor poorly controlled asthma incident by recording number of visits to the health office (84 percent) and non-participation in physical education classes (63 percent). In 94 percent of schools ensure that students with poorly controlled asthma have access to and appropriate use of asthma medications, spacers, and peak flow meters. Safe, enjoyable physical education and activity opportunities are offered by 97 percent of schools and 96 percent ensures access to preventive medications before physical activity. Assessment of successful school-based asthma management programs reveal that monitoring and then providing case management can contribute to the medical management of students with asthma.^(2,3)

Health related goals and objectives in schools can help ensure that health programs can have a positive impact on educational attainment and student health-risk behavior participation.⁽⁴⁻¹¹⁾ Research has suggested that academic success is an indicator of overall student well-being and a strong predictor of adult health outcomes.⁽¹²⁻¹⁵⁾ A majority of schools (72 percent) indicated that

they have a written *School Improvement Plan (SIP)* that includes eight health-related goals and objectives on a variety of health topics.

School Health Council, Committee, or Team Most schools (91 percent) have a *designated individual* (e.g., faculty member or administrative personnel) that is responsible for coordinating school health and safety programs and activities. There were two questions that addressed the school health committee or team and the composition of that team. The school health committee or team should represent a coalition of representatives from within and outside of the school community interested in improving the health of youth in schools.^(16,17) Such participation can empower others through increased awareness and knowledge of the school health program, increase the chance of ownership and commitment, activate channels of communication, and increase involvement in decision making.⁽¹⁶⁻²¹⁾ Sixteen (16) percent of schools indicated that had one or more group (e.g., a school health council, committee, or team) that offers guidance on the development of policies or coordinates activities on health topics with representation from at least 10 of 16 groups in 2012. This is slightly less than 2008 (19 percent) and less than in 2010 (18 percent).

Family and Community Involvement Family and community members are important to school health and assist to produce stronger school policies and programs rather than the school working as a separate, stand-alone intervention.^(22, 23) About 15 percent of schools indicated that students' family and community members have helped develop or implement policies and programs on all of the following topics; tobacco-prevention, physical activity, and nutrition and healthy eating, which is slightly increased since 2008 (14 percent). Many schools (57 percent) in 2010 indicated that they involved students' family or community members on any of those topics, which is slightly down from 2008 (64 percent). No SLIM data for 2012.

Health Education and Curriculum Schools were asked about the necessary *qualification of staff* that taught health education. Almost all schools (96 percent) indicated that all staff who taught health education were licensed, certified, or endorsed by the state in health education, which is similar with 2010 data (97 percent). Sixty one (61) percent of schools indicated that health education teachers were provided with *key materials* for teaching health education and this is also similar but a slight increase since the 2010 survey. In 2012, fewer schools (75 percent) indicated that they follow a *written health education curriculum* that addresses eight skills to enhance health compared to 81 percent of schools in 2010.

Parent and Families Health Information Parents and families are provided with health information about any of the following health issues; tobacco-use prevention, physical activity, and nutrition and healthy eating in 56 percent of schools in attempt to increase their knowledge about these health topics. Twenty-three (23) percent of schools indicated that they provided parents and families health information to increase their knowledge about all of these topics in 2012. These results are different from the 2010 results; 60 percent and 29 percent respectively.

B. HIV or AIDS, STD and Pregnancy Prevention School-Level Impact Measure (SLIM)

Prevention Policies and Programs: HIV or AIDS, STD and Pregnancy

Students and staff that are infected with HIV or AIDS need policies in place to protect their rights.⁽²⁴⁾ Fifty nine (59) percent of schools in 2012 and 68 percent of schools in 2010 indicated that they have a policy on students or staff who have HIV infection or AIDS that addresses attendance of students with HIV infection, procedures to protect HIV-infected students and staff from discrimination, and maintaining confidentiality of HIV-infected students and staff.

Youth at high risk include racial/ethnic minorities and those who participate in drop-out prevention, alternative education, or GED programs. Students in racial ethnic/minority students are more likely than white students to engage in sexual risk behaviors that can lead to HIV, STDs, and unintended pregnancy.⁽²⁵⁻²⁷⁾ Very few schools (2 percent in 2012 and 3 percent in 2010), have programs (including after school or supplemental programs) that deliver HIV, STD, and pregnancy prevention programs that meet the needs of ethnic/racial minority youth at high risk.

Health Education Required Course: HIV/AIDS, STDs, and Pregnancy

Prevention The majority of schools (84 percent) with grades 9, 10, 11, or 12 taught 8 key HIV, STD, and pregnancy prevention topics in a required health course and 43 percent of schools taught all 22 HIV/STD, and pregnancy prevention topics. In grades, 6, 7, or 8, 56 percent of schools taught 11 key HIV, STD, and pregnancy prevention topics in a required health course, but fewer schools (17 percent) indicated that they taught all 22 HIV, STD, and pregnancy prevention topics than the older grades. There is a slight increase of the percent of schools that responded that they taught 3 key topics related to condom use in a required course during grades 9, 10, 11, or 12 from 2010 (51 percent) to 2012 (54 percent). More teachers responded about teaching students about how to obtain condoms (57 percent) and how to correctly use a condom (53 percent) in grades 9 through 12 than in grades 6, 7, or 8, (20 and 25 percent respectively).

Professional Development: HIV or AIDS, STD and Pregnancy

High risk students need tailored health education and resources related to HIV, STD, and pregnancy prevention. Educators must be trained to teach prevention to these groups and programs are most effective when educators have received professional development in health education related to HIV or AIDs, STD and pregnancy prevention.⁽²⁸⁾ The lead health education teacher in 11 percent of schools in 2012 (19 percent of schools in 2010) indicated that they received professional development during the two years before the survey on 4 key HIV prevention topics. Even less (11 percent in 2012) indicated that they received professional development on 6 of 11 key HIV prevention topics during the two years before the survey.

Family and Community Involvement: HIV or AIDS, STD and Pregnancy

Without parental support and understanding of HIV, other STDs, and pregnancy prevention, education programs and policies cannot be sustained in schools.^(29,30) In 22 percent of schools (30 percent in 2010), parents and families were provided with health information related to HIV prevention, STD prevention, and teen

pregnancy prevention to increase parent and family knowledge about these topics. In 7 percent (18 percent in 2008 and 16 percent in 2010) of schools, students' families helped develop or implement policies and programs related to HIV prevention, STD prevention, and teen pregnancy prevention policies and programs. And 19 percent of schools reported that community members helped develop or implement policies and programs related to HIV, STD, or teen pregnancy prevention, which marks significant decrease from 30 percent in 2008 and 31 percent in 2010.

C. Physical Activity and Physical Education School-Level Impact Measure (SLIM)

Policies and Programs: Physical Education and Physical Activity

According to National Association for Sport and Physical Education (NASPE), intramural activities, physical activity clubs, and recreation clubs contribute to young people's physical and social development. In addition, intramural activities or physical activity clubs offers students the opportunity to be involved in planning and implementing such programs and offer safe and structured opportunities to be physically active.⁽³¹⁻³⁶⁾ Sixty-one (61) percent of schools offer opportunities for all students to participate in intramural activities or physical activity clubs.

Health Education Required Course: Physical Education and Physical Activity Physical education provides students with the knowledge, attitudes, skills, behaviors, and confidence to adopt and maintain physically active lifestyles. The importance of physical education in promoting the health of young people is supported by *Healthy People 2010* Objectives 22-28, 22-9, and 22-10.⁽³⁷⁻³⁹⁾ Seventy-one (71) percent of schools taught 12 key physical activity topics in a required health course. This shows slow increasing trend over the past survey (70 percent in 2010 and 65 percent in 2008).

Exemptions from required physical education do not allow students to participate in comprehensive, standards-based physical education, which diminishes the importance of physical education and its role in assisting students with establishing physically active lifestyles and developing various motor, movement, and behavioral skills unique to being physically educated.⁽⁴⁰⁾ Eighty-one (81) percent of schools do not allow students to be exempted from taking required physical education for certain reasons. This is similar to 2006 and 2008 results; 81 percent and 76 percent respectively. No SLIM data for 2012.

Family and Community Involvement: Physical Education and Physical Activity Access to school spaces and facilities before, during, and after the school day, on weekends, and during summer and other vacations increases the visibility of schools, provides youth, their families, and community members a safe place for physical activity, and might increase partnerships with community-based physical activity programs.⁽⁴¹⁻⁴³⁾ Eighty-nine (89) percent of schools allow the use of their indoor physical activity or athletic facilities for community-sponsored classes or lessons outside of school hours or when school is not in session. No SLIM data for 2012.

Professional Development: Physical Education and Physical Activity

Physical education teachers should have professional development opportunities

that teach concepts of quality physical education instruction.⁽⁴⁴⁻⁴⁶⁾ Professional development for physical education teachers provides skills to increase the quality of physical education classes through student engagement in physical activity and the content of lessons taught.⁽⁴⁷⁻⁴⁹⁾ A similar percent of schools indicated that they had at least one physical education teacher or specialist that received professional development on physical education during the two years before they survey (92 percent in 2008, 96 percent in 2010, and 94 percent in 2012). However, 85 percent of physical education teachers indicated that they were provided with key materials for teaching physical education.

D. Nutrition School-Level Impact Measure (SLIM)

Policies and Programs: Nutrition Many schools offer foods and beverages in after-school programs, school stores, snack bars, or canteens⁽⁵⁰⁾ and these foods sold in competition to school meals are often relatively low in nutrient density and relatively high in fat, added sugars, and calories.⁽⁵¹⁾ To help improve dietary knowledge and understanding and to help improve dietary behavior and reduce overweight among youths, schools should offer appealing and nutrition foods in school snack bars and vending machines and discourage sale of foods high in fat, sodium, and added sugars, and beverages and foods containing caffeine on school grounds.⁽⁵²⁻⁵⁴⁾ Over the last three surveys a significant increase was observed in schools (43 percent in 2012, 37 percent in 2010 and 30 percent in 2008) which did not sell less nutrition foods and beverages (including sport drinks) anywhere outside the school food service program. In 2008, sport drinks category was not included, and recalculated results show increase from 38 percent in 2008, 46 percent in 2010, and 49 percent in 2012 (significant increase) did not sell these foods, excluding sport drinks. A relatively low number of schools (11 percent in 2012, 13 percent in 2010, and 14 percent in 2008) always offered fruits or non-fried vegetables in vending machines or school stores, and during celebrations when foods and beverages are offered.

Students' food choices are influenced by the total food environment. Even when fruit and vegetable items are available, they compete in the context of a vast array of other food items, mostly high in fat and sugar, which are competitively priced.⁽⁵⁵⁾ Schools should employ effective or promising strategies in the school setting to promote healthy eating, such as pricing strategies,^(56,57) input from stakeholders,⁽⁵⁸⁾ provision of nutrition information,⁽⁵⁹⁾ taste tests, and using the cafeteria as a learning laboratory.⁽⁶⁰⁾ Twenty-nine (29) percent of schools indicated that they used at least three different strategies to promote healthy eating.

Exposure to advertisements for the promotion of candy, meals from fast food restaurants, or soft drinks may have adverse effects on children's eating habits.⁽⁶¹⁾ The Institute of Medicine (IOM) report on food marketing to children and youth recommends that schools should promote healthful diets for children and youth in all aspects of the school environment (e.g., commercial sponsorships, meals and snacks, curriculum), and outlines the importance of prohibiting advertising of less nutrition foods.⁽⁶²⁾ Forty-six (46) percent of schools indicated that they prohibited all forms of advertising and promotion of candy, fast

food restaurants, or soft drinks in all locations, which is identical to 2010 (46 percent) a slight less than 2008 (50 percent).

Health Education Required Course: Nutrition Nutrition education should be part of a comprehensive school health education curriculum and include various concepts to promote healthy eating.^(63,64) Comprehensive, sequential nutrition education using the classroom and the lunchroom can reinforce healthful eating behaviors.^(65,66) Fourteen key nutrition and dietary behavior topics were taught in a required course by 78 percent in 2012, 73 percent in 2010, and 70 percent in 2008.

