

Association of the Presence of State and District Health Education Policies With School Tobacco Prevention Program Practices*

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ABSTRACT

BACKGROUND: Texas does not require health education or tobacco use prevention education (TUPE) in its middle schools. During planning for the Texas Tobacco Prevention Initiative, this baseline research was conducted to (1) describe tobacco prevention and control practices in middle schools prior to the pilot, (2) analyze implementation of a state law prohibiting tobacco use on campuses and at school events, and (3) identify how schools are influenced by district policies requiring health education.

METHODS: Written surveys derived from the 2000 School Health Education Profile Tobacco Module developed by the Centers for Disease Control and Prevention were completed by principals and health coordinators at schools in districts requiring health education (n = 31) and schools without district requirements (n = 32).

RESULTS: School tobacco policy familiarity and enforcement were consistently reported in response to a state law with rigorous recommendations prohibiting tobacco use. Significantly more activity in numerous components of TUPE was reported in schools in districts with a health education requirement.

CONCLUSIONS: Results have implications for intervention programs planned in schools located in states seeking to develop or strengthen state laws, or in states without health education or specific health content requirements.

Keywords: health education policy; health education; tobacco prevention.

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Both state and district policies have been noted to influence the scope and nature of health education programs that students receive.¹⁻³ Proponents of health education claim that more time and attention would be placed on health education if it were a required course.⁴ Research has shown that for successful implementation of prevention programs to have the greatest likelihood of success, support at the district, campus, and individual implementer levels is necessary.^{5,6} Campus-level administrative support and subsequent program implementation and sustainability is strengthened when state and/or district policies and guidelines exist for a program and a project “champion” exists at the district level.⁵

Tobacco use is 1 of the 6 health behaviors that contribute most to the leading causes of mortality in our country.⁷ Frequently, these behaviors are established during youth.⁷ Nationwide, 22.3% of high school students and 8.1% of middle school students are current cigarette smokers.⁸ School health education programs play an important role in reducing adolescent tobacco use by increasing student knowledge, positive attitudes, and peer resistance skills.⁹

Although Texas is 1 of 45 states that require health education in elementary schools and 1 of 43 states requiring health instruction in high schools, Texas is among 8 states that do not require health instruction in middle schools.⁴ In Texas, health education is considered an enrichment curriculum, which means districts and schools have the option to provide instruction in a variety of arrangements and settings or infuse it into other courses.¹⁰ In contrast, health education is required in middle schools by 89.6% of school districts, nationally.¹¹

Also, Texas is 1 of only 12 states that do not require middle schools to teach tobacco use prevention education (TUPE).¹² Among 54 health competencies for grades 7-8 listed in the Texas Essential Knowledge and Skills,¹³ only 1 refers to TUPE. That reference couples the study of tobacco with alcohol and other drugs. In addition, districts and schools have leeway to select competencies taught.

The transition periods between elementary school and middle school and between middle school and high school are when adolescents are considered to be most vulnerable to initiation of tobacco use.¹⁴ The Centers for Disease Control and Prevention (CDC) *Guidelines for School Health Programs to Prevent Tobacco Use and Addiction* (1994) recommend that TUPE be especially intensive in middle schools.¹⁵ Therefore, the lack of state-mandated health education in Texas middle schools assumes heightened concern.

On the other hand, the state of Texas has rigorous recommendations for school/district policies prohibiting tobacco use by students, staff, and visitors of schools and recommendations for descriptions of

tobacco use violations.¹⁶ The Texas Education Code, in Chapter 38.006 (1995), provides explicit mandates that no tobacco or tobacco products will be used or possessed on school property, or at school-related or school-sanctioned events.¹⁶ Each school district is responsible for district personnel enforcing those tobacco-related school policies.¹⁷

At the inception of the Texas Tobacco Prevention Initiative (TTPI) pilot study sponsored by the Texas Department of State Health Services (TDSHS), state planners wished to establish baseline measures of the status of tobacco prevention and control programs in schools. This information was needed to plan school-based interventions and supportive training and technical assistance. This study was designed to (1) describe existing tobacco prevention and control practices in middle schools prior to the TTPI, (2) analyze campus-level implementation of a state policy prohibiting tobacco use on campuses and at off-campus school events, and (3) identify how schools are influenced by district-level policies requiring health education in middle schools.

