

Overview and Summary: School Health Policies and Programs Study 2006

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ABSTRACT

BACKGROUND: The School Health Policies and Programs Study (SHPPS) 2006 is the largest, most comprehensive assessment of school health programs in the United States ever conducted.

METHODS: The Centers for Disease Control and Prevention conducts SHPPS every 6 years. In 2006, computer-assisted telephone interviews or self-administered mail questionnaires were completed by state education agency personnel in all 50 states plus the District of Columbia and among a nationally representative sample of districts (n = 538). Computer-assisted personal interviews were conducted with personnel in a nationally representative sample of elementary, middle, and high schools (n = 1103) and with a nationally representative sample of teachers of classes covering required health instruction in elementary schools and required health education courses in middle and high schools (n = 912) and teachers of required physical education classes and courses (n = 1194).

RESULTS: SHPPS 2006 describes key school health policies and programs across all 8 school health program components: health education, physical education and activity, health services, mental health and social services, nutrition services, healthy and safe school environment, faculty and staff health promotion, and family and community involvement. SHPPS 2006 also provides data to monitor 6 *Healthy People 2010* objectives.

CONCLUSIONS: SHPPS 2006 is a new and important resource for school and public health practitioners, scientists, advocates, policymakers, and all those who care about the health and safety of youth and their ability to succeed academically and socially.

Keywords: school health programs; schools; school policy; surveys.

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School health programs can play a unique and important role in the lives of youth by helping improve their health-related knowledge, attitudes, and skills; healthy behaviors and health outcomes; education outcomes; and social outcomes.¹ A high-quality school health program is a coordinated and comprehensive set of courses, services, practices, and policies that meet the health and safety needs of students and school staff in kindergarten through grade 12. The essential elements of an effective school health program include 8 interrelated components, many of which already exist to some extent in most schools: health education, physical education and activity, health services, mental health and social services, nutrition services, healthy and safe school environment, faculty and staff health promotion, and family and community involvement.

The Centers for Disease Control and Prevention (CDC) works with other federal agencies; national nongovernmental organizations; and state and local departments of education, health, and social services to plan and implement school health programs. For example, in fiscal year 2007, the Division of Adolescent and School Health spent \$14 million in support of coordinated school health programs and another \$42 million in support of HIV prevention education throughout the nation.

In addition, the CDC monitors the characteristics of school health programs nationwide. The first School Health Policies and Programs Study (SHPPS) was conducted in 1994.² SHPPS 1994 was the first national study to measure policies and programs across 5 school health program components: health education; physical education; health services; nutrition services; and health policies prohibiting tobacco, alcohol, and other drug use and violence. State- and district-level data focused on elementary, middle, and high schools. School- and classroom-level data were limited to middle and high schools only.

In 2000, the CDC conducted the second SHPPS.³ Questionnaire content and study design were revised and expanded. SHPPS 2000 measured all 8 school health program components and did so among elementary, middle, and high schools at the state, district, school, and classroom (where applicable) levels. At that time, SHPPS 2000 was the largest study of school health programs ever undertaken in the United States.

SHPPS 2006 is the most recent comprehensive description of school health programs nationwide. While the study design and sample size were similar to those of SHPPS 2000, questionnaire content was expanded to address 3 new topics—crisis preparedness and response, the physical school environment, and school climate—all of which reflect new issues and concerns in school and public health. In addition, computer-assisted telephone interviewing and

paper-and-pencil questionnaires were used to collect state- and district-level data. Whenever possible, questionnaire wording remained consistent with questionnaire wording from SHPPS 2000 to maximize opportunities for examining changes over time.

PURPOSES OF SHPPS 2006

Similar to SHPPS 2000, SHPPS 2006 was designed to answer the following questions:

1. What are the characteristics of each school health program component at the state, district, school, and classroom (where applicable) levels and across elementary, middle, and high schools?
2. Is there someone responsible for coordinating and delivering each school health program component and what are their qualifications and educational background?
3. What collaboration occurs among staff from each school health program component and with staff from outside agencies and organizations?
4. How have key policies and practices changed over time?

USES OF SHPPS 2006 DATA

SHPPS 2006 data will be used to:

- measure 6 *Healthy People 2010*⁴ objectives (Table 1)
- support public and private school health program initiatives
- help states and districts determine technical assistance, professional preparation, and funding needs and priorities among their schools
- help parents, school board members, school administrators, teachers, and other community members determine how their own school health policies and programs compare to those nationwide
- help understand how well school health policies and programs address important public health issues and the priority health-risk behaviors that occur among students
- help understand whether schools are implementing policies and practices with evidence of effectiveness
- assess how school health policies and programs have changed since 2000.

METHODS

Detailed information about SHPPS 2006 methods is provided in "Methods: School Health Policies and Programs Study 2006" elsewhere in this issue of the *Journal of School Health*. Following is a brief overview of SHPPS 2006 methods.

SHPPS 2006 assessed all 8 school health program components at the state, district, school, and classroom

levels and health education and physical education and activity at the classroom level. State-level data were collected from education agencies in all 50 states plus the District of Columbia. District-level data were collected from a nationally representative sample of public school districts. School-level data were collected from a nationally representative sample of public and private elementary schools, middle schools, and high schools. Classroom-level data were collected from teachers of randomly selected classes covering required health instruction and required physical education in elementary schools and randomly selected

required health and physical education courses in middle and high schools.