Professional Development: Nutrition Professional development increases educators' confidence in teaching subject matter and provides opportunities for educators to learn about new developments in the field and innovative teaching techniques, and to exchange ideas with colleagues.⁽⁶⁷⁾ Districts that have made improvements in their professional development activities have seen a rise in student achievement.^(68,69) Forty-one (41) percent schools indicated that they received professional development in nutrition and dietary behavior during the two years before the survey. This is up from the 2000 and 2010 surveys, but has decreased since the 2008 survey; 29 percent in 2000, 24 percent in 2002, 26 percent in 2006, and 45 percent in 2008.

E. Tobacco-Use Prevention School-Level Impact Measure (SLIM)

Policies and Programs: Tobacco-Use Prevention Because tobacco use is the most preventable contributor to mortality in the U.S., it is important to restrict use or exposure to tobacco products at any age.⁽⁷⁰⁾ Multiple questions were asked of schools to measure the extent to which schools develop, implement, and enforce a policy that creates a totally tobacco-free environment within the school experience for both young people and adults, as outlined in the CDC Guidelines for School Health Programs to Prevent Tobacco Use and Addiction⁽⁷⁰⁾ to achieve the Health People 2010 Objective 27-11 of creating smoke-free and tobacco-free schools.⁽⁷¹⁾ Fifty-two (52) percent of schools indicated that they follow a policy that mandates a "tobacco-free environment" in 2012, which is a significant increase since 2002 (34 percent) but decrease from previous survey (54 percent in 2010). A decrease was observed in the percentage of schools in 2012 (10 percent in 2012 and 12 percent in 2010) indicated that they implement a tobacco-free environment policy in 7 ways. In addition, prohibiting any use of any tobacco product at all times, whether or not school is in session, and regardless of whether students are present, protects students and staff from the harmful effects of secondhand smoke.⁽⁷²⁾

People who begin using tobacco at an early age are more likely to develop higher levels of addiction in adulthood.⁽⁷³⁾ Adolescent tobacco users suffer similar symptoms of withdrawal to those of adults when attempting to quit.⁽⁷⁴⁾ School health providers as a routine part of care should assess the tobacco-use status of students, and if they identify a student's use of tobacco, they should provide self-help materials and refer them to a tobacco-use cessation program provided on site or in the community.⁽⁷⁵⁻⁷⁷⁾ There were 28 percent of schools that provided tobacco cessation services for students, faculty, and staff at school or

through arrangements with providers not on school property and this is similar but higher than 2008 and 2010 results (26 percent).

Health Education Required Course: Tobacco-Use Prevention Since most smoking is initiated by persons less than 18 years old, programs that prevent onset of smoking during the school years are crucial.⁽⁷⁸⁾ School-based tobacco prevention programs that address multiple psychosocial factors related to tobacco use among youth and that teach the skills necessary to resist those influences have demonstrated consistent and significant reductions or delays in adolescent smoking.⁽⁷⁸⁻⁸⁵⁾ In addition, questions that measured the extent to which schools are complying with the components of the National Health Education Standards, which provide a framework for decisions about the lessons, strategies, activities, and types of assessment to include in a health education curriculum.⁽⁸⁶⁾ There were 64 percent of schools in 2012, and 63 percent in both 2008 and 2010 that indicated that they taught 15 key tobacco-use prevention topics in a required course.

Family and Community Involvement: Tobacco-Use Prevention School programs can be effective, but maintaining those effects presents a challenge, especially with the many other influences encouraging tobacco use originating outside of the school environment. The strongest evidence of success for school-based tobacco-use prevention efforts has been shown with those that are coordinated or delivered in conjunction with mass media and community tobacco control efforts, creating an environment of support for a tobacco-free lifestyle and delivering messages that are mutually reinforced.⁽⁸⁷⁾ Thirty (30) percent of schools in 2010 and 33 percent of schools in 2008 indicated that they coordinate their tobacco prevention messages and programs with community and mass-media tobacco prevention efforts. No SLIM data for 2012.

Professional Development: Tobacco-Use Prevention The Institute of Medicine's Committee on Comprehensive School Health Programs in Grades K-12 recommended that health education teachers should be expected to participate in ongoing, discipline-specific in-service programs in order to stay abreast of new developments in their field.⁽⁸⁸⁾ A quarter of lead health education teachers (25 percent in 2012) received professional development during the two years before the survey on tobacco-use prevention and the number was significantly lower than in previous years (33 percent in 2000, 33 percent in 2002, 31 percent in 2006, 33 percent in 2008, and 32 percent in 2010).

F. Health Services and Asthma Management School-Level Impact Measure (SLIM)

Policies and Programs: Health Services and Asthma Management Because a *school nurse* is an essential component of a healthy school, *Healthy People 2010* Objective 7-4 calls to increase the proportion of elementary, middle, and senior high schools with a nurse-to-student ratio of 1:750.⁽⁸⁹⁾ School nurses can also link students and schools to physician and community resources. More schools in 2012 (78 percent) had a full-time registered nurse who provides health services to students at school than in 2008 (67 percent) and 2010 (74 percent) indicating a significant increase.

There were 22 percent of schools that indicated they used the SHI or a similar self-assessment tool to assess their asthma policies, activities, and programs, which is similar but lower than 2008 and 2010 results (25 and 24 percent respectively). School-based asthma management plans play an important role in providing school staff, students, and families with an understanding of an individual student's asthma management needs at school, including how to respond in an emergency.^(90,91) Additionally, the use of an asthma action plan at school results in affected students experiencing significant improvement in several health-related outcomes, including a decrease in the frequency of asthma-related nighttime awakenings, number of days of restricted activity, and frequency of acute medical treatment. A significant number of schools (66 percent in 2012 and 2010 and 51 percent in 2008) had an asthma action plan on file for all students with known asthma.

Tracking and case management can contribute to the medical management of students with asthma. In addition, monitoring and then providing case management can contribute to the medical management of students with asthma.⁽⁹⁰⁻⁹⁶⁾ Case management activities help students better manage their asthma, and have been shown to decrease hospitalizations, emergency department visits, and school absences among students with severe, persistent, or poorly controlled asthma.^(95,96) A majority of schools (68 percent in 2012) indicated that they identified students with poorly controlled asthma by keeping track of them in at least three ways.

Multiple questions addressed the need for schools to have policies and procedures to support students in receiving the asthma medications they may need at school. Students with asthma have had serious episodes and have died at school when they did not have access to quick-relief medicine.⁽⁹⁷⁾ To ensure compliance with federal, state, and many local laws and guidelines, schools should ensure that students have immediate access to asthma medications, as prescribed by a physician and approved by parents.⁽⁹⁸⁾ Policies should include medication storage in a safe, controlled, and accessible location, and appropriate attention should be given to expiration dates and safe disposal.⁽⁹⁹⁻¹⁰²⁾ Sixty-six percent (66) of schools, which is a slight more than in previous years (64 percent in 2008 and 61 percent in 2010) indicated that they have implemented a policy permitting students to carry and self-administer asthma medications by communicating the policy to students, parents, and families, and by designating an individual responsible for implementing the policy.

Family and Community Involvement: Health Services and Asthma Management Collaborative asthma interventions require a team effort and involve the whole school community: school administrators, faculty, and staff, as well as students, parents, and local community organizations.^(103,104) Eleven (11) percent of schools indicated that students' family and community members have helped develop or implement asthma management policies and programs. This is similar to the 2008 results (13 percent). No SLIM data for 2012.

Assessments of successful school-based asthma management programs indicate that with increased knowledge, parents can assist their children in better managing their asthma.⁽¹⁰⁵⁻¹⁰⁷⁾ Twenty-two (22) percent of schools responded

that they provided parents and families of students with health information to increase their knowledge of asthma, which is comparable with 2008 (20 percent) and 2010 (25 percent).

Professional Development: Health Services and Asthma Management
Because asthma can be life-threatening, it is essential to assist those involved in monitoring and managing children with asthma at school to provide timely, appropriate care. Therefore, all school staff members should be provided with basic information about asthma so that they can support students' asthma management and appropriately respond to asthma emergencies.⁽¹⁰⁸⁾ Less than half of schools (47 percent) said that they required all school staff members to receive annual training on recognizing and responding to severe asthma symptoms which is more than 44 percent in 2010 but significantly less than 57 percent in 2008.

III. Principal and Lead Health Educator Survey Results

This section describes the results of the 2012 Virginia School Health Profile (SHP) survey administered to principals and lead health education teachers in the schools sampled in this study. Comparisons with earlier survey results are included where the data are available and when such comparisons are relevant.

Logistic regression analyses have been used to identify significant linear trends and quadratic trends over time. This type of analysis uses all available years of data, but does not simply consider only the oldest and the most recent data points. For each variable, all data from all weighted survey years are included in the analysis of that variable. Sites that do not have weighted data or that do not have another survey since 1998 are not considered in the analysis.

A. Administrative Policies and Practices

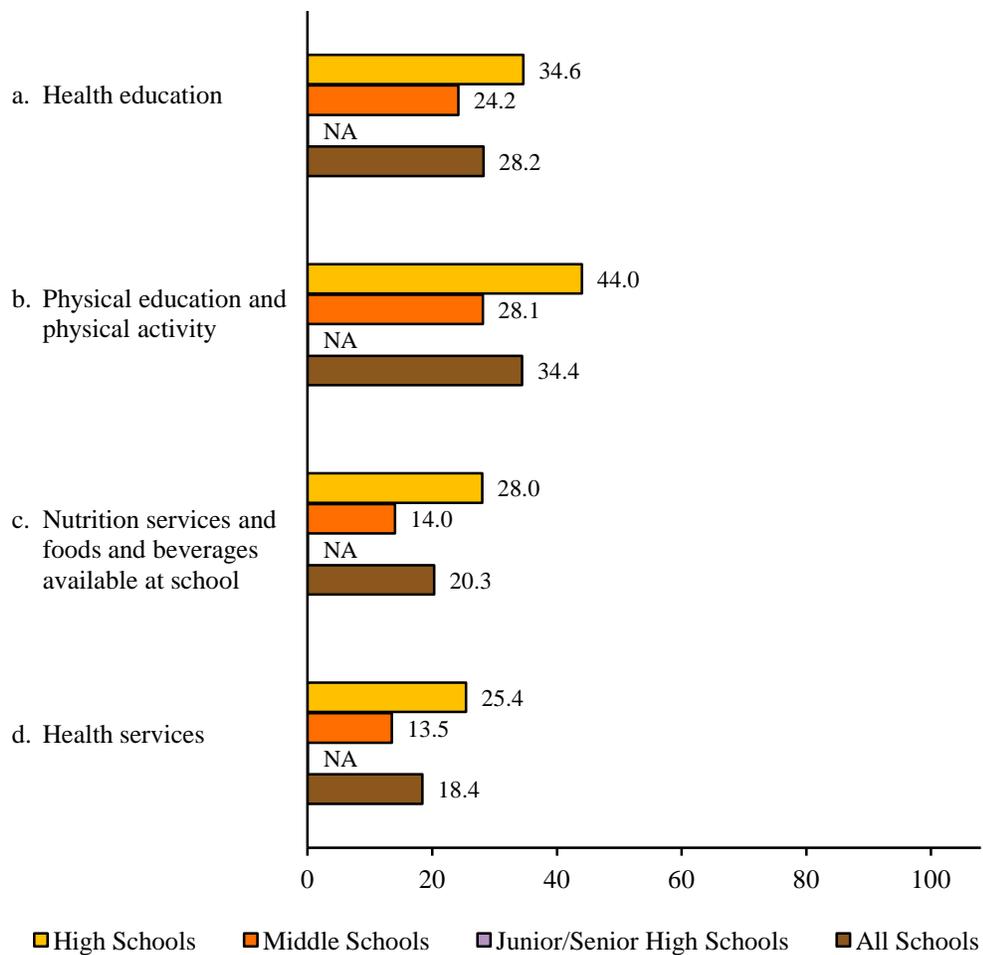
School Health Assessment and Plan

School Health Index The 2012 survey was carried with no changes from 2010 survey. The new questions added to the 2008 and 2010 SHP survey asked about school health assessment and the coordinated effort with school activities, policies, and programs about school health. In 2006, Principals were asked if their school ever used the School Health Index (SHI) from the Centers for Disease Control and Prevention (CDC) to assess their school's health and safety policies and programs. There were only 16 percent of schools that indicated that they had ever used the SHI to assess their school's health and safety policies and programs. In 2008, 2010, and in 2012 there are further detailed questions about the SHI and what it was used for. *The School Health Index (SHI) or a similar self-assessment tool* was used "to assess their school's policies, activities, and programs in physical activity, nutrition, and tobacco-use prevention" in 29 percent of all school in 2012, 34 percent of all schools in 2010, and 38 percent of schools that indicated using SHI or a similar self-assessment tool in 2008. In the 2010 survey, injury and violence prevention was added to this question, 39 percent of High Schools and Middle Schools responded that they did use the SHI or a similar self-assessment tool to assess school policies, activities, and programs and in 2012 thirty-five (35) percent of responding schools used that tool. When Junior/Senior High Schools were asked about injury and violence prevention, 27 percent indicated that they did use the SHI or similar tool to assess the policies and programs for this area, no data for 2012. There were 38 percent of all schools that reported using the SHI or another self-assessment tool to assess injury and violence prevention programs and policies in 2010.