METHODS

Instruments

Principal and Health Coordinator Surveys were designed to correspond to the 2000 School Health Education Profile and the accompanying Tobacco Module (SHEP-TM) developed by the CDC.¹⁸ Use of items from national survey tools enabled us to compare our findings with results reported from nationally representative samples across states and cities. The rationale stated at the national level for the tobacco module survey items is to measure the extent to which schools follow the *Guidelines for School Health Programs to Prevent Tobacco Use and Addiction (School Guidelines)*¹⁹ to achieve the Healthy People 2010 Objective 27-11 of creating smoke-free and tobacco-free schools.²⁰ For purposes of this study, questions associated with 4 of the 7 *School Guidelines* components were examined. These included (1) development and enforcement of a school policy on tobacco use; (2) provision of TUPE in kindergarten through 12th grade; (3) provision of instruction about the short- and long-term negative physiological and social consequences of tobacco use, social influences on tobacco use, peer norms regarding tobacco use, and refusal skills; and (4) provision of program-specific training for teachers.

The edition of the survey for the school principal included 10 questions about development and enforcement of school policy on tobacco. The questions asked (1) how familiar the principal is with Texas Senate Bill 1, which requires schools to prohibit tobacco use (response options “extremely familiar” = 4 to “not at all familiar” = 1); (2) how

often the policy on tobacco use by students is enforced in school buildings, on school grounds, in school vehicles, and at school-sponsored events (response options "always or almost always" = 4 to "never" = 1); (3) whether tobacco advertising to sponsor school events is prohibited and (4) whether students are prohibited from wearing or carrying tobacco-brand-name apparel and merchandise (response options yes/no); how often actions (eg, referred to legal authorities) are taken when tobacco use policy is violated by (5) students and (6) faculty or staff (response options "always or almost always" = 4 to "never" = 1); which persons (eg, school administrators, teachers, bus drivers) are responsible for reinforcing school policy that prohibits smoking by (7) students and (8) faculty and staff (list with yes/no options); by what means (eg, written in student handbook) policy prohibiting use of tobacco is communicated (9) to students and (10) to their families (list with yes/no options).

The health coordinator edition included questions about TUPE and about program-specific training for teachers. Provision of TUPE is assessed in 8 questions that asked (1) whether TUPE is provided through classroom teachers (yes/no) and, if so (2) at what grade levels TUPE is provided (list with yes/no/not options); (3) whether teaching of TUPE is required (response options "voluntary" = 1 to "required" = 3); (4) how many teachers provide TUPE in the classroom (response options "1-2" = 1 to "greater than 5" = 3); (5) number of classroom lessons dedicated to TUPE (response options "infused into 1 lesson" = 1 to "greater than 10 lessons" = 5); (6) which classes include TUPE (list with yes/no/do not know options); (7) whether TUPE is provided through nonclassroom programs or activities (yes/no); and (8) which persons outside the classroom (eg, school nurse) are involved in providing TUPE (list with yes/no options).

Provision of instruction about the short- and long-term negative physiological and social consequences of tobacco use, social influences on tobacco use, peer norms regarding tobacco use, and refusal skills were assessed with 3 questions that asked (1) from what curricula TUPE lessons were taken (list with yes/no options), (2) which sources of materials (eg, a commercially developed student textbook) were used to provide TUPE (list with response options "used" = 3, "available, did not use" = 2, and "not available" = 1), and (3) what instructional methods (eg, group discussions) were used to provide TUPE (list with response options yes/no/do not know).

Provision of program-specific training for teachers was assessed with 3 yes/no questions that asked whether faculty had (1) received and (2) would like to receive staff development for TUPE, and (3)

whether faculty would like to receive staff development on specific methods for providing TUPE (eg, teaching students of various cultural backgrounds).