Questionnaires

For SHPPS 2006, a total of 23 questionnaires were used. These questionnaires were developed during a 12-month process that benefited greatly from expert panel and national reviewer input (Appendix 2 of this issue of the *Journal of School Health*). At the state level, 7 questionnaires were developed to measure 7 school health program components: health education, physical education and activity, health services,

Table 1. National Health Objectives From *Healthy People 2010* Measured by SHPPS 2006

<i>Healthy People 2010</i> Objective Number	2010 Target (%)	Baseline Data From SHPPS 2000 (%)	Mid-Decade Update From SHPPS 2006 (%)
7-2a Increase the proportion of middle, junior high, and senior high schools that provide school health education to prevent health problems in the following areas: unintentional injury; violence; suicide; tobacco use and addiction; alcohol and other drug use; unintended pregnancy, HIV/AIDS, and STD infection; unhealthy dietary patterns; inadequate physical activity; and environmental health [†]	70	30.7	43.6*
7-2b Unintentional injury [‡]	90	68.3	79.8*
7-2c Violence	80	73.1	77.1
7-2d Suicide	80	59.1	63.1
7-2e Tobacco use and addiction	95	87.8	86.7
7-2f Alcohol and other drug use	95	89.0	87.4
7-2g Unintended pregnancy, HIV/AIDS, and STD infection	90	61.9	66.3
7-2h Unhealthy dietary patterns	95	83.5	83.8
7-2i Inadequate physical activity	90	76.3	78.8
7-2j Environmental health	80	59.9	NA
7-4 Increase the proportion of the nation's elementary, middle, junior high, and senior high schools that have a nurse-to-student ratio of at least 1:750 [§]	50	40.8	45.1
15-31 Increase the proportion of public and private schools that require use of appropriate head, face, eye, and mouth protection for students participating in school-sponsored physical activities ^{,*¶}	None set	38.7	46.2
22-8 Increase the proportion of public and private schools that require physical education for all students ^{,*#}			
Elementary schools	None set	8.0	3.8
Middle schools	25	6.4	7.8
High schools	5	5.8	2.1*
22-12 Increase the proportion of the nation's public and private schools that provide access to their physical activity spaces and facilities for all persons outside of normal school hours (ie, before and after the school day, on weekends, and during summer and other vacations) ^{,**}	None set	35.2	28.8*
27-11 Increase smoke-free and tobacco-free environments in schools, including all school facilities, property, vehicles, and school events ^{††}	100	46.3	63.6*

AIDS, acquired immunodeficiency syndrome; HIV, human immunodeficiency virus; NA, not asked in 2006; STD, sexually transmitted disease.

*Statistically significant change between 2000 and 2006, $p < .05$.

[†]Environmental health was not measured in SHPPS 2006 and has been omitted from the 2000 baseline data estimate. Consequently, the estimate reported here for 2000 does not match the estimate previously reported.

[‡]Wording changed from "accident or injury prevention" in the SHPPS 2000 questionnaire to "injury prevention and safety" in the 2006 questionnaire.

[§]Calculated using school-provided enrollment figures and the criterion that a school had a nurse if one was present in the school for at least 30 hours per week during the 30 days preceding the study. The SHPPS 2000 and 2006 estimates have been calculated using all schools as the denominator. Consequently, the estimate reported here for 2000 does not match the estimate previously reported.

^{||}Developmental objective. A 2010 target was not set.

^{*}Defined as schools that required students to wear appropriate protective gear when engaged in physical activities in physical education, intramural activities and physical activity clubs, and interscholastic sports, among schools that offered each activity.

[#]Defined as the equivalent of at least 150 minutes per week for elementary school students and at least 225 minutes per week for middle and high school students for all grades in the school for the entire school year (ie, at least 36 weeks).

^{**}Defined as schools in which physical activity facilities were used for community-sponsored sports teams, classes, "open gym," or unsupervised programs for children and adults during 1 or more of the following times: before school, after school, evenings, weekends, or during school vacations.

^{††}Defined as the percentage of schools that prohibited (1) cigarette smoking and smokeless tobacco use among all students, all faculty and staff, and all school visitors in all locations (ie, in school buildings, outside on school grounds, on school buses or other vehicles used to transport students, and at off-campus, school-sponsored events) and (2) cigar or pipe smoking by all students, all faculty and staff, and all school visitors.

mental health and social services, nutrition services, healthy and safe school environment, and faculty and staff health promotion. Seven questionnaires measuring the same 7 school health program components were also developed for district- and school-level data collection. Two questionnaires were developed to measure health education and physical education and activity at the classroom level. The eighth school health program component—family and community involvement—was measured with questions integrated into the 23 questionnaires, not in a separate set of questionnaires. Because some questionnaires took longer than 20-30 minutes to complete or covered such a wide range of topics that a single respondent might not have sufficient knowledge to complete it, some questionnaires were divided into modules.

Data Collection and Respondents

At all levels, data collection was supported and facilitated by letters of support from important national health and education organizations (Figure 1).

State- and district-level data were collected by computer-assisted telephone interviews or self-administered mail questionnaires. Designated respondents for each of the 7 school health program components listed above completed the interviews or questionnaires. At the state level, the state-level contact designated a single respondent for each component. At the district level, the district-level contact could designate a different respondent for each questionnaire or questionnaire module. All designated respondents had primary responsibility for, or were the most knowledgeable about, the policies and programs addressing the particular questionnaire or module.

After a state- or district-level contact identified respondents, each respondent was sent a letter of invitation and packet of study-related materials. Each packet contained a paper copy of the questionnaire(s), so that respondents could prepare for the interview, and provided a toll-free number and access code that respondents could use to initiate the interview. Respondents were told that the questionnaire(s) could be used in preparation for their telephone interview or completed and returned if self-administration was

preferred. One week after packets were mailed to respondents, trained interviewers from a call center placed calls to them to schedule and conduct telephone interviews. In April 2006, telephone interviewing ceased and most of the remaining state- and district-level data collection occurred via a mail survey. All remaining respondents were mailed paper questionnaires and return envelopes; however, interviewers remained available for any respondents who chose to contact the call center.

At the end of the data collection period (October 2006), 84% of all completed state-level questionnaires had been completed via telephone interview and 16% as paper questionnaires. Among the completed district-level questionnaires, 61% of the questionnaires had at least 1 module completed via telephone interview, and 78% of the questionnaires had at least 1 module completed on paper.

School- and classroom-level data were collected by computer-assisted personal interviews. During recruitment, the principal or another school-level contact designated a faculty or a staff respondent for each questionnaire or module, who had primary responsibility for or the most knowledge about the particular component. At the classroom level, respondents to the computer-assisted personal interviews were those health and physical education teachers whose elementary school class or middle or high school course was selected during the sampling process. All interviews were completed between January and June 2006.