In all schools (no data for Junior/Senior High Schools), the SHI was used mainly to assess physical activity (45 percent), nutrition (39 percent), and tobacco-use prevention (34 percent). Asthma activities, policies, and programs were assessed using the SHI in 22 percent and injury and violence prevention 35

percent of schools in 2012. These percents are lower from the 2008 and 2010 reported numbers for each area; physical activity (50 and 47 percent respectively), nutrition (48 and 44 percent), tobacco-use prevention (44 and 41 percent), and asthma (25 and 24 percent), and injury and violence prevention (38 percent in 2010). Chart 1 represents the percentage of schools that ever used the School Health Index or other self-assessment tool to assess school policies, activities, and programs in physical activity, nutrition, tobacco-use prevention, asthma, and injury and violence prevention in 2012.

Chart 1. Percentage of Schools that Ever Used the School Health Index or Other Self-Assessment Tool to Assess School Policies, Activities, and Programs, 2012



NA = Not available

School Improvement Plan In 2010 and 2012, Principals were asked if they had a *School Improvement Plan* that included a variety of health topics. In 2012 there were 72 percent of schools that responded that they had an improvement plan for *any* of the following topics; health education, physical education and physical activity, nutrition services and foods and beverages available at school, health services, mental health and social services, healthy and safe school environment, family and community involvement, faculty and staff health promotion. The top three topics that Principals indicated were included in their school's School Improvement Plan include family and community involvement (64 percent), health and safe school environment (63 percent), and physical education and physical activity (34 percent). Health services ranks as the lowest health topics included in a School Improvement Plan for most schools (18 percent). Table 1 shows the breakdown of which health topics are included in the School Improvement Plan and comparison of 2010 and 2012 results.

Table 1: Percentage (%) of Schools with a School Improvement Plan that Includes Health-Related Goals and Objectives on the Various Topics, 2010 and 2012

	High Schools		Middle Schools		Junior/ Senior High Schools		All Schools	
	2010 %	2012 %	2010 %	2012 %	2010 %	2012* %	2010 %	2012 %
Health education	44...	..35	35	25	48	n/a	39	28
Physical education and physical activity	48	44	44	28	48	n/a	45	34
Nutrition services and foods and beverages available at school	29	28	26	14	37	n/a	28	20
Health services	33	25	23	14	--	--	28	18
Mental health and social services	34	32	22	19	--	--	27	24
Healthy and safe school environment	72	69	66	61	--	--	68	63
Family and community involvement	70	68	68	63	--	--	68	63
Faculty and staff health promotion	35	31	28	21	--	--	31	26

- Results are suppressed due to insufficient number of respondents in subgroup.

* Data for 2012 was not available.

B. Coordination of Health Education and Health Topic Policies and Activities

Coordinator for School Health and Safety Programs and Activities

According to the 2006 Virginia SHP Report, from 2000 to 2006, Principals were asked “who coordinates health education in their schools?” In each survey since 2000, the most common response given by principals was “health education

teacher,” followed by “district health education or curriculum coordinator.” Starting in 2008, Principals were not asked about who coordinated health education in their schools, but instead asked if they have *someone who oversees or coordinates* school health and safety programs and activities. In 2008, 92 percent of principals responded that they had someone who oversees or coordinates such programs and activities. In 2010, there was a slight decline with 89 percent and in 2012 survey the number return to 2008 level with 92 percent of principals indicating that their school had someone who oversees or coordinates school health and safety programs and activities schools

School Health Council, Committee, or Team From 2006 to 2008, there was a significant increase in the percentage of schools that have *one or more than one group (e.g., a school health council, committee, or team) that offers guidance on the development of policies or coordinates activities on health topics*; 2006 (49 percent) and 2008 (64 percent). This seems to have slightly decreased and leveled off in 2010 and 2012 with 58 percent and 61 percent (respectively) of Principals indicating that they have one or more than one group that offers guidance on the development of policies or coordinates activities on health topics.

The top three groups that principals reported were represented on any school health council, committee, or team for 2008, 2010, and 2012 were school administrators (2008: 90 percent, 2010: 92 percent, 2012: 87 percent), health education teachers (2008: 91 percent, 2010: 94 percent, 2012: 90 percent), and physical education teachers (2008: 91 percent, 2010: 94 percent, 2012: 91 percent). Among the groups that were represented the least include, maintenance and transportation staff, faith-based organizations, and businesses for all three surveys, 2008, 2010, and 2012. In 2010, two new groups were added to the question, technology staff and ILibrary/media center staff, and maintained for 2012. The complete distribution will be found in Table 2.

Table 2: Percentage of Schools that Have the Various Groups Represented on Any School Health Council, Committee, or Team*, 2008, 2010, and 2012

Groups Represented	2008	2010	2012
Nutrition or food services staff	70	67	51
Health services staff (e.g., school nurse)	85	86	79
Maintenance and transportation staff	18	16	13
Technology staff	N/A	24	19
Library/media center staff	N/A	21	19
Student Body	46	48	34
Parents or families of students	61	52	44
Community members	50	47	40
Local health departments, agencies, or organizations	44	46	39
Faith-based organizations	9	12	8
Businesses	19	24	15
Local government agencies	18	35	18

* Among those schools that have one or more than one group that offers guidance on the development of policies or coordinates activities on health topics.

Family and Community Involvement

Principals were asked two questions related to family and community involvement with the development or the implementation of policies and programs related to five health topics; HIV, STD, or teen pregnancy prevention, tobacco-use prevention, physical activity, nutrition and healthy eating, and asthma. Responses were relatively stable without any significant change for all categories from 2008 to 2010. Table 3 represents the percentage of students’ families and the community involvement.

Table 3: Percentage of Schools in Which Students’ Families and Community Members Helped Develop or Implement Policies and Programs Related to the Various Topics During the Two Years Before the Survey, 2008, 2010, and 2012

Health Topic	Students’ Families			Community Members		
	2008	2010	2012*	2008	2010	2012*
HIV, STD, or teen pregnancy prevention	16	18	8	30	31	19
Tobacco-use prevention	21	22	-	34	33	-
Physical activity	32	30	-	41	38	-
Nutrition and healthy eating	40	39	-	52	45	-
Asthma	16	16	-	22	20	-

* In 2012 Principals were asked only about involvement of Students’ Families and Community Members in development or implementation of polices and programs related to the HIV, STD, and teen pregnancy.

C. School Programs

A set of new questions in the 2010 survey, asks Principals about whether or not various *injury prevention programs* are being implemented. Below is the response from all schools for the five programs that principals were asked about. In 2012 survey the question was not used.

- A student mentoring program 77%
- A safe-passages to school program 28%
- A program to prevent bullying 83%
- A program to prevent dating violence 35%
- A youth development program 51%

D. Sexual Orientation and Gender Identity

New questions have been added to the survey for 2008, and used again in 2010 and 2012. The questions address *sexual orientation and gender identity*. Twenty-five percent (25) in 2008, 26 percent in 2010, and 29 percent in 2012 of Principals indicated that they had a “student-led club that aims to create a safe, welcoming, and accepting school environment for all youth, regardless of sexual orientation or gender identity.”

Youth who are lesbian, gay, bisexual, transgender, or questioning (LGBTQ) have been added in a number of questions in the 2010 survey and

repeated in 2012. According to research, students from schools with a policy that includes sexual orientation or gender report fewer problems with school safety in general (reference: rationale in principal question profile). Many of the schools indicated in the 2010 and 2012 SHP surveys that they have practices related to LGBTQ youth.

The percent of principals responding to each practice related to LGBTQ youth is indicated below for All Schools in years 2010 and 2012.

	2010	2012
<ul style="list-style-type: none"> Identify “safe spaces” (e.g., a counselor’s office, designated classroom or student organization) where LGBT youth can receive support from administrators, teachers, or other school staff. 	54%	53%
<ul style="list-style-type: none"> Prohibit harassment based on a student’s perceived or actual sexual orientation or gender identity 	89%	88%
<ul style="list-style-type: none"> Encourage staff to attend professional development on safe and supportive school environments for all students, regardless of sexual orientation or gender identity 	60%	52%
<ul style="list-style-type: none"> Facilitate access to providers not on school property who have experience in providing health services, including HIV/STD testing and counseling, to LGBT youth 	39%	38%
<ul style="list-style-type: none"> Facilitate access to providers not on school property who have experience in providing social and psychological services to LGBTQ youth 	42%	40%

E. Professional Development and Preparation

Professional Development

Health Topics Received Since 2000, lead health education teachers were asked in what topics did they receive professional development during the two years before the survey. In 2012 almost all physical education teachers or specialists received professional development on physical education during the past two years (94 percent). A majority of lead health teachers indicated that they had received training in violence prevention (69 percent). Within the past two years, 76 percent of teachers received professional development on “physical activity and fitness” and 41 percent received professional development on “nutrition and dietary behavior. There was a significant decrease (24 percent) of teachers that received professional development on “HIV (human immunodeficiency virus) prevention since the 2000 survey (45 percent). There is a general decrease since 2006 in the percent of lead health education teachers receiving professional development on “human sexuality”. In 2006 it was 41 percent and in 2012 it was only 24 percent. (see figure 1).

Health Topics Desired Lead health teachers were also asked if they would like to receive staff development on those topics. In all categories, lead health education teachers reflected the desire for staff development (over 50 percent). Sixty two percent of lead health teachers indicated that they would like to receive staff development in asthma, tobacco-use prevention (61 percent), suicide prevention (70 percent), injury and safety (63 percent), emotional and mental health (68 percent), alcohol- or other drug-use prevention (72 percent),

and violence prevention (73 percent). There were 60 percent of lead health education teachers who indicated that they would like to receive staff development on human sexuality. Seventy six (76) percent of lead health education teachers indicated that they would like to receive staff development on nutrition and dietary behavior, which is a significant increase from previous surveys. Table 4 reflects the professional development that teachers received in the past two years and who desire staff development on specified health topics since 2006.