The questionnaires were piloted with 16 school administrators, health teachers, and graduate education students to assess time for completion, clarity and completeness of directions, vocabulary level, answer sheet format, clarity of questions and answers, and content completeness. A small number (6%) indicated that some changes were indicated in the vocabulary level and answer sheet format. Those changes were made. Content validity was checked in consultation with 13 of the 20 Texas Regional Educational Service Center health coordinators.²¹

Each of the questionnaire items was treated as its own self-anchored scale. Although the CDC has not published reliability assessments for the SHEP-TM, the questions are similar to those used in the CDC School Health Policies and Programs Study in 2000, for which reliability has been demonstrated. In a data quality substudy of the school- and classroom-level questionnaires through computer-assisted repeat interviews with a subsample of principals and health coordinators, respondents exhibited moderate or substantial test-retest reliability to most of the survey questions.²²

Procedures

In the spring 2000, the Principal and Health Coordinator Surveys were mailed to schools in a 7-county area in East Texas that subsequently became the setting for the pilot study of the TTPI.^{18,19} Reminders with another copy of the survey were mailed 1 month later.

All school districts with schools that completed both principal and health coordinator versions of the survey were contacted by telephone to determine the presence and nature of district-level health education requirements. District health education coordinators were asked if health education was required by their district in grades 6, 7, or 8, and the length of the required course. Middle schools were classified into 2 district-level conditions to indicate the presence or absence of health education requirements.

Participants

A representative sample of 171 secondary schools was selected from schools serving students in grades 6 through 12 in the East Texas pilot study area. The schools were located in 69 districts. For purposes of this study, schools that primarily served grades 6, 7, and/or 8 were considered to be middle schools. This classification included intermediate schools, middle schools, and junior high schools, but did not include K-12 campuses.

Among the principals at the 130 schools (76%) who completed the Principal Survey, 67 (51.5%) were from middle schools. Among 128 (74.9%) schools in which the health coordinator participated, 65 (50.8%) were middle schools.

Of the total of 69 middle schools whose representatives participated in the survey, 63 (91.3%) completed both the principal and the health coordinator instruments. The current analyses are based on those 63 schools. They represent 40 school districts.

Data Analysis

Frequencies, means, chi-square analysis, and *t* tests were used to report levels of tobacco prevention and control practices and to compare middle schools with a district requirement with schools without a requirement. A significance level of $\leq .05$ was established for all analyses.

RESULTS

Presence of a District Requirement for Health Education

Among the 40 school districts represented in the current analyses, 40% ($n = 16$) required health education in middle schools. Among the 63 middle schools represented in the current analyses, 49% ($n = 31$) were located in districts that required health education in their middle schools. The number of participating schools per district for middle schools with a district health education requirement ranged from 1 to 9, with an average of 1.9 per district. For middle schools without a district requirement, the number of participating schools per district ranged from 1 to 3, with an average of 1.3 per district.

Middle schools with and without district requirements were not significantly different in mean number of students, female students, male students, Native American students, Asian students, Hispanic students, or white students. Middle schools with a district health education requirement did, however, have significantly larger populations of African American ($t_{55,97} = 4.02, p = .001$), economically disadvantaged ($t_{61} = 2.87, p = .006$), and at-risk students ($t_{61} = 2.32, p = .02$) than did middle schools in districts without the health education requirement.

School Implementation of the State Tobacco Policy

School policy on tobacco use was the only *School Guidelines* component¹² in which high levels of implementation were reported across all schools. School principals in both conditions stated they were extremely familiar (69.8%) or moderately familiar (30.2%) with Texas Education Code, Chapter 38.006 (1995), which requires schools to prohibit tobacco use, student possession of tobacco products, and school policy enforcement. The vast majority of

schools always/almost always enforced the policy prohibiting tobacco use by students in school buildings (96.8%), on school grounds (96.8%), in school vehicles (96.8%), and at off-campus school-sponsored events (92.1%); prohibited tobacco advertising at school-sponsored events (92.1%); and prohibited students from wearing or carrying apparel or merchandise with tobacco company names, logos, or cartoons (98.4%).