Response Rates

One hundred percent ($n = 51$) of the state education agencies completed the state-level questionnaires for all components, except faculty and staff health promotion. That questionnaire was completed by 98% of states. At the district level, between 63% and 64% ($n = 445-461$) of the districts eligible to complete any module completed at least 1 module for a particular component. At the school level, between 66% and 74% ($n = 849-1029$) of the schools eligible to complete any module completed at least 1 module for a particular component. At the classroom level, among the eligible teachers, 94% ($n = 912$) completed the

Figure 1. National Organizations Providing Letters of Support, SHPPS 2006

<ul style="list-style-type: none"> American Academy of Pediatrics American Association for Health Education American Association of School Administrators American Cancer Society American Medical Association American School Health Association Council of Chief State School Officers Council of State Governments National Assembly on School-Based Health Care National Association of School Nurses 	<ul style="list-style-type: none"> National Association of State Boards of Education National Association of State School Nurse Consultants National Catholic Education Association National Education Association National Middle School Association National School Boards Association President's Council on Physical Fitness and Sports School Nutrition Association Society of State Directors of Health, Physical Education, and Recreation
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health education interview and 95% (n = 1194) completed the physical education interview.

Data Analysis

Data from state-level questionnaires are based on a census and are not weighted. District-, school-, and classroom-level data are based on representative samples and are weighted to produce national estimates. Two weights were constructed for analysis of classroom data. The first weight is appropriate for making inferences to schools nationwide based on the aggregation of classroom data within each school. The second weight is appropriate for making inferences to required elementary school classes or required middle and high school courses nationwide based on the data about the individual classes or courses.

Because of missing data, the denominators for each estimate vary slightly. The 16 figures in Appendix 1 of this issue of the *Journal of School Health* show the estimated standard error associated with an observed estimate from each of the district-, school-, and classroom-level questionnaires.

To analyze changes between SHPPS 2000 and SHPPS 2006, many variables from SHPPS 2000 were recalculated so that the denominators used for both years of data were defined identically. In most cases, this denominator was changed to include all states, districts, or schools, rather than a subset of states, districts, or schools. As a result of this recalculation, percentages previously reported for SHPPS 2000³ might differ from those reported in this article. Only estimates from 2000 and 2006 based on this same denominator should be compared.

Because state-level data are based on a census, statistical tests for differences between 2000 and 2006 are not appropriate. Therefore, this article highlights changes over time, meeting at least 1 of 2 criteria: (1) the difference was greater than 10 percentage points or (2) the 2006 estimate increased by at least a factor of 2 or decreased by at least half as compared with the 2000 estimate. At the district, school, and classroom levels, *t* tests were used to compare SHPPS 2000 and SHPPS 2006 prevalence estimates. However, to account for multiple comparisons, this article only highlights changes over time, meeting at least 2 of 3 criteria: (1) a *p* value of less than .01 from the *t* test, (2) a difference greater than 10 percentage points, or (3) the 2006 estimate increased by at least a factor of 2 or decreased by at least half as compared with the 2000 estimate.

SUMMARY OF RESULTS

The following section provides a brief summary of the results from SHPPS 2006 for each school health program component and highlights key changes that

have occurred between 2000 and 2006. More detailed results from SHPPS 2006 and more information about changes over time can be found elsewhere in this issue of the *Journal of School Health*.

Health Education

Most (74.5%) states had adopted a policy stating that districts or schools will follow national or state health education standards or guidelines. An additional 7.8% of states had adopted a policy encouraging districts or schools to follow national or state health education standards or guidelines. Among all states, 72.0% required or encouraged districts or schools to follow health education standards or guidelines based specifically on the *National Health Education Standards*.⁵

At least 86.3% of all states, districts, and schools required the teaching of at least 1 of 14 health topics (chosen to reflect the leading causes of mortality and morbidity among both youth and adults and other important public health issues) in elementary, middle, and high schools, and at least 60.8% of states, districts, and schools required the teaching of at least 7 of the 14 health topics in elementary, middle, and high schools. However, less than 10% of all states, districts, and schools required the teaching of all 14 topics in elementary schools, and less than 40% of all states, districts, and schools required the teaching of all 14 topics in middle or high schools.

Almost two thirds (61.0%) of all schools required instruction on health topics in at least 1 specific grade. Among all schools that had kindergarten students, 35.8% required health education in kindergarten; 44.6% of all schools that had 1st grade students required it in 1st grade, 43.5% required it in 2nd grade, 47.7% required it in 3rd grade, 50.3% required it in 4th grade, 60.4% required it in 5th grade, 52.0% required it in 6th grade, 53.3% required it in 7th grade, 49.9% required it in 8th grade, 34.3% required it in 9th grade, 25.2% required it in 10th grade, 12.0% required it in 11th grade, and 8.5% required it in 12th grade.

In some schools, health education was required but not in a specific grade. Nationwide, 56.6% of all schools required students to receive instruction on health topics as part of a specific class or course. This included 45.2% of elementary schools, 65.4% of middle schools, and 69.0% of high schools. In addition to required instruction on health topics, 39.8% of all middle and high schools offered elective courses that included instruction on health topics.

About two thirds (67.8%) of teachers of elementary school classes covering required health instruction and 67.1% of teachers of required health education courses in middle and high schools were certified, endorsed, or licensed by the state to teach

health education at the appropriate grade level. However, only 13.0% of elementary school teachers and 37.2% of middle and high school teachers of required health instruction had an undergraduate major, an undergraduate minor, or a graduate degree in health education.

Positive changes were detected since 2000 at the state and district levels. However, fewer positive changes were noted at the school and classroom levels. Nonetheless, it is possible that the increased state and district efforts to improve health education and professional preparation requirements may have provided the support schools needed to at least maintain if not improve their health education activities. For example, between 2000 and 2006, the percentage of states and districts requiring schools to teach about topics related to human sexuality, violence prevention, and injury prevention increased. Further, the percentage of states and districts adopting a policy stating that newly hired staff who teach health education at the middle and high school levels will be Certified Health Education Specialists increased. In addition, the percentage of districts adopting a policy stating that newly hired staff who teach health education at the middle school level will be certified, licensed, or endorsed by the state to teach health education increased from 57.8% to 69.7%.