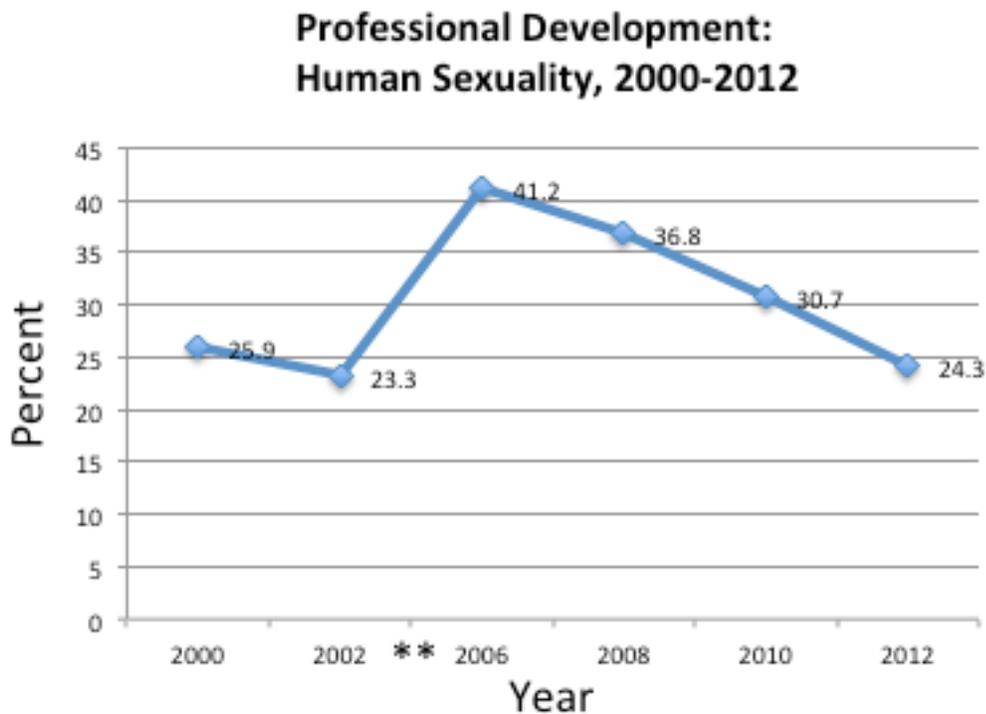


Figure 1: The percentage of schools in which the lead health education teacher received professional development on human sexuality since 2000.

** That for 2004 is not available.

Teacher Topics Received Lead teachers were asked if they had received staff development in the past two years on twenty-two teaching topics, with thirteen topics related to HIV and other STDs. There were 26 percent of lead health teachers who responded that they received teaching development in implementing health education strategies using prevention messages that are likely to be effective in reaching youth. Less than 15 percent of teachers responded to receiving staff development in teaching HIV prevention education to students with physical, medical, or cognitive disabilities (11 percent), teaching HIV prevention education to students of various cultural backgrounds (12 percent), strategies for involving parents, families, and others in student learning of HIV prevention education (9 percent), assessing students' performance in HIV prevention education (11 percent), teaching HIV prevention education to students

with limited English proficiency (8 percent), and addressing community concerns and challenges related to HIV prevention education (7 percent).

Table 4: Percentage Lead Health Education Teachers Who Had Received Staff Development in the Past Two Years and Who Desire Staff Development on Specified Health Education Topics, 2006-2012

Staff Development Topics	Percent Had				Percent Desire			
	2006	2008	2010	2012	2006	2008	2010	2012
Physical education (for physical education teachers or specialists only)	--	92	96	94	--	--	--	--
Alcohol- or other drug-use prevention	48	39	43	33*	63	74	74	72
Asthma	24	24	28	21	62	68	63	62
Emotional and mental health	32	34	30	30	61	65	71	68
Foodborne illness prevention	17	25	20	19*	46	52	52	49
HIV (human immunodeficiency virus) prevention	45	40	34	24*	47	62	56	60*
Human sexuality	41	37	31	24*	45	55	57	59*
Injury prevention and safety	44	54	44	55	55	65	69	63
Nutrition and dietary behavior	36	45	39	41	73	80	80	76
Physical activity and fitness	64	77	76	76	68	73	77	75
Pregnancy prevention	29	27	26	17*	43	55	54	57
STD (sexually transmitted disease) prevention	37	32	30	21*	46	61	57	58
Suicide prevention	39	30	33	31*	64	74	69	70
Tobacco-use prevention	31	32	32	25	56	65	67	61
Violence prevention (e.g., bullying, fighting, or homicide)	67	70	64	69*	74	74	75	73

-- Questions not asked

*Significant Change (since question has been asked; between 2000 survey and 2010 survey)

Lead teachers indicated that 58 percent had received development in the past two years on using interactive teaching methods and 61 percent classroom management techniques. Only 28 percent of lead teachers indicated that they had received staff development on teaching students with limited English proficiency.

Teacher Topics Desired Lead health teachers were also asked they would like to receive staff development on those teaching topics. A majority of teachers expressed a desire to have staff development on each of the eight non-HIV or STDs teaching topics, with the most teachers indicating that they would like staff development on teaching skills for behavior change (73 percent). A summary of lead teachers who received staff development on teaching topics in the past two years and who desire staff development on specified teaching topics since 2006 is in Table 5.

Table 5: Percent of Lead Health Teachers Who Had Received Staff Development in the Past Two Years and Who Desire Staff Development on Specified Teaching Topics, 2006-2012

Teaching Topics	Percent Had				Percent Desire			
	2006	2008	2010	2012	2006	2008	2010	2012
Describing how widespread HIV and other STD infections are and the consequences of these infections	--	33	27	18	--	--	--	--
Understanding the modes of transmission and effective prevention strategies for HIV and other STDs	--	34	29	17	--	--	--	--
Identifying populations of youth who are at high risk of being infected with HIV and other STDs	--	27	26	13*	--	--	--	--
Implementing health education strategies using prevention messages that are likely to be effective in reaching youth	--	34	34	26	--	--	--	--
Teaching HIV prevention education to students with physical, medical, or cognitive disabilities	--	19	17	11	--	--	--	--
Teaching HIV prevention education to students of various cultural backgrounds	--	19	19	12	--	--	--	--
Using interactive teaching methods for HIV prevention education (e.g., role plays or cooperative group activities)	--	23	24	14*	--	--	--	--
Teaching essential skills for health behavior change related to HIV prevention and guiding student practice of these skills	--	25	23	13	--	--	--	--
Teaching about health-promoting social norms and beliefs related to HIV prevention	--	24	22	14	--	--	--	--
Strategies for involving parents, families, and others in student learning of HIV prevention education	--	15	14	9	--	--	--	--
Assessing students' performance in HIV prevention education	--	17	17	11	--	--	--	--
Implementing standards-based HIV prevention education curricula and student assessment	--	20	20	14	--	--	--	--
Using technology to improve HIV prevention education instruction	--	18	21	12*	--	--	--	--
Teaching HIV prevention education to students with limited English proficiency	--	13	12	8	--	--	--	--
Addressing community concerns and challenges related to HIV prevention education	--	15	13	7	--	--	--	--
Teaching students with physical, medical, or cognitive disabilities	52	48	49	51*	62	69	73	69
Teaching students of various cultural backgrounds	43	47	40	37*	54	60	59	59
Teaching students with limited English proficiency	29	29	26	28*	54	57	58	57

Teaching students of different sexual orientations or gender	--	--	9	10	--	--	47	52
Using interactive teaching methods (e.g., role plays or cooperative group activities)	61	60	61	58	52	58	61	65
Encouraging family or community involvement	38	41	38	36	54	68	68*	68
Teaching skills for behavior change	46	45	47	44	69	76	76	73
Classroom management techniques (e.g., social skills training, environmental modification, conflict resolution and mediation, and behavior management)	63	64	69	61	62	67	63	65
Assessing or evaluating students in health education	32	42	47	40*	66	67	71	70

*Significant Change (since question has been asked; between 2000 survey and 2012 survey)

When teachers were asked if they tried to increase student knowledge about specified health topics in any of grades 6 through 12 during the current school year, over 90 percent of teachers responded that they did for alcohol- or other drug-use prevention, emotional and mental health, injury prevention and safety, nutrition and dietary behavior, physical activity and fitness, tobacco-use prevention, and violence prevention. The lowest topic represented was asthma (60 percent), but still accounts for a majority of the schools that responded and represents a significant increase since 2008 (59 percent). Below is a summary of the data for the 2012 survey.

- Alcohol- or other drug-use prevention 96%
- Asthma 60%
- Emotional and mental health 92%
- Foodborne illness prevention 74%
- Human immunodeficiency virus (HIV) prevention 90%
- Human sexuality 83%
- Injury prevention and safety 91%
- Nutrition and dietary behavior 97%
- Physical activity and fitness 97%
- Pregnancy prevention 86%
- Sexually transmitted disease (STD) prevention 89%
- Suicide prevention 72%
- Tobacco-use prevention 96%
- Violence prevention (e.g., bullying, fighting, or homicide) 95%

Professional Preparation

Professional Preparation The professional preparation of lead health teachers was most likely to be health and physical education combined (82

percent) or physical education (9 percent). Health education accounted for 0.4 percent, kinesiology, exercise science, exercise physiology, home economics or family and consumer science, biology or other science accounted for 2 percent, nursing or counseling accounted for 4 percent, public health, nutrition or other accounted for 0.7 percent, and 2 percent accounted for other education degree. Since the 2000 survey, teachers have indicated that most have been prepared in health and physical education combined or physical education; no other category has been identified by as much as five percent of lead health teachers.

Teachers were asked if they are *certified, licensed, or endorsed to teach health education* in middle school or high school. Ninety-six (96) percent indicated they were in 2012 compared with 97 percent in 2010, 94 percent in 2008, and 93 percent in 2006. Almost half of lead health education teachers indicated that they had 15 years or more of *experience in teaching health education courses or topics* 2012 (48 percent), which is less than the results of previous surveys since 2000 where more than half teachers had long years of experiences.. Very few lead health education teachers had less 1 year of experience (3 percent) and percent increased with work longevity, 2 to 5 years (9 percent), 6 to 9 years (18 percent), and 10 to 14 years (22 percent).

F. HIV or AIDS, STD, and Pregnancy Prevention Policies and Practices

HIV or AIDs Prevention Policy A majority of the Principals' responses indicated that they have adopted a policy that addresses many of the issues surrounding HIV. Seventy-four (74) percent of schools indicated that they had a policy to maintain confidentiality of HIV-infected students and staff, which is a significant decrease since 2010 (86 percent). Eighty-two (82) percent of Principals indicated that they had a policy for worksite safety (i.e., universal precautions for school staff), which represents an downward trend from 2010 (88 percent). There was a significant decrease in the percent of schools who indicated that they have adopted a policy for adequate training about HIV infection for school staff (68 percent in 2012 and 76 percent in 2010) and for procedures for implementing the policy (65 percent in 2012 and 73 percent in 2010). The results of the data are presented in Table 6 for the 2008 and the 2010 survey.

Table 6: Percentage of Schools that Have Adopted a Policy that Addresses HIV and AIDs Prevention, 2008 – 2012

HIV or AIDS Prevention Policy	2008	2010	2012
Attendance of students with HIV infection	64	69	56
Procedures to protect HIV-infected students and staff from discrimination	68	78	70
Maintaining confidentiality of HIV-infected students and staff	74	76	74
Worksite safety (i.e., universal precautions for all school staff)	83	88	82
Confidential counseling for HIV-infected students	61	67	54

Communication of the policy to students, school staff, and parents	64	66	58
Adequate training about HIV infection for school staff	67	76	68
Procedures for implementing the policy	65	73	65

HIV, STD, or Pregnancy Prevention Topics Taught Teachers were asked about seventeen HIV, STD, and/or pregnancy prevention topics that they taught in any of *grades 6, 7, or 8* during the current school year. Over 80 percent of teachers responded that they taught seven of the listed topics; the differences between HIV and AIDS, how HIV and other STDs are transmitted, health consequences of HIV, other STDs, and pregnancy, relationship between alcohol and other drug use and risk for HIV, other STDs, and pregnancy, the benefits of being sexually abstinent, how to prevent HIV, as well as the influences of media, family, and social and cultural norms on sexual behavior. Over 70 percent of the teachers responded for five of the topics; how HIV and other STDs are diagnosed and treated, relationship among HIV, other STDs, and pregnancy, how to access valid and reliable health information, communication and negotiation skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy, and goal-setting and decision-making skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy. Sixty-five (65) percent of teachers responded teaching about the topic of compassion for persons living with HIV or AIDS. Results from the 2012 survey are similar to the 2010 survey without any significant trends.