In over 80% of all middle schools, actions taken for students caught using tobacco always/almost always included referral to a school administrator (98.4%), parents or guardians informed (96.8%), and in-school suspension (82.5%). Principals in middle schools with a district health education requirement reported referring students more frequently to the school counselor when they were caught using tobacco than did those in schools without a district requirement ($\chi^2_3 = 9.13, p = .03$). In middle schools with a district health education requirement, 29% of principals always/almost always and 55% sometimes referred students to the school counselor when they were caught using tobacco, compared to middle schools without a requirement (13% and 47%, respectively).

In approximately two thirds of schools, actions always/almost always taken when faculty and staff are caught using tobacco were referral to a school or district administrator (68.3%) and a written or oral reprimand (66.7%). Few (6.3%) middle school principals reported always/almost always encouraging faculty and staff to participate in a cessation program when caught using tobacco.

In over 75% of schools, school administrators (100%), coaches (98.4%), teachers (98.4%), bus drivers (93.7%), law enforcement officers (88.9%), and other school staff (77.8%) were responsible for enforcing the school policy prohibiting student tobacco use. School administrators (100%) and law enforcement officers (69.8%) were most frequently noted to be responsible for enforcing school policies prohibiting faculty and staff tobacco use.

At the majority of schools, students were informed of school tobacco policies through written policies distributed to students (98.6%), verbal communication of policies to students (92.1%), written policies distributed to parents or guardians who inform their children (90.5%), written policies distributed to faculty and staff who inform students (85.7%), verbal communication of policies to parents or guardians who inform their children (73.0%), and signs and posters stating the policy (71.4%). At over 90% of schools, policies were included in the general school policy manual (96.8%) and in the student handbook (93.7%) as the most frequent methods of informing students' families of school tobacco policies.

Tobacco Use Prevention Education Provided in Every Grade

More middle schools with a district health education requirement were reported to provide TUPE in grades 6, 7, and 8 than were schools without a requirement. For example, middle schools with a district health education requirement provided TUPE in grade 8 significantly more often than did schools without the requirement ($\chi^2_2 = 8.84, p = .01$). Among middle schools with a district health education requirement, 61.3% provided TUPE in grade 8, in contrast to 28.1% of middle schools without the requirement.

As shown in Table 1, condition was significantly associated with whether TUPE was required, requested, or voluntary ($\chi^2_3 = 12.55, p = .006$). Those with a district health education requirement were more likely to have TUPE required or provided on a voluntary basis.

When TUPE was offered, the units, lessons or activities were most likely to be provided in health classes (64.5% of schools with a district health education requirement vs. 28.1% in schools with no requirement) ($\chi^2_2 = 8.44, P = .01$). TUPE was provided significantly more through classroom teachers in middle schools with a health education requirement than in middle schools without a requirement. In 77.4% of middle schools with a district requirement TUPE was provided through classroom teachers, compared to 46.9% of schools without a requirement ($\chi^2_1 = 6.23, p = .01$). At schools with a district health requirement, 64.5% had 3 or more teachers in each school teaching TUPE, compared to 37.5% of schools from districts without a requirement ($\chi^2_2 = 5.84, p = .05$).

TUPE was provided outside of the classroom in approximately 40% of all schools. Most often, a coach (42.9%), the school nurse (41.3%), the school counselor (41.3%), and the Safe and Drug-Free School Coordinator (39.7%) participated. The Safe and Drug-Free Schools Coordinator provided TUPE significantly more in middle schools with a district health education requirement (54.8%) than in the schools without a requirement (25.0%) ($\chi^2_1 = 5.86, p = .02$).