Physical Education and Activity

Most (70.5%) states had adopted a policy stating that districts or schools will follow national or state physical education standards or guidelines. An additional 11.8% of states had adopted a policy encouraging districts or schools to follow national or state physical education standards or guidelines. Among all states, 76.0% required or encouraged districts or schools to follow physical education standards or guidelines based on the *National Standards for Physical Education* published by the National Association for Sport and Physical Education.⁶

Nationwide, 78.3% of schools required students to take some physical education. Specifically, in 69.3% of elementary schools, 83.9% of middle schools, and 95.2% of high schools, students had to take physical education as a requirement for graduation or promotion to the next grade or school level. In 15.6% of all schools, physical education was required but not in a specific grade, and in 63.4% of schools, physical education was required in specific grades. About half of all schools that had students in kindergarten required physical education in kindergarten. A similar percentage of schools that required physical education in a particular grade was seen for each of grades 1 through 9, but the percentage of schools that required physical education in grades 10, 11, and 12 was markedly lower.

Few schools provided daily physical education or its equivalent for students in all grades in the school for the entire school year. Specifically, 3.8% of all elementary schools (excluding kindergarten, which has physical education requirements that are consistently lower than those for grades 1 through 5), 7.9% of all middle schools, and 2.1% of all high schools provided daily physical education or its equivalent for the entire school year for students in all grades in the school.

Few (11.8%) states required and 25.5% recommended that elementary schools provide students with regularly scheduled recess, whereas 57.1% of all districts required and 33.1% recommended that elementary schools provide students with regularly scheduled recess. Nearly all (96.8%) elementary schools provided regularly scheduled recess for students in at least 1 grade.

Nationwide, 15.5% of districts required and 25.0% recommended that elementary schools provide regular physical activity breaks (not including recess and physical education), 10.0% of districts required and 23.7% recommended that middle schools provide regular physical activity breaks (not including physical education), and 3.8% of districts required and 8.6% recommended that high schools provide regular physical activity breaks (not including physical education). At the school level, 43.6% of elementary schools, 66.8% of middle schools, and 22.2% of high schools had students participate in regular physical activity breaks during the school day.

Almost half (48.4%) of all schools offered intramural activities or physical activity clubs to students, and 77.0% of middle schools and 91.3% of high schools offered students opportunities to participate in at least 1 interscholastic sport.

Many changes were detected in state- and district-level policies and practices related to both physical education and activity between 2000 and 2006. For example, between 2000 and 2006, the percentage of states that had adopted a policy stating that districts or schools will follow standards or guidelines based on the *National Standards for Physical Education*⁶ increased from 59.2% to 76.0%. Between 2000 and 2006, the percentage of states that actively discouraged schools from excluding students from physical education for bad behavior in another class increased from 20.4% to 54.0%, and the percentage of districts that prohibited schools from this practice increased from 19.2% to 36.5%. Further, the percentage of states that had adopted a policy prohibiting schools from using physical activity to punish students for bad behavior in physical education increased (from 2.1% to 16.0%), and the percentage of states actively discouraging schools from this practice also increased (from 25.5% to 56.0%).

Positive changes were also detected in professional preparation expectations. Between 2000 and 2006, the percentage of states that had adopted a policy stating that newly hired staff who teach physical education at the elementary and high school levels will have undergraduate or graduate training in physical education increased. In addition, the percentage of districts that had adopted a policy stating that newly hired staff who teach physical education at the high school level will be certified by the state to teach physical education increased from 78.6% to 92.6%.

Between 2000 and 2006, states and districts both adopted policies to support elementary school recess. Specifically, the percentage of states that required elementary schools to provide students with regularly scheduled recess increased from 4.1% to 11.8%, and the percentage of districts with such a requirement increased from 46.3% to 57.1%.

Health Services

Provision of some health services and prevention services (in 1-on-1 or small-group sessions) was required by states and districts. Half or more of all states had adopted a policy stating that districts or schools will provide, as needed, administration of medications; cardiopulmonary resuscitation (CPR); case management for students with disabilities; first aid; identification of or referral for physical, sexual, or emotional abuse; identification or school-based management of chronic health conditions; and violence prevention. Two thirds or more of all districts had adopted a policy stating that schools will provide, as needed, administration of medications; CPR; case management for students with disabilities; first aid; identification of or referral for physical, sexual, or emotional abuse; identification or school-based management of acute illnesses; identification or school-based management of chronic health conditions; and violence prevention.

As part of standard health services (defined as services offered, when needed, to all students in the school), nearly all schools provided administration of medications, CPR, and first aid when needed, but fewer schools provided more specialized health services or prevention services in 1-on-1 or small-group sessions to students. Nationwide, only 6.4% of schools had a school-based health center (SBHC) that provided physical health services to students. More (34.1%) schools had arrangements with agencies, organizations, or health care providers not located on school property to provide services to students when needed.

Nationwide, 81.5% of all schools had someone to oversee or coordinate health services at the school, and 86.3% of schools had a part-time or full-time

school nurse who provided standard health services to students at the school. Using the criterion that a school had a full-time nurse if either an RN or an LPN was present in the school for at least 30 hours per week during the 30 days preceding the study, 35.7% of all schools had a full-time school nurse. Among the schools with a part-time school nurse (ie, those in which a nurse was present less than 30 hours per week), that nurse was present in the school for an average of 10.4 hours per week during the 30 days preceding the study. Less than one third (31.5%) of all schools had a full-time school nurse who was an RN, and among the schools with a part-time RN, that nurse was present in the school for an average of 10.1 hours per week during the 30 days preceding the study.