Four new questions have been added since the 2006 survey about condoms. Fewer teachers responded about teaching specifically about condoms compared to the other categories in grades 6, 7, or 8. Fifty-six (56) percent of teachers responded that they taught about the efficacy of condoms and how well condoms work and do not work, 44 percent indicated that they taught about the importance of using condoms consistently and correctly, 25 percent responded they taught about how to obtain condoms, and even fewer (20 percent) indicated that they taught about how to correctly use a condom. Fifty-six (56) percent of teachers responded that they taught 11 of HIV, STD, and pregnancy prevention topics.

For *grades 9 through 12*, teachers were asked about the same 15 HIV, STD, and pregnancy prevention topics and if they taught any of them during the current school year. Over 90 percent of teachers responded that they taught twelve of the listed topics: differences between HIV and AIDS, how HIV and other STDs are transmitted, how HIV and other STDs are diagnosed and treated, health consequences of HIV, other STDs and pregnancy, relationship among HIV, other STDs, and pregnancy, relationship between alcohol and other drug use and risk for HIV, other STDs, and pregnancy, benefits of being sexually abstinent, how to access valid and reliable health information, products, and services related to HIV, other STDs, and pregnancy, influences of media, family, and social and cultural norms on sexual behavior, communication and negotiation skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy, and goal-setting and decision-making skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy. Eight-two (82) percent of

teachers taught about compassion for persons living with HIV or AIDS. Fifty (50) percent to 75 percent teachers responded that they taught about the efficacy of condoms, and the importance of using condoms consistently and correctly, how to obtain condoms, and how to correctly use a condom. Eighty-four (84) percent of teachers responded that they taught 8 of HIV, STD, and pregnancy prevention topics. See Table 7 for the results for grades 6, 7, or 8 and grades 9 through 12 and comparison of 2010 and 2012 surveys.

G. Physical Education and Physical Activity Policies, Practices and Curriculum

Physical Education Requirement Policies

Required Physical Education Course In response to the question, “Is physical education required for students in any of grades 6 through 12?” Their responses indicated that 97 percent of schools have such a requirement. This is constant with 2010 survey and slightly more than in previous years; 95 percent (2002), 93 percent (2006), and 96 percent (2008).

Concerning the grades in which *required physical education courses* are taught, principals’ responses indicated that, in 6th, 7th, 9th, and 10th grades between 93 and 95 percent of schools taught a *required physical education course*. In grade 8, the percentage was 87. In grades, 11 and 12, only 7 percent of schools, in each grade, taught a required health education, which is similar to previous years. These data for the 2006 through 2012 surveys are in Table 8.

Table 7: Percentage of Schools in which Teachers Taught HIV, STD, and/or Pregnancy Prevention Topics in a Required Course, Grades 6, 7, or 8, and Grades 9 through 12, 2010 - 2012.

HIV, STD, or Pregnancy Prevention Topics Taught	Grades 6, 7, or 8		Grades 9 - 12	
	2010	2012	2010	2012
The differences between HIV and AIDS	84	82	94	93
How HIV and other STDs are transmitted	85	83	94	93
How HIV and other STDs are diagnosed and treated	80	79	88	92
Health consequences of HIV, other STDs, and pregnancy	82	83	90	93
The relationship among HIV, other STDs, and pregnancy	9	77	86	91
The relationship between alcohol and other drug use and risk for HIV, other STDs, and pregnancy	80	81	90	93
The benefits of being sexually abstinent	85	82	92	94
How to prevent HIV, other STDs, and pregnancy	85	81	91	93

How to access valid and reliable health information, products, and services related to HIV, other STDs, and pregnancy	72	73	89	91
The influences of media, family, and social and cultural norms on sexual behavior	82	80	86	92
Communication and negotiation skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy	78	76	87	93
Goal-setting and decision-making skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy	79	78	87	91
Compassion for persons living with HIV or AIDS	62	65	77	82
Efficacy of condoms, that is, how well condoms work and do not work	53	56	73	74
The importance of using condoms consistently and correctly	36	44	65	67
How to obtain condoms	22	25	52	57
How to correctly use a condom	17	20	46	53

Table 8: Percentage of schools that taught a required physical education course in the following grades*, 2006 – 2012

Grade	Percent of Schools			
	2006	2008*	2010*	2012
6 th grade	86	89	91	95
7 th grade	86	88	93	95
8 th grade	73	83	86	87
9 th grade	87	91	91	94
10 th grade	86	91	91	93
11 th grade	6	7	7	7
12 th grade	6	6	6	7

*This data here represents the data from the trend analysis report generated by CDC. The 2008 and 2010 results published here are slightly different than how they appear in the site reports. This is because the site reports excluded data from schools that do not contain the grade in the question.

Physical Education Course Content Eighty-six (86) percent to 96 percent of schools indicated that they taught the following in a required physical education course:

- Physical, psychological, or social benefits of physical activity. - 96%.
- Health-related fitness (i.e., cardiorespiratory endurance, muscular endurance, muscular strength, flexibility, and body composition). – 96%
- Phases of a workout (i.e., warm-up, workout, cool down). – 95%
- How much physical activity is enough (i.e., determining frequency, intensity, time, and type of physical activity). – 95%

- Developing an individualized physical activity plan. – 86%
- Monitoring progress toward reaching goals in an individualized physical activity plan. – 87%
- Overcoming barriers to physical activity. – 88%
- Decreasing sedentary activities such as television viewing. – 95%
- Opportunities for physical activity in the community. – 91%
- Preventing injury during physical activity.- 93%
- Weather-related safety (e.g., avoiding heat stroke, hypothermia, and sunburn while physically active). – 86%
- Dangers of using performance-enhancing drugs such as steroids. – 87%

Teacher Support

Materials Provided Concerning those who teach physical education, principals were asked what *materials were provided* to those teachers. The majority of schools provide all of the following options; goals, objectives, and expected outcomes for physical education (97 percent), a chart describing the annual scope and sequence of instruction for physical education (89 percent), plans for how to assess student performance in physical education (93 percent), and a written physical education curriculum (94 percent). Most data are similar to 2010 results, except for a significant increase seen in the percent of principals who responded that they provide their physical education teachers materials related to plans for how to assess student performance in physical education from 2010 (90 percent) to 2012 (93 percent).

Physical Activity Outside of Regular School Hours

Opportunities for Non-Curricular Physical Activities Principals responded to two questions related to *physical activities outside regular school hours or when school is not in session*. In 61 percent of schools, students were offered opportunities to participate in intramural activities or physical activity clubs.

H. Nutrition Policies, Practices and Curriculum

Nutrition-Related Policies and Practices

School Celebrations Principals were asked if “they always or almost always offer fruits or non-fired vegetables at school celebrations when foods or beverages are offered,” to which 35 percent, 37 percent, and 33 percent of all schools responded that they did in 2008, 2010, and 2012 respectively.

Vending Machines Principals indicated that students could purchase snack foods or beverages from vending machines at the school or at the school store, canteen, or snack bar in 66 percent of schools, which is a significant decrease since 2002 (81 percent). Similar to previous surveys, there was a disparity between high schools and middle schools, 88 percent of high schools allowed students to purchase snack foods and beverages and only 49 percent of middle schools allowed students to make such purchases.

Table 9, shows the percentages of schools that made the various snacks and beverages available for purchase by students in 2006 to 202. Schools

appear to continue to significantly reduce foods that are high in sugar, high in salt, high in fat (chocolate candy, other kinds of candy, salty snacks that are not low in fat, 2% or whole milk, soda pop or fruit drinks that are not 100% fruit juice and sport drinks, such as Gatorade), but schools are not improving to include fruits (not fruit juice) or non-fried vegetables (not vegetable juice) in vending machines. High schools have higher amounts of foods that are high in fat, high in salt, and high in sugar compared to Middle schools and have similarly low amounts of fruits (not fruit juice) and non-fried vegetables (not vegetable juice) in their vending machines.

Food Costs There was a significant increase of the percent of schools who responded that they priced nutrition foods and beverages at a lower cost while increasing the price of less nutrition foods and beverages from 2010 to 2012 and the response was low (2010: 5 percent, 2012: 8 percent).

Table 9: Percent of Schools Making Various Snacks and Beverages Available for Purchase by Students, 2006-2012

Snack Foods and Beverages	Percent of Schools			
	2006	2008	2010	2012
Chocolate candy	47	29	25	26*
Other kinds of candy	52	37	33	31*
Salty snacks that are not low in fat (e.g. regular potato chips)	60	40	35	38*
Cookies, crackers, cakes, pastries, or other baked goods that are not low in fat	--	44	39	37
Ice cream or frozen yogurt that is not low in fat	--	28	24	22
2% or whole milk (plain or flavored)	47	47	38	32*
Water ices or frozen slushes that do not contain juice	--	18	14	13
Soda pop or fruit drinks that are not 100% fruit juice	62	45	37	34*
Sport drinks, such as Gatorade	67	57	46	43*
Foods or beverages containing caffeine	--	34	28	24*
Fruits (not fruit juice)	--	29	25	31
Non-fried vegetables (not vegetable juice)	--	47	46	24

-- Questions not asked

*Significant linear trend

Nutrition Activities Forty-eight percent (48) of schools responded that they collected suggestions from students, families, and school staff on nutrition food preferences and strategies to promote healthy eating and 65 percent of schools provided information to students or families on the nutrition and caloric content of foods available. There was a significant increase in the percent of schools that indicated that they conducted taste tests to determine food preferences for nutrition items from 2008 (21 percent) to 2010 (28 percent) and again in 2012 (33 percent). A fair amount of schools responded that they provided opportunities for students to visit the cafeteria to learn about food safety, food preparation, or other nutrition-related topics (21 percent).

Food and Beverage Advertisement Very few schools indicated that they promote candy, meals from fast food restaurants, or soft drinks to students through the distribution of products, such as t-shirts, hats, and book covers to students (2 percent). Most schools prohibit advertisements for candy, fast food

restaurants, or soft drinks in a variety of school locations; in the school building (67 percent), on school grounds including on the outside of the school building, on playing fields, or other areas of the campus (54 percent), on school buses or other vehicles used to transport students (77 percent), and in school publications (e.g., newsletters, newspapers, web sites, or other school publications) (59 percent).

Nutrition and Dietary Behavior Topics Teachers were asked about fourteen specific nutrition and dietary behavior topics that they taught in a required health education course in any of the grades 6 through 12. Similar to previous studies, their responses indicated that a very high percentage of schools teach each of these topics, and 78 percent of schools taught all 14 of the topics. From 2010 to 2012, none of nutrition and dietary behavior topics significantly changed in the percentage of teachers that indicated they taught them during the school year. Both high school and middle schools responded at 90 percent or above for majority of topics. Middle schools had lower response for: food safety (83 present), risks of unhealthy weight control practices (89 percent), accepting body size differences (89 percent), and signs, symptoms, and treatment for eating disorders (83 percent). Their responses are shown in Table 10 below.

Table 10: Percent of Schools Teaching Various Nutrition and Dietary Behavior Topics in a Required Health Education Course in Grades 6-12, 2008, 2010, and 2012

Nutrition and Dietary Behavior Topics	Percent of Schools		
	2008	2010	2012
Benefits of health eating	95	97	96
Food guidance using MyPyramid	88	95	95
Using food labels	89	95	93
Balancing food intake and physical activity	93	96	95
Eating more fruits, vegetables, and whole grain products	93	95	95
Choosing from foods that are low in fat, saturated fat, and cholesterol	92	94	94
Using sugars in moderation	89	94	94
Using salt and sodium in moderation	89	92	92
Eating more calcium-rich foods	87	88	92
Food safety	86	85	88
Preparing healthy meals and snacks	86	91	93
Risks of unhealthy weight control practices	91	94	92
Accepting body size differences	84	87	91
Signs, symptoms, and treatment for eating disorders	86	88	87
All 14 nutrition and dietary behavior topics	NA	73	78

*Significant linear change

NA - 2008 nutrition and dietary behavior topics varied slightly and total percent of topics taught are not represented here.