Using school-provided enrollment figures, 52.4% of schools with a part-time or full-time nurse, or 45.1% of all schools, had a nurse-to-student ratio of 1:750 or better. In addition, 47.7% of schools with a part-time or full-time school nurse, or 40.6% of all schools, had an RN-to-student ratio of 1:750 or better. This finding suggests that *Healthy People 2010*⁴ national health objective 7-4 to increase to 50% the proportion of middle and high schools that have a nurse-to-student ratio of at least 1:750 is close to being met. Further, the percentage of all schools achieving this nurse-to-student ratio has not decreased since 2000. That is, according to SHPPS 2000, 52.9% of elementary, middle, and high schools with at least a part-time school nurse reported a nurse-to-student ratio of at least 1:750,³ and 40.8% of all schools nationwide reported this ratio.

Between 2000 and 2006, school health services programs became more responsive to increases in the prevalence of chronic health conditions among students. Specifically, the percentage of states and districts that required schools to provide identification and school-based management of chronic health conditions increased between 2000 and 2006, as did the percentage of schools that provided this service to students. In addition, the percentage of states that provided funding for staff development or offered staff development to school health services staff on this topic during the 2 years preceding the study increased since 2000, as did the percentage of school health services coordinators who received staff development on this topic.

Medication administration policies also changed between 2000 and 2006. The percentage of states and districts that had adopted a policy stating that some students may carry and self-administer epinephrine increased, as did the percentage of states that had adopted a policy stating that some students may carry and self-administer a prescription quick-relief inhaler (from 45.8% to 88.0%). Between 2000

and 2006, the percentage of schools in which students were permitted to carry and self-administer an epinephrine auto-injector increased from 25.7% to 46.4% among elementary schools, from 37.5% to 58.0% among middle schools, and from 53.7% to 72.4% among high schools. Further, the percentage of elementary schools that permitted students to carry and self-administer a prescription quick-relief inhaler increased from 59.3% to 76.9%.

Mental Health and Social Services

Only 8.9% of states but 49.8% of districts had adopted a policy stating that each school will have someone to oversee or coordinate mental health and social services at the school. Nationwide, 29.9% of districts had at least 1 SBHC that offered mental health and social services to students. Mental health and social services were also provided to students by mental health and social services professionals who worked at school-linked health centers or who had a contract, memorandum of agreement, or other similar arrangement with a district or school to provide mental health or social services to students but not on school property. More than one third (35.6%) of states had adopted a policy stating that districts or schools will have these types of arrangements, and 62.2% of districts had such arrangements. One fifth (20.2%) of all districts had at least 1 SBHC and these types of arrangements; 71.9% of districts had either an SBHC or these types of arrangements.

Although states and districts generally had not adopted policies stating that schools will have mental health and social services staff, 77.9% of schools had at least a part-time counselor who provided services to students. Other mental health and social services staff were less common, with 61.4% of schools having a school psychologist and 41.7% having a school social worker. The percentage of schools with each type of mental health or social services staff (ie, counselors, psychologists, and social workers) remained stable between 2000 and 2006.

The percentage of schools providing particular services to students reflects the available staffing. That is, since schools were more likely to have counselors than psychologists or social workers, counseling services such as counseling for emotional or behavioral disorders were more common than psychological services such as comprehensive assessments or intake evaluations or social services such as assistance with enrolling in the Special Supplemental Food Program for Women, Infants, and Children (WIC) or accessing food stamps or food banks.

Some changes in required mental health and social services were detected between 2000 and 2006. The percentage of states that had adopted a policy stating that student assistance programs will

be offered to all students increased from 34.0% to 55.6%, and the percentage of districts that had adopted a similar policy increased from 51.2% to 73.0%. The percentage of states that had adopted a policy stating that school mental health or social services staff will participate in the development of individualized education programs when indicated increased from 62.7% to 79.6%.

At the school level, the percentage of schools providing a wide range of mental health and social services, prevention services (in 1-on-1 or small-group sessions), and methods of services delivery between 2000 and 2006 remained constant with just 2 exceptions. The percentage of schools providing HIV counseling, testing, and referrals increased from 23.3% to 40.7%; however, the percentage of schools providing family counseling decreased from 60.8% to 49.7%.

Nutrition Services

Nationwide, 18.0% of states and 74.1% of districts had adopted a policy stating that all schools will offer breakfast to students. An additional 44.0% of states and 8.7% of districts had adopted a policy stating that some categories of schools, such as those with a certain percentage of students eligible for free or reduced-price meals, will offer breakfast to students. More than two thirds (68.6%) of schools offered breakfast to students, 63.0% participated in the United States Department of Agriculture reimbursable School Breakfast Program,^{7,8} and 11.9% offered other breakfast meals to students.

Some states and districts had requirements or recommendations about specific foods that schools offered to students each day. About two thirds of schools offered students a daily choice each day for lunch between 2 or more types of fruit or 100% fruit juice, between 2 or more entrees or main courses, and between 2 or more vegetables. Most schools offered either low-fat milk or skim milk, and more than one third offered both of these healthy choices. Further, less than half of all milk ordered by schools was high in fat (ie, whole or 2% milk). Only 9 of 22 specific food preparation practices recommended by nutritionists as strategies for reducing the total fat, saturated fat, sodium, and added sugar content of school meals were implemented almost always or always by more than half of districts and schools.

One of the greatest challenges for improving school nutrition services programs is increasing the professional qualifications of the individuals who manage them. A majority of districts and schools required only a high school diploma or General Educational Development (GED) credential as the minimum educational requirement for newly hired food service managers.

In addition to the school breakfast and lunch programs, many schools also offer foods and beverages as à la carte sales (ie, food items sold individually rather than as part of a complete meal) during breakfast or lunch, and in after-school programs, school stores or snack bars, vending machines, student parties, family meetings, staff meetings, and concession stands. Nationwide, 21.1% of elementary schools, 62.4% of middle schools, and 85.8% of high schools had 1 or more vending machines from which students could purchase food or beverages. In addition, 16.7% of all elementary schools, 33.0% of all middle schools, and 50.1% of all high schools had a school store, canteen, or snack bar where students could purchase food or beverages. In at least 1 in 5 elementary schools, students could purchase bottled water from a vending machine or in a school store, canteen, or snack bar. In at least half of all middle schools, students could purchase bottled water and sports drinks (eg, Gatorade) in these venues. In at least half of all high schools, students could purchase 100% fruit juice; bottled water; salty snacks that were low in fat; cookies, crackers, cakes, pastries, or other baked goods that were not low in fat; non-chocolate candy; salty snacks that were not low in fat; soda pop or fruit drinks that were not 100% juice; and sport drinks in these venues.

Nationwide, 11.9% of all elementary schools, 25.4% of all middle schools, and 48.0% of all high schools allowed students to purchase foods and beverages high in fat, sodium, or added sugars from a vending machine or in a school store, canteen, or snack bar during school lunch periods. More specifically, students could buy soda pop, fruit drinks that were not 100% juice, and sports drinks during the lunch period in 12.9% of all elementary schools, 28.7% of all middle schools, and 58.2% of all high schools. In addition, 5.8% of elementary schools, 14.6% of middle schools, and 49.6% of high schools allowed students to purchase foods and beverages high in fat, sodium, or added sugars before classes began in the morning, and 4.4% of elementary schools, 12.2% of middle schools, and 41.1% of high schools allowed students to purchase these items during any school hours when meals were not being served.

Between 2000 and 2006, many changes were detected in requirements and recommendations related to competitive foods. Specifically, increases were detected in the percentage of states and districts that required that schools be prohibited from offering junk foods as a la carte selections during breakfast and lunch periods; at concession stands; in school stores, canteens, or snack bars; at student parties; and in vending machines. Increases were also detected in the percentage of districts that required that schools be prohibited from offering junk foods in after-school or extended day programs and at staff meetings. Similarly, increases were detected in the

percentage of states and districts that recommended that schools be prohibited from offering junk foods in after-school or extended day programs: as à la carte selections during breakfast or lunch periods; at concession stands; at meetings attended by students' family members; in school stores, canteens, or snack bars; at staff meetings; at student parties; and in vending machines. In addition, the percentage of states that discouraged schools from using food or food coupons as a reward increased from 13.0% to 45.1%, and the percentage of districts prohibiting this practice increased from 11.3% to 26.1%.

At the school level, between 2000 and 2006, the availability of low-fat à la carte foods increased. Specifically, increases were detected in the percentage of schools that offered bread sticks, rolls, bagels, pita bread, or other bread products (from 50.8% to 67.1%); lettuce, vegetable, or bean salads (from 52.6% to 72.8%); low-fat salty snacks (from 38.2% to 53.2%); low-fat or nonfat yogurt (from 35.5% to 50.3%); and vegetables other than potatoes (from 51.0% to 70.8%). Further, the percentage of schools that offered deep-fried potatoes to students decreased from 40.0% to 18.8%.

Between 2000 and 2006, improvements were also detected in the availability of healthy foods and beverages not sold through the school meals program. For example, the percentage of schools in which students could purchase bottled water from vending machines or at school stores, canteens, or snack bars increased from 29.7% to 46.2%. Also, decreases were detected in the percentage of schools in which students could purchase cookies, crackers, cake, pastries, or other baked goods not low in fat (from 38.4% to 25.3%); ice cream or frozen yogurt not low in fat (from 21.3% to 11.0%); salty snacks not low in fat (from 38.5% to 26.5%); and whole milk (from 27.2% to 13.9%).

Healthy and Safe School Environment, Part I

Nationwide, 85.7% of states had a council, committee, or team of people who were formally charged with coordinating state-level school health activities. Almost three fourths (72.9%) of districts and more than one third (39.5%) of schools had a school health council that offered guidance on the development of policies or coordinated activities on health topics. Two thirds (67.8%) of districts had someone in the district, and 60.8% of schools had someone at the school, to oversee or coordinate school health (eg, a school health coordinator).

Only 63.6% of schools had policies that (1) prohibited cigarette smoking and smokeless tobacco use among all students, all faculty and staff, and all school visitors in school buildings, outside on school grounds, on school buses or other vehicles used to transport

students, and at off-campus, school-sponsored events and (2) prohibited cigar or pipe smoking by all students, all faculty and staff, and all school visitors. Nationwide, most (90.8-96.3%) schools prohibited tobacco advertisements in school buildings, outside on school grounds, on school buses or other school vehicles used to transport students, and in school publications; through sponsorship of school events; and by prohibiting tobacco brand-name apparel or merchandise.

Between 2000 and 2006, many changes were detected in tobacco-use prevention policies. Specifically, increases occurred for the following policies: policies prohibiting faculty and staff from smoking cigarettes on school grounds; policies prohibiting faculty and staff from using smokeless tobacco at off-campus, school-sponsored events, outside on school grounds, and on school buses or other vehicles used to transport students; policies prohibiting visitors from smoking cigarettes outside on school grounds; and policies prohibiting visitors from using smokeless tobacco on school grounds and at off-campus, school-sponsored events. As a result of these increases, an increase occurred from 46.3% in 2000 to 63.6% in 2006 in the percentage of schools that (1) prohibited cigarette smoking and smokeless tobacco use among all students, all faculty and staff, and all school visitors in school buildings, outside on school grounds, on school buses or other vehicles used to transport students, and at off-campus, school-sponsored events and (2) prohibited cigar or pipe smoking by all students, all faculty and staff, and all school visitors. Nonetheless, 63.6% falls far short of the *Healthy People 2010*⁴ goal to increase to 100% “smoke-free and tobacco-free environments in schools, including all school facilities, property, vehicles, and school events” (Objective 27-11).

Most districts and schools had adopted policies prohibiting students from using alcohol and illegal drugs. Nationwide, 11.4% of middle schools and 19.5% of high schools conducted drug testing on students.

Supportive services (eg, being referred to a school counselor or being encouraged or required to participate in an assistance program) were generally not actions commonly taken by schools in response to violations of policies related to cigarette smoking, smokeless tobacco use, fighting, and weapon possession—about one third of schools or less reported that they always or almost always used these supportive services—but their use was slightly more common for violations of policies related to alcohol use or illegal drug use or possession.

The majority of districts required that schools include, and the majority of schools did include, in their crisis preparedness, response, and recovery plan elements consistent with current recommendations such as evacuation plans, lock down plans, periodic

review of plans, and mechanisms for communicating with school personnel.