I. Tobacco Policies, Practices, and Curriculum

The 2012 survey included thirteen questions that addressed tobacco policies and curriculum, with twelve questions on the principals' questionnaire

and one on the lead health teachers' questionnaire. The questions were grouped for analysis and reporting into three topics, policies, activities, and curriculum.

Tobacco-Use Prevention Policies There were 96 percent of schools that responded that had adopted a policy prohibiting tobacco use, which is similar to previous years. These policies almost always (i.e., 95-96 percent of schools) prohibit student use of cigarettes, smokeless tobacco, cigars, and pipes. To a lesser degree (i.e., in 89-90 percent of schools), the policies prohibit faculty/staff use of tobacco and visitors use of tobacco (87-90 percent). These results are similar to previous surveys.

A little over half (53 percent) of schools responded that they follow a policy that mandates a "tobacco-free environment," which is one that "prohibits tobacco use by students, staff, and visitors in school buildings, at school functions, in school vehicles, on school grounds, and at off-site school events, applicable 24 hours a day and seven days a week." This is a significant increase in the number of schools that responded that they have this policy and is up from 34 percent in 2002, 44 percent in 2006 and identical to 53 percent in 2008 and 54 percent in 2010. Tobacco-use prevention policies tend to be highly restrictive for all groups (students, faculty/staff, and visitors) in school buildings and on schools buses (95-80%). Comparatively, schools are not as restrictive with their visitors at off-campus, school-sponsored events (65 percent). See Table 11 for a summary of these results.

Table 11: Percent of Schools Prohibiting Tobacco Use by Group and Location, 2012

Location	Percent of Schools		
	Students	Faculty/Staff	Visitors
In school buildings	96	95	95
Outside on school grounds, including parking lots and playing fields	96	86	80
On school buses or other vehicles used to transport students	96	95	94
At off-campus, school-sponsored events	95	83	65

Most schools (89-96 percent) of schools have a *tobacco-use prevention policy* that specifically prohibits tobacco use during school hours for students, faculty/staff, and visitors. However, fewer schools (82 percent) have the same policy during non-school hours for faculty/staff and visitors, but many (90 percent) still have this policy for students.

Most schools have a procedure to inform students (99 percent), faculty and staff (97 percent), and visitors (90 percent) about the tobacco-use prevention policy that prohibits their use of tobacco. Among those schools that have adopted a policy prohibiting tobacco use, 49 percent of schools have a single individual responsible for enforcing the tobacco-use prevention policy, which is usually the principal (36%).

When students are *caught smoking cigarettes*, the most common actions taken are referral to a school administrator (99 percent of schools do it "always or almost always") and informing parents or guardians (99 percent of schools do it

“always or almost always”). The other actions used “always or almost always” by more than one-third of schools are suspension from school (43 percent) and referred to legal authorities (36 percent).

. The first three actions were reported to be the most frequently taken in the 2002, 2004, 2006, and 2010 surveys as well. Table 12 expands on the actions taken in 2010.

When asked if their school provided referrals to *tobacco cessation programs* for students, 32 percent of principals said their schools did provide referrals, compared to 40 percent in 2008 and 37 percent in 2010. For faculty and staff, 19 percent said they provided referrals, compared to 15 percent in 2008 and 18 percent in 2010. Almost one-third of schools “have an arrangement with any organizations or health care professionals not on school property to provide tobacco cessation” for faculty and staff (29 percent) and for students (40 percent), which is similar to 2008 and 2010 results for faculty and staff and 2008 results for students..

A significant increase in the percent of schools (80 percent in 2012, 73 percent in 2010, 71 percent in 2008, and 61 percent in 2006) responded that they “post signs marking a tobacco-free school zone, that is, a specified distance from school grounds where tobacco use is not allowed.”

Table 12: Percent of Schools Taking Specified Actions When Students Are Caught Smoking Cigarettes, 2012

Location	Percent of Schools		
	Always or Almost Always	Sometimes	Never
Parents or guardians are notified	98	1.6	0.3
Referred to a school counselor	29	49	6
Referred to a school administrator	99	1	0.3
Encouraged, but not required, to participate in an assistance, education, or cessation program	23	34	20
Required to participate in an assistance, education, or cessation program	17	28	35
Referred to legal authorities	36	31	13
Placed in detention	16	33	36
Not allowed to participate in extra-curricular activities or interscholastic sports	26	47	12
Given in-school suspension	18	45	23
Suspended from school	43	41	6
Expelled from school	0.7	7	62
Reassigned to an alternative school	1	13	57

Tobacco-Use Prevention Curriculum Teachers were asked about 15 specific tobacco-use prevention topics that they taught in a required course for students in any of grades 6 through 12. Over 90 percent of teachers indicated teaching 9 of the subjects; identifying tobacco products and the harmful substances they contain, identifying short- and long-term health consequences of tobacco use, identifying legal, social, economic, and cosmetic consequences of

tobacco use, understanding the addictive nature of nicotine, effects of tobacco use on athletic performance, effects of second-hand smoke and benefits of a smoke-free environment, understanding the social influences on tobacco use, including media, family, peers, and culture, identifying reasons why students do and do not use tobacco, and using interpersonal communication skills to avoid tobacco use (e.g., refusal skills, assertiveness).

Over 80 percent of teachers indicated teaching 5 of the subjects; using goal-setting and decision-making skills related to not using tobacco, finding valid information and services related to tobacco-use prevention and cessation, supporting others who abstain from or want to quit using tobacco, supporting school and community action to support a tobacco-free environment, and identifying harmful effects of tobacco use on fetal development. Seventy-eight (78) percent of schools indicated that they taught students about making accurate assessments of how many peers use tobacco in a required course in any grades of 6 through 12. Sixty-four (64) percent of schools indicated that they taught all 15 tobacco-use prevention topics in 2010. Results are fairly similar to the 2008 and 2010 survey results. The data is summarized in Table 13 for 2008, 2010 and 2012.

Table 13: Percent of Schools Teaching Various Tobacco-Use Prevention Topics in a Required Health Education Course in Grades 6-12, 2008 - 2012

Tobacco-Use Prevention Topics Taught	Any of Grades 6 - 12		
	2008	2010	2012
Identifying tobacco products and the harmful substances they contain	94	95	94
Identifying short- and long-term health consequences of tobacco use	94	96	95
Identifying legal, social, economic, and cosmetic consequences of tobacco use	92	92	91
Understanding the addictive nature of nicotine	93	95	92
Effects of tobacco use on athletic performance	90	90	91
Effects of second-hand smoke and benefits of a smoke-free environment	93	94	94
Understanding the social influences on tobacco use, including media, family, peers, and culture	94	94	94
Identifying reasons why students do and do not use tobacco	92	94	92
Making accurate assessments of how many peers use tobacco	81	74	78
Using interpersonal communication skills to avoid tobacco use (e.g., refusal skills, assertiveness)	91	91	93
Using goal-setting and decision-making skills related to not using tobacco	88	89	89
Finding valid information and services related to tobacco-use prevention and cessation	82	82	83
Supporting others who abstain from or want to quit using tobacco	80	82	83
Supporting school and community action to support a tobacco-free environment	81	84	84
Identifying harmful effects of tobacco use of fetal	86	85	87

J. Health Services and Asthma Management

Registered Nurse A significant increase in the number of schools indicated that they have a *full-time registered nurse* who provides health services to students from 67 percent in 2008 and 74 percent in 2010 to 78 percent in 2012.

Asthma Action Plan When principals were asked if all their “students with known asthma have an action plan on file,” 66 percent of schools responded that they did for *all* students, which is consistent with 66 percent in 2010 and a significant increase for schools from the 2008 survey (51 percent). Thirteen (13) percent of schools responded that they have an asthma action plan for *some* students, and 1 percent responded that no students with known asthma have an asthma action plan on file.

Identifying Events for Poorly Controlled Asthma Students are identified by schools as having *poorly controlled asthma* through three top *events*; frequent visits to the school health office due to asthma (84 percent), frequent asthma symptoms at school (71 percent), and frequent non-participation in physical education class due to asthma (63 percent). The 2010 results are similar for all events that are used to identify students with poorly controlled asthma except “calls from school to 911, or other local emergency numbers, due to asthma,” where in 2012 there was a significant decrease in schools that used this event to identify students with poorly controlled asthma compared to 2010; 44 percent in 2010 and 39 percent in 2012. Seven (7) percent of schools do not identify students with poorly controlled asthma, which is lower than 9 percent for both 2008 and 2010. Table 14 represents the 2008, 2010, and 2012 survey data on this topic.

Table 14: Percent of Schools Using Various Events to Identify Students with Poorly Controlled Asthma , 2008 - 2012

Events	Percent of Schools		
	2008	2010	2012
This school does not identify students with poorly controlled asthma	9	9	7
Frequent absences from school	46	50	47
Frequent visits to the school health office due to asthma	79	82	84
Frequent asthma symptoms at school	68	70	71
Frequent non-participation in physical education class due to asthma	55	55	63
Students sent home early due to asthma	54	61	58
Calls from school to 911, or other local emergency numbers, due to asthma	31	44	39*

*Significant linear trend

Poorly Controlled Asthma Services Principals were asked about nine different services for students with poorly controlled asthma. Over 95 percent of

schools indicated that they provided the following services: ensuring access to safe, enjoyable physical education and activity opportunities, and ensuring access to preventive medications before physical activity, ensuring an appropriate written asthma action plan is obtained, ensuring access to and appropriate use of asthma medications, spacers, and peak flow meters at school, Only one service, providing additional psychosocial counseling or support services as needed, was offered by 60 percent of schools all other are offered by higher percentage of schools.

All of these services have significantly increased since 2008 except for providing referrals to primary health care clinicians or child health insurance programs (stayed very similar). Summary of the data in Table 15.

Table 15: Percent of Schools That Provide Various Services for Students with Poorly Controlled Asthma, 2008 -2012

Services	Percent of Schools		
	2008	2010	2012
Providing referrals to primary health care clinicians or child health insurance programs	61	65	65
Ensuring an appropriate written asthma action plan is obtained	82	95	92*
Ensuring access to and appropriate use of asthma medications, spacers, and peak flow meters at school	91	95	94*
Offering asthma education for students with asthma	59	72	73*
Minimizing asthma triggers in the school environment	76	83	85*
Addressing social and emotional issues related to asthma	55	61	65*
Providing additional psychosocial counseling or support services as needed	50	59	60*
Ensuring access to safe, enjoyable physical education and activity opportunities	93	97	97*
Ensuring access to preventive medications before physical activity	90	96	96*

*Significant linear trend when compared with 2008

Asthma Staff Training Forty-seven (47) principals indicated that their school staff members are required to receive training on recognizing and responding to severe asthma symptoms more than once per year or once per year, which is a significant decrease since 2008 (57 percent) but higher than 2010 (44 percent).

Self-administered Asthma Medications No significant changes occurred from 2008 and 2010 to 2012 in relation to policies and procedures on self-administered asthma medications. Eighty-two (82) percent of schools indicated that they have adopted a policy stating that students are permitted to carry and self-administer asthma medications (80 percent in 2008 and 83 percent in 2010). Among schools that have adopted such a policy, 99 percent of schools indicated they have procedures to inform students about the policy permitting students, parents and families about the policy permitting students to carry and self-administer asthma medications. There were 86 percent of schools, which is a trend upward from schools in 2008 (84 percent) and 2010 (77 percent), that

indicated that they have a single individual responsible for implementing the policy permitting students to carry and self-administer asthma medication. See Table 16 for the summary of this data.