Healthy and Safe School Environment, Part II, Physical School Environment

Although work still needs to be done, many states, districts, and schools are addressing issues affecting the physical school environment and thus the health and safety of their students. For example, most districts and schools had policies on how to use, label, store, and dispose of hazardous materials, and more than three fourths of schools kept an inventory of hazardous materials.

However, only about one fifth of states required districts or schools to have an indoor air quality (IAQ) management program, and only one third of districts and half of schools had an IAQ program. Nonetheless, in many schools, some activities are consistent with those used to improve IAQ. For example, nearly all schools conducted periodic inspection of the heating, ventilation, and air conditioning system, and about half maintained the American Society of Heating, Refrigerating, and Air Conditioning Engineers standard for ventilation⁹ and kept the relative humidity below 60%. Even though only two thirds of schools had a plan for how to address mold problems, most schools conducted periodic inspections for mold; for condensation in and around the school facilities; and of the building foundation, walls, and roof for cracks or leaks. However, despite growing evidence of the risks associated with diesel emissions, including from school buses, only one third of districts had implemented an engine-idling reduction program for school buses.

Half of states required or recommended that districts or schools follow an integrated pest management program (defined as an approach to pest control that seeks to reduce the use of toxic pesticides as much as possible).¹⁰ Slightly more than half of states and districts required schools to conduct periodic inspections that test drinking water outlets for lead, and more than half of schools did so during the 12 months preceding the study. Few (13.4%) districts had a policy to include green design concepts when building new schools or renovating existing buildings. One fourth of districts and slightly more than half of schools had policies to purchase low-emitting products for use in and around the school and school grounds.

Faculty and Staff Health Promotion

Prior to employment for all school faculty and staff, 20.0% of states, 28.4% of districts, and 27.6% of schools required a physical health examination;

26.0% of states, 42.9% of districts, and 47.9% of schools required tuberculosis (TB) testing; and 4.1% of states, 8.6% of districts, and 16.2% of schools required illegal drug-use screening.

Few states had adopted a policy stating that districts or schools will provide funding for or offer health screenings to faculty and staff. During the 12 months preceding the study, 39.0% of districts and 32.8% of schools provided funding for or offered blood pressure screening, 23.3% of districts and 13.2% of schools provided funding for or offered screening for height and weight or body mass, and 18.8% of districts and 13.3% of schools provided funding for or offered screening for serum cholesterol.

Few states had adopted a policy stating that districts or schools will provide funding for or offer health promotion activities (defined as classes, workshops, distribution of materials, or individual or group-counseling sessions) for faculty or staff. In contrast, during the 12 months preceding the study, more than half of districts provided funding for health promotion activities or offered health promotion activities related to CPR education (73.8%), emergency preparedness (67.6%), and work site safety education (56.2%). Although nearly all schools offered at least 1 health promotion activity or service to faculty and staff, few schools appeared to offer coordinated activities and services within a comprehensive employee wellness program.

About one fourth (24.4%) of states had adopted a policy stating that districts or schools will provide funding for or offer an employee assistance program (EAP) for faculty and staff. During the 12 months preceding the study, 21.6% of districts provided funding for or offered an EAP for faculty and staff and 31.7% of schools offered an EAP.

A few changes in faculty and staff health promotion policies and practices were detected between 2000 and 2006. For example, between 2000 and 2006, the percentage of both states and districts requiring TB testing for school faculty and staff decreased. Specifically, the percentage of states with a TB testing requirement for any faculty and staff prior to employment decreased from 76.6% to 32.0%, and the percentage of districts with a similar requirement decreased from 67.0% to 55.1%. In addition, the percentage of states with a routine TB testing requirement for any faculty and staff while employed decreased from 46.8% to 14.3%, and the percentage of districts with a similar requirement decreased from 38.2% to 19.9%. At the school level, the percentage of schools that required TB testing for any faculty and staff prior to employment decreased from 71.0% to 56.0%, and the percentage of schools that required periodic TB testing for any faculty and staff while employed decreased from 38.0% to 24.9%. These changes are consistent with

the CDC's 2000 recommendation that mandated TB-testing programs be discouraged unless the targeted group contains substantial proportions of persons at high risk.¹¹

In addition, between 2000 and 2006, the percentage of districts providing funding for or offering faculty and staff nutrition education increased from 11.0% to 32.1%, and the percentage providing funding for or offering weight management increased from 12.7% to 27.8%. In addition, the percentage of districts providing funding for or offering physical activity programs increased from 24.2% to 36.3%. However, at the school level, during the 12 months preceding the study, the percentage of schools offering stress management education decreased from 36.3% to 22.4%, and the percentage offering pre- or postnatal education decreased from 5.2% to 1.5%.

Family and Community Involvement

Many schools were not doing some of the fundamental things schools could do to increase family involvement. Only 55.0% of the 39.5% of schools that had a school health council included students' families in their group. During the 12 months preceding the study, 32.8% of schools met with a parent's organization, such as the Parent Teacher Association (PTA), to discuss school health education; 28.2% offered health education to families; and less than half collected suggestions from family members about nutrition services, physical education, or health education. At the classroom level, only 55.5% of required health education classes or courses and 30.8% of required physical education classes or courses had a teacher who gave students homework or projects that involved family members.

Less than one third of districts had adopted a policy stating that elementary schools (26.6%), middle schools (25.8%), and high schools (30.8%) will participate in programs in which family or community members serve as role models to students or mentor students. Nationwide, 47.7% of schools participated in such a program. In addition, 46.8% of schools had or participated in a community-based illegal drug-use prevention program, 38.5% of schools had or participated in a community-based alcohol-use prevention program, and 37.8% of middle and high schools had or participated in a youth empowerment or advocacy program related to tobacco-use prevention.

Almost one third (30.3%) of districts had adopted a policy requiring students to participate in community service (defined as unpaid work that helps the community). Further, only 8.7% of districts required, but 48.0% recommended that schools provide service-learning opportunities to students (defined as community service activities designed to meet specific learning

objectives for a course). Nationwide, 77.4% of schools provided community service opportunities for students, and 52.0% of schools provided service-learning opportunities for students. About one fourth of high and middle schools that provided community service opportunities for students required all students to participate in them. In about half of the 77.4% of schools that provided community service opportunities, participation was voluntary for all students.