Table 16: Percentage of Schools that Have Policy and Procedures for Self-Administered Asthma Medications , 2008 - 2012

Policies and Procedures	Percent of Schools		
	2008	2010	2012
Students are permitted to carry and self-administer asthma medications	80	83	82
Schools inform students about the policy permitting students to carry and self-administer asthma medications	98	98	99
Schools inform parents and families about the policy permitting students to carry and self-administer asthma medications	98	98	98
There is a single individual responsible for implementing the policy permitting students to carry and self-administer asthma medications	84	77	86*

*Significant linear trend

Conclusion

The SHP survey has been conducted on even-numbered years since 1996. Each time, there have been some changes in the survey content. This year the changes were minimal and no new questions were added since 2010.. The survey was designed to monitor the characteristics of and trends in school health education and health services in middle/junior and senior high schools. Included in the survey are administrative health policies and programs related to school health assessment/plan, sexual orientation and gender identity, health and physical education requirements, health education content, physical activity, tobacco-use prevention policies, nutrition-related policies and practices, school safety and security, HIV policies, health services, teacher preparation, and staff development.

Schools may benefit from using the School Health Index (SHI) or another self-assessment tool that assesses and diagnoses the school health environment. Few schools are using the SHI for injury prevention programs or asthma management, but a majority of schools are implementing a program to prevent bullying and a student mentoring program. Since academic success is an indicator of overall student well-being and a strong predictor of adult health outcomes, schools may benefit from developing a School Improvement Plans (SIP) that include key health-related goals and objectives. In addition, schools may need to consider providing more staff development for key health topics, considering a majority of health education teachers indicated that they desired staff development on a variety of health topics. Staff development appears to be focused more on physical education teachers and physical activity and fitness, when compared to the other health topics.

Health education appears to cover all three health topics (HIV or AIDS and pregnancy prevention, physical education and physical activity, and tobacco-use prevention) in most schools. However, schools may be missing an opportunity to target youth at high risk and racial/ethnic minorities when providing HIV, STD and pregnancy prevention programs. Tobacco cessation services and stronger implementation of tobacco use by visitors may be another areas that schools can improve on to decrease tobacco-use among students, teachers and staff, and visitors.

Policies and programs that are related to HIV/AIDS, tobacco-use prevention, and asthma management seem to continue to improve. However, policies and programs that promote optimal nutrition and healthy eating habits need improvement. Schools appear to recognize that they have the ability to provide and promote positive health and health behaviors; however there remains to be opportunity for additional progress.

V. References

1. Goodman R, Steckler A, Kegler MC. Mobilizing organizations for health enhancement.
In: Glantz K, Lewis FM, Rimer B. eds. *Health Behavior and Health Education*. San Francisco, CA: Jossey Bass Publishers, 1997, pp. 287-312.
2. Taras H, Wright S, Brennen J, Campana J, Lofgren R. Impact of school nurse case management on students with asthma. *Journal of School Health*. 2004;74(6):213-219..
3. Splett PL, Erickson CD, Belseth SB, Jensen C. Evaluation and sustainability of the healthy learners asthma initiative. *Journal of School Health* 2006;76(6):276-282..
4. Murray NG, Low BJ, Hollis C, Cross AW, Davis SM. Coordinated school health programs and academic achievement: A systematic review of the literature. *Journal of School Health*. 2007;77(9):589–600.
5. Society of State Directors of Health, Physical Education and Recreation. *Making the connection: Health and student achievement*. 2002. Available at: <http://www.thesociety.org/pdf/makingtheconnection.ppt>. Accessed June 8, 2009.
6. Taras H. Nutrition and student performance at school. *Journal of School Health*. 2005;75(6):199–213.
7. Taras H. Physical activity and student performance at school. *Journal of School Health*. 2005;75(6):214–218.
8. Taras H, Potts-Datema W. Childhood asthma and student performance at school. *Journal of School Health*. 2005;75(8):296–312.
9. Taras H, Potts-Datema W. Chronic health conditions and student performance at school. *Journal of School Health*. 2005;75(7):255–266.
10. Taras H, Potts-Datema W. Obesity and student performance at school. *Journal of School Health*. 2005;75(8):291–295.
11. Taras H, Potts-Datema W. Sleep and student performance at school. *Journal of School*

Health. 2005;75(7):248–254.

12. Grossman M, Kaestner R. Effects of education on health. In: Behrman JR, Stacey N, eds.

The Social Benefits of Education. Ann Arbor: University of Michigan Press, 1997.

13. Harper S, Lynch J. Trends in socioeconomic inequalities in adult health behaviors among

U.S. states, 1990–2004. *Public Health Reports*. 2007;122(2):177–189.

14. Lewallen TC. Healthy learning environments. *ASCD INFOBrief*. 2004(38).

15. Vernez G, Krop RA, Rydell CP. The public benefits of education. In: *Closing the Education Gap: Benefits and Costs*. Santa Monica, CA: RAND Corporation, 1999, pp.13–32.

16. National Association of State Boards of Education. *Fit, Healthy, and Ready to Learn: A*

School Health Policy Guide. National Association of State Boards of Education. Washington, DC: NASBE, 2000.

17. Shirer K. *Promoting Healthy Youth, Schools and Communities: A Guide to Community-*

School Health Councils. Atlanta, GA: American Cancer Society, 2003.

18. Fetro JV. Implementing Coordinated School Health Programs in Local Schools. In: Marx

E, Wooley S, eds. *Health Is Academic: A Guide to Coordinated School Health Programs*. New York: Teachers College Press, 1998, pp. 15-42.

19. Green, LW, Kreuter MW. *Health Promotion and Planning: An Education and Environmental Approach*. California: Mayfield Publishing Company, 1991, pp. 271-274.

20. Redding S, Langdon J, Meyer J, Sheley P. *The Effects of Comprehensive Parent Engagement on Student Learning Outcomes*. Presentation at the Annual Convention of

American Educational Research Association, San Diego, 2004.

21. Epstein LS. *School, Family, and Community Partnerships: Preparing Educators and*

Improving Schools. Boulder, CO: Westview Press, 2001.

22. Lantz PM, Jacobson PD, Warner KE, et al. Investing in youth tobacco control: a review

of smoking prevention and control strategies. *Tobacco Control*. 2000;9:47-63.

23. Council of Chief State School Officers. Joint Work Group. *Essential tips for successful collaboration*. Washington, DC: Author, 2004.
24. Harris Interactive and GLSEN. *From Teasing to Torment: School Climate in America, A Survey of Students and Teachers*. New York: GLSEN, 2005. Available at: http://www.glsen.org/binary-data/GLSEN_ATTACHMENTS/file/499-1.pdf. Accessed June 11, 2009.
25. CDC. Youth risk behavior surveillance—United States, 2007. *MMWR*. 2008;57(SS-4):1–131.
26. Shaughnessy L, Branum C, Everett-Jones S. *Youth Risk Behavior Survey of High School Students Attending Bureau Funded Schools, 2001*. Washington, DC: Bureau of Indian Affairs, Office of Indian Education Programs, 2001. Available at: http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/19/78/77.pdf. Accessed June 11, 2009.
27. Rutman S, Park A, Castor M, Taulii M, Forquera R. Urban American Indian and Alaska Native Youth: Youth Risk Behavior Survey 1997-2003. *Maternal and Child Health Journal*. 2008;12:S76-S81.
28. Kirby D, Laris BA, Rolleri L. *Sex and HIV education programs for youth: Their impact and important characteristics*. Washington DC: Family Health International, 2006. Available at: <http://www.fhi.org/NR/rdonlyres/eg6dcdnypfc6lbcdq2jccju67o644svf3npgjtuagpsdimlkx7edlrojtwevjznjsfnkqflbak4hj/SexandHIVEducationProgramsKirby.pdf>. Accessed June 11, 2009.
29. Council of Chief State School Officers. *What Education Leaders Should Know About Forming Partnerships to Prevent Sexual-Risk Behaviors in School-Aged Youth*. Washington, DC: Author, 2005.
30. Kirby D, Laris BA, Rolleri L. *Sex and HIV education programs for youth: Their impact and important characteristics*. Washington, DC: Family Health International, 2006.

Available at:

<http://www.fhi.org/NR/rdonlyres/eg6dcdnypfc6lbcdq2jccju67o644svf3npgjtuagpsdimlkx>

7edlroyjtwevjznjsfnkqflbak4hj/SexandHIVEducationProgramsKirby.pdf. Accessed June 11, 2009.

31. National Association for Sport and Physical Education. *Guidelines for after-school physical activity and intramural programs*. Reston, VA: National Association for Sport and Physical Education, 2002. Available at

http://www.aahperd.org/naspe/pdf_files/pos_papers/intramural_guidelines.pdf.

Accessed

June 11, 2009.

32. Hellison D. Physical activity programs for underserved youth. *Journal of Science &*

Medicine in Sport. 2000;3(3):238-42.

33. Kelder S, Hoelscher DM, Barroso CS, et al. The CATCH Kids Club: a pilot after-school

study for improving elementary students' nutrition and physical activity. *Public Health*

Nutrition. 2005;8(2):133-40.

34. Pate RR, Saunders RP, Ward DS, Felton G, Trost SG, Dowda M. Evaluation of a community-based intervention to promote physical activity in youth: lessons from Active

Winners. *American Journal of Health Promotion*. 2003;17(3):171-82.

35. Trevino RP, Yin Z, Hernandez A, Hale DE, Garcia OA, Mobley C. Impact of the Bienestar school-based diabetes mellitus prevention program on fasting capillary glucose

levels: a randomized controlled trial. *Archives of Pediatrics & Adolescent Medicine*. 2004;158(9):911-7.

36. Pate RR, O'Neill JR. After-school interventions to increase physical activity among

youth. *British Journal of Sports Medicine*. 2009;43:14-18.

37. National Association for Sport and Physical Education. *Moving into the Future: National*

standards for physical education. 2nd ed. Reston, VA: National Association for Sport and Physical Education, 2004.

38. Lee SM, Burgeson CR, Fulton JE, Spain CG. Physical education and activity: results

from the School Health Policies and Programs Study 2006. *Journal of School Health*. 2007;77(8):435-463.

39. U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. with *Understanding and Improving Health and Objectives for Improving Health*, 2 vols. Washington, DC: U.S. Department of Health and Human Services, 2000.

40. National Association for Sport and Physical Education. *Opposing substitution and waiver/exemption for required physical education*. Reston, VA: National Association for Sport and Physical Education, 2006. Available at: http://www.aahperd.org/naspe/pdf_files/pos_papers/OpposingSubstitutionWaiverExemptions.pdf. Accessed June 11, 2009.

41. CDC. Guidelines for school and community programs to promote lifelong physical activity among young people. *MMWR*. 1997;46(RR-6).

42. Sallis JF, Conway TL, Prochaska JJ, et al. The association of school environments with youth physical activity. *American Journal of Public Health*. 2001;1:618-20.

43. Evenson KR, McGinn AP. Availability of school physical activity facilities to the public in four U.S. communities. *American Journal of Health Promotion*. 2004;18:243-50.

44. National Association for Sport and Physical Education. *National standards for beginning physical education teachers*. Reston, VA: National Association for Sport and Physical Education, 2001.

45. National Association for Sport and Physical Education. *Moving into the future: National standards for physical education*. Reston, VA: National Association for Sport and Physical Education, 2004.

46. Davis K, Burgeson CR, Brener ND, McManus T, Wechsler H. The relationship between qualified personnel and self-reported implementation of recommended physical education practices and programs in U.S. schools. *Research Quarterly for Exercise and Sport*. 2005;76(2):202-211.

47. McKenzie TL, Feldman H, Woods SE, et al. Children's activity levels and lesson context during third-grade physical education. *Research Quarterly for Exercise and Sport*.

1996;66(3):184-193.

48. Kelder S, Mitchell PD, McKenzie TL, et al. Long-term implementation of the CATCH physical education program. *Health Education and Behavior*. 2003;30(4):463-475.

49. McKenzie TL, Marshall SJ, Sallis JF, Conway TL. Student activity levels, lesson context, and teacher behavior during middle school physical education. *Research Quarterly for Exercise and Sport*. 2000;71(3):249-259.