Between 2000 and 2006, communication with family and community members increased. At the district level, the percentage of districts that provided families with information on school health program activities increased for health education, physical education, mental health and social services, and health services. At the school level, the percentage of schools that provided families with information about the school nutrition services program increased from 63.8% to 80.8%. In addition, the percentage of schools that met with a parents' organization, such as the PTA, to discuss the school nutrition services program increased from 24.7% to 34.8%, and the percentage of schools that collected suggestions from family members of students about the school nutrition services program increased from 28.1% to 42.1%. Similarly, the percentage of schools that collected suggestions from family members of students about school health education increased from 23.9% to 34.3%. However, a decrease was detected in the percentage of schools in which students' families helped develop, communicate, or implement policies and activities related to alcohol-use prevention (from 45.4% to 35.1%), tobacco-use prevention (from 40.2% to 29.2%), injury prevention and safety (from 39.3% to 28.0%), and violence prevention (from 56.9% to 44.7%).

UNANSWERED QUESTIONS

Although SHPPS 2006 is the largest, most comprehensive study of school health programs ever undertaken, it leaves some important questions about school health programs unanswered. For example, SHPPS 2006 did not assess the use of specific health education and physical education curricula. While we considered doing this as we developed the SHPPS 2006 questionnaires, we realized that without detailed information about the fidelity with which the curricula were implemented and an understanding of how multiple curricula were combined, data on the use of specific curricula would be misleading. Nonetheless, we realize this is important information that is not available elsewhere and we remain committed to finding an efficient way to collect this kind of information, if possible, in the future.

Further, SHPPS 2006 did not provide information on the impact or effectiveness of specific policies,

practices, interventions, and services. School health programs would benefit from more scientifically credible evidence about the effectiveness of each school health program component as well as the effectiveness of the overall 8-component model, but SHPPS is not and will not generally be the source of that evidence.

In addition, SHPPS 2006 did not assess students' perceptions of the programs and services available to them. We realize that providers and recipients of programs and services may view the same program or service differently. SHPPS 2006 also did not assess students' health-risk behaviors. While many persons have suggested that SHPPS should measure both policies and programs and students' health-risk behaviors, we remain convinced that any relationships we found would not be interpretable because of the cross-sectional nature of the data. Only a data set that provided longitudinal information about the onset of health-risk behaviors and simultaneous longitudinal information about the introduction of policies and programs would allow credible interpretation about the impact that school health policies and programs have on health-risk behaviors and the impact that health-risk behaviors have on school health policies and programs. While this would be important information, SHPPS is not the study that will provide it.

Finally, while SHPPS 2006 was the first study to assess many characteristics of the physical school environment, all the information we have was collected via interviews. Additional information about the physical school environment could have been obtained via structured observations and environmental sampling. Limited resources largely prevented this from happening, but it might be possible in future studies.

FUTURE PLANS

This issue of the *Journal of School Health* represents the first release of SHPPS 2006 data. The 10 articles that follow provide detailed information about SHPPS 2006 methods and each school health program component. Simultaneously, the CDC is releasing another publication, *State-Level School Health Policies and Practices: A State-by-State Summary From the School Health Policies and Programs Study 2006*, which describes school-level policies and practices by state across all 8 school health program components. In addition, a series of SHPPS 2006 fact sheets have been developed to summarize major findings by school health program component and by health topic (eg, nutrition services, HIV prevention, and tobacco-use prevention).

Limited quantities of this issue of the *Journal of School Health* can be obtained at no cost from the

Division of Adolescent and School Health, National Center for Chronic Disease Prevention and Health Promotion, CDC, 4770 Buford Highway, NE, MS-K33, Atlanta, GA 30341, telephone: 770/488-6160, fax: 770/488-6156, email: cdcinfo@cdc.gov. This e-mail address may also be used to submit questions about SHPPS 2006 methods and results. *State-Level School Health Policies and Practices: A State-by-State Summary From the School Health Policies and Programs Study 2006* and the SHPPS fact sheets can be downloaded from www.cdc.gov/shpps.

The CDC plans to conduct more detailed analyses of SHPPS 2006 data than those presented in this issue of the *Journal of School Health*. Additional analyses of changes between 2000 and 2006 are also planned. These findings will be published in other scientific journals and presented at national conferences. We encourage others to conduct their own analyses as well using the SHPPS 2006 questionnaires and public-use data sets available at www.cdc.gov/shpps. The CDC staff can provide limited technical assistance for accessing and using the SHPPS 2006 data. In addition, the CDC plans to develop more fact sheets based on SHPPS 2006 data and additional publications and reports that will all be available at www.cdc.gov/shpps.

Resources permitting, the CDC plans to conduct another SHPPS in 2012. This study will provide the next update on the characteristics of school health policies, programs, and practices at the state, district, school, and classroom levels nationwide. As with SHPPS 2006, special attention will be given to measuring new and emerging school and public health issues. Further, SHPPS 2012 will provide information to assess progress made as a result of the local wellness policy requirement set forth through the Child Nutrition and WIC Reauthorization Act of 2004.¹² This legislation requires school districts to establish local wellness policies that must address nutrition education, nutrition guidelines, and physical activity. SHPPS 2012 will also provide information to determine if improvements in school health policies and programs detected in 2006 have been sustained and if barriers to better school health policies and programs have been overcome after another 6 years of commitment and dedication by school and public health professionals nationwide.

CONCLUSIONS

SHPPS 2006 is a new and important resource for school and public health practitioners, scientists, advocates, policymakers, and all those who care about the health and safety of youth and their ability to succeed academically and socially. We hope that these data will drive improvements in school health programs at all levels—state, district, school, and classroom—and across all school health program components. It is critical for public health and education officials to work in partnership with schools and communities to enable schools to implement effective school health programs and help youth develop and maintain healthy lifestyles.

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