50. O'Toole T, Anderson S, Miller C, Guthrie J. Nutrition services and foods and beverages available at school: results from the School Health Policies and Programs Study. *Journal of School Health*. 2007;77(8):500-521.

51. U.S. Department of Agriculture. *Foods sold in competition with USDA school meal programs: a report to congress*. Food and Nutrition Service, 2001. Available at: http://www.fns.usda.gov/cnd/lunch/_private/CompetitiveFoods/report_congress.htm. Accessed June 11, 2009.

52. Wechsler H, McKenna ML, Lee SM, Dietz WH. The role of schools in preventing childhood obesity. *The State Education Standard*. 2004;5(2):4-12.

53. Pilant VB, American Dietetic Association. Position of the American Dietetic Association: local support for nutrition integrity in schools. *Journal of the American Dietetic Association*. 2006;106(1):122-33.

54. Institute of Medicine. *Nutrition Standards for Foods in Schools: Leading the Way Toward Healthier Youth*. Washington, DC: Institute of Medicine of the National Academies, 2007.

55. Cullen KW, Eagan J, Baranowski T, Owens E, deMoor C. Effect of a la carte and snack bar foods at school on children's lunchtime intake of fruits and vegetables. *Journal of the American Dietetic Association*. 2000;100:1482-1486.

56. French SA, Story M, Jeffery RW, Snyder P, Eisenberg M, Sidebottom A. Pricing strategy to promote fruit and vegetable purchase in high school cafeterias. *Journal of the American Dietetic Association*. 1997;97:1008-1010.

57. French SA, Jeffery RW, Story M, et al., Pricing and promotion effects on lowfat vending snack purchases: the CHIPS study. *American Journal of Public Health*. 2001;91:112–117.
58. Food and Nutrition Service, U.S. Department of Agriculture, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, and U.S. Department of Education. *Making It Happen: School Nutrition Success Stories*. Alexandria, VA: U.S. Department of Agriculture, 2005.
59. Food and Nutrition Board, Institute of Medicine, Committee on Prevention of Obesity of Children and Youth – Schools. In: JP Koplan, CT Liverman, VI Kraak, eds. *Preventing Childhood Obesity: Health in the Balance*. Washington, DC: National Academy Press; 2005, pp. 237–284.
60. American Dietetic Association. Position of the American Dietetic Association, Society for Nutrition Education, and American School Food Service Association – Nutrition services: an essential component of comprehensive school health programs. *Journal of the American Dietetic Association*. 2003;103: 505–514.
61. Horgen KB, Choate M, Brownell KK. Television and food advertising: targeting children in a toxic environment. In: Sinder DG, Singer JL, eds. *Handbook of Children and the Media*. Thousand Oaks, CA: Sage Publications, 2001, pp. 447-461.
62. Committee on Food Marketing and the Diets of Children and Youth. *Food marketing to children and youth: threat or opportunity?* Washington, DC: Institute of Medicine of The National Academies Press, 2006.
63. Ralston K, Buzby J, Guthrie J. *A Healthy School Meal Environment*. United States Department of Agriculture, Economic Research Service, Food Assistance and Nutrition Research Report Number 34-5, 2003. Available at: <http://www.ers.usda.gov/publications/fanrr34/fanrr34-5/fanrr34-5.pdf>. Accessed June 8, 2009.
64. U.S. Department of Agriculture. *Changing the Scene: Improving the School Nutrition*

Environment. 2000. Available at:
<http://www.fns.usda.gov/tn/Resources/changing.html>.
Accessed June 8, 2009.

65. Food and Nutrition Board, Institute of Medicine, Committee on Prevention of Obesity of Children and Youth, Schools. In: JP Koplan, CT Liverman and VI Kraak, eds. *Preventing Childhood Obesity: Health in the Balance*. Washington, DC: National Academy Press, 2005, pp. 237–284.
66. American Dietetic Association, Society for Nutrition Education, and American School Food Service Association. Nutrition services: an essential component of comprehensive school health programs. *Journal of Nutrition Education and Behavior*. 2003;35(2):57-67.
67. Hausman A, Ruzek S. Implementation of comprehensive school health education in elementary schools: focus on teacher concerns. *Journal of School Health*. 1995;65(3):81-86.
68. Togneri W, Anderson SE. *Beyond Islands of Excellence: What Districts Can Do to Improve Instruction and Achievement in all Schools*. Washington, DC: Learning First Alliance, 2003.
69. Miles KH, Darling-Hammond L. *Rethinking the Allocation of Teaching Resources: Some Lessons From High-Performing Schools*. Philadelphia: Consortium for Policy Research in Education, 1997.
70. CDC. Guidelines for school health programs to prevent tobacco use and addiction. *MMWR*. 1994; 43(RR-2):1-18.
71. U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed.* with *Understanding and Improving Health and Objectives for Improving Health, 2 vols.* Washington, DC: U.S. Department of Health and Human Services, 2000.
72. U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic

Disease Prevention and Health Promotion, Office on Smoking and Health, 2006.

73. U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Young*

People: A Report of the Surgeon General. Atlanta, Georgia: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention,

National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 1994.

74. Centers for Disease Control and Prevention. Reasons for tobacco use and symptoms of nicotine withdrawal among adolescent and young adult tobacco users—United States, 1993. *MMWR*. 1994; 43:746-750.

75. Allensworth DD. Guidelines for adolescent preventive services: a role for the school nurse. *Journal of School Health*. 1996;66(8):281-285.

76. Donovan KA. Smoking cessation programs for adolescents. *Journal of School Nursing*. 2000;16(4):36-43.

77. Fiore MC, Jaén CR, Baker TB, et al. *Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline*. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. May 2008.

78. U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Young*

People: A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 1994.

79. U.S. Department of Health and Human Services. *Reducing Tobacco Use: A Report of the*

Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Chronic

Disease Prevention and Health Promotion, Office on Smoking and Health, 2000.

80. Sussman S. School-based tobacco use prevention and cessation: where are we going?

American Journal of Health Behavior. 2001;25(3):191-9.

81. Dent CW, Sussman S, Stacy AW, Craig S, Burton D, Flay BR. Two-year behavior

outcomes of project towards no tobacco use. *Journal of Consulting and Clinical Psychology*. 1995;63(4):676-677.

82. Botvin GJ, Baker E, Dusenbury L, Botvin EM, Diaz T. Long-term follow-up results of a randomized drug abuse prevention trial in a white middle-class population. *Journal of the American Medical Association*. 1995;273(14):1106-1112.

83. Lantz PM, Jacobson PD, Warner KE, Wasserman J, Pollack HA, Berson J, Ahlstrom A. Investing in youth tobacco control: a review of smoking prevention and control strategies. *Tobacco Control*. 2000;9:47-63.

84. Rooney BL, Murray DM. A meta-analysis of smoking prevention programs after adjustment for errors in the unit of analysis. *Health Education Quarterly*. 1996;23(1):48-64.

85. Bruvold WH. A meta-analysis of adolescent smoking prevention programs. *American Journal of Public Health*. 1993;83(6):872-80.

86. The Joint Committee on National Health Education Standards. *National Health Education Standards: Achieving Excellence (2nd Edition)*. Atlanta, GA: American Cancer Society, 2007.

87. U.S. Department of Health and Human Services. *Best Practices for Comprehensive Tobacco Control Programs—2007* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2007.

88. Institute of Medicine. *Schools and Health: Our Nation's Investment*. Washington, DC: National Academy Press, 1997.

89. U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. with *Understanding and Improving Health and Objectives for Improving Health*, 2 vols. Washington, DC: U.S. Department of Health and Human Services, 2000.

90. Splett PL, Erickson CD, Belseth SB, Jensen C. Evaluation and sustainability of the healthy learners asthma initiative. *Journal of School Health*. 2006;76(6):276-282.

91. Gillies J, Barry D, Crane J, et al. A community trial of a written self management plan for children with asthma. *New Zealand Medical Journal*. 1996;109(1015):30-33.

91. Erickson CD, Splett PL, Mullett SS, Jensen C, Belseth SB. The healthy learner model for student chronic condition management-Part II: The Asthma Initiative. *Journal of School Nursing*. 2006;22(6):319-329.
92. Levy M., Heffner B, Stewart T, Beeman G. The efficacy of asthma case management in an urban school district in reducing school absences and hospitalizations for asthma. *Journal of School Health*. 2006;76(6):320-324.
93. Taras H, Wright S, Brennen J, Campana J, Lofgren R. Impact of school nurse case management on students with asthma. *Journal of School Health*. 2004;74(6):213-219.
94. Levy M., Heffner B, Stewart T, Beeman G. The efficacy of asthma case management in an urban school district in reducing school absences and hospitalizations for asthma. *Journal of School Health*. 2006;76(6):320-324.
95. Evans R, Gergen PJ, Mitchell H, et al. A randomized clinical trial to reduce asthma morbidity among inner-city children: results of the National Cooperative Inner-City Asthma Study. *Journal of Pediatrics*. 1999;135(3):332-338.
96. Greiling AK, Boss LP, Wheeler LS. A preliminary investigation of asthma mortality in schools. *Journal of School Health*. 2005;75 (8):286-290.
97. CDC. *Strategies for Addressing Asthma Within a Coordinated School Health Program, With Updated Resources*. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2006.
98. National Asthma Education and Prevention Program. *Students with Chronic Illnesses: Guidance for Families, Schools and Students*. National Heart, Lung, and Blood Institute, 2002. Available at: <http://www.nhlbi.nih.gov/health/public/lung/asthma/guidfam.htm>. Accessed June 11, 2009.

99. National Asthma Education and Prevention Program. *Resolution on Asthma Management at School*. National Heart, Lung, and Blood Institute, 2005. Available at: <http://www.nhlbi.nih.gov/health/public/lung/asthma/resolut.htm>. Accessed June 11, 2009.
100. National Asthma Education and Prevention Program. *When Should Students with Asthma or Allergies Carry and Self-Administer Emergency Medications at School? Guidance for Health Care Providers Who Prescribe Emergency Medications*. National Heart, Lung, and Blood Institute, 2005. Available at: http://www.nhlbi.nih.gov/health/prof/lung/asthma/emmer_medi.htm. Accessed June 11, 2009.
101. National Association of School Nurses. *The Use of Asthma Rescue Inhalers in the School Setting*. 2005. Available at: <http://www.nasn.org/Default.aspx?tabid=202>. Accessed June 11, 2009.
102. National Asthma Education and Prevention Program. *Students with Chronic Illnesses: Guidance for Families, Schools and Students*. National Heart, Lung, and Blood Institute, 2002. Available at: <http://www.nhlbi.nih.gov/health/public/lung/asthma/guidfam.htm>. Accessed June 11, 2009.
103. Wheeler LS, Merkle SL, Gerald LB, Taggart VS. Managing asthma in schools: lessons learned and recommendations. *Journal of School Health*. 2006;76(6):340-344.
104. Splett PL, Erickson CD, Belseth SB, Jensen C. Evaluation and sustainability of the healthy learners asthma initiative. *Journal of School Health*. 2006;76(6):276-282.
105. Erickson, CD, Splett PL, Mullett SS, Jensen C, Belseth SB. The healthy learner model for student chronic condition management-Part II: The Asthma Initiative. *Journal of School Nursing*. 2006;22(6):319-329.
106. Levy M, Heffner B, Stewart T, Beeman G. The efficacy of asthma case management in an urban school district in reducing school absences and hospitalizations for asthma. *Journal of School Health*. 2006;76(6):320-324.

107. CDC. *Strategies for Addressing Asthma Within a Coordinated School Health Program, With Updated Resources*. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2006.

108. National Asthma Education and Prevention Program. *Resolution on Asthma Management at School*. National Heart, Lung, and Blood Institute, 2005. Available at: <http://www.nhlbi.nih.gov/health/public/lung/asthma/resolut.htm>. Accessed June 11, 2009.