Table 1. Comparison of the Status of TUPE in Schools With and Without a District Health Education Requirement*

	Required (%)	Requested (%)	Voluntary (%)	None (%)
District requirement (n = 31)	41.9	3.2	32.3	22.6
No district requirement (n = 32)	18.8	21.9	12.5	46.9

*p < .01.

Instruction on Physiological and Social Consequences of Tobacco Use

As shown in Table 2, it was reported that less than 20% of schools used lessons for TUPE from published curricula such as *Project Alert*, *Life Skills Training*, *Here's Looking at You 2000*, *Teens Against Tobacco Use*, *Towards No Tobacco Use (TNT)*, and *Great Body Shop*. Middle school health coordinators from schools with a district health education requirement reported using *Life Skills Training* ($\chi^2_1 = 4.20, p = .04$) and *Teens Against Tobacco Use* ($\chi^2_1 = 4.41, p = .04$) significantly more than did schools without a district requirement. Of these 2 curricula, *Life Skills Training* is listed by the Substance Abuse and Mental Health Services Administration (SAMHSA) as a "Model Program."²³

In over half of schools (57.1%), materials used for TUPE were from community agencies such as the American Cancer Society, American Lung Association, and American Heart Association. In less than half of all schools, the materials used were from a district curriculum (38.1%), school curriculum (33.3%), or state curriculum (31.7%). In middle schools with a district health education requirement, school curricula materials were reported to be used notably more than in schools without a district requirement ($\chi^2_2 = 6.97, p = .03$).

Lectures, group discussions, seatwork, and films or videos were the most commonly used methods reported to be used in schools in both conditions. As presented in Table 3, in 41.9% of middle schools with a district health education requirement, role-playing, simulations, or practice was used for TUPE, compared to 9.4% of middle schools without a district requirement ($\chi^2_2 = 14.20, p = .001$). In less than half of the schools, adult guest speakers, special projects, the Internet, or peer educators were used for TUPE. Again, middle schools with a district health education requirement were reported as using special projects ($\chi^2_2 = 8.99, p = .01$) and the Internet ($\chi^2_2 = 7.54, p = .02$) significantly more than schools without a district requirement.

Table 2. Curricula Used in Schools With and Without a District Health Education Requirement

Curriculum	Overall (n = 63), %	District Requirement (n = 31), %	No District Requirement (n = 32), %
	Project Alert	12.7	19.4
Life Skills Training*	11.1	19.4	3.1
Here's Looking at You 2000	7.9	12.9	3.1
Teens Against Tobacco Use*	6.3	12.9	0
Towards No Tobacco Use	4.8	6.5	3.1
Great Body Shop	4.8	3.2	6.3
Other	25.4	25.8	25.0

*p < .05.

Table 3. Instructional Methods Used for TUPE in Schools With and Without a District Health Education Requirement

Method	Overall (n = 63), %	District Requirement (n = 31), %	No District Requirement (n = 32), %
Lectures	61.9	71.0	53.1
Group discussions	58.7	64.5	53.1
Seat work	57.1	64.5	50.0
Films or videos	52.4	61.3	43.8
Role-playing, simulations, or practice***	25.4	41.9	9.4
Adult guest speakers	36.5	35.5	37.5
Special projects**	25.4	32.3	18.8
The Internet*	14.3	22.6	6.3
Peer educators	14.3	19.4	9.4

*p < .05; **p < .01; ***p < .001.

Program-Specific Teacher Training

Faculty and staff were reported to have received staff development on TUPE in one third of all schools. In 47.5% of schools, it was reported that faculty would like to receive additional TUPE staff development. Differences by condition were not significant.

Teaching behavior change skills (63.5%), using interactive teaching methods (55.6%), curriculum-specific training (54.0%), and teaching students of various cultural backgrounds (54.0%) were the teaching methods that a majority of health coordinators/teachers indicated they would like to receive for tobacco-related staff development. Participants from middle schools with a district health education requirement stated more frequently than those from schools without a requirement that their faculty would like to receive staff development for TUPE in curriculum-specific training (67.7% vs 40.6%) ($\chi^2_1 = 4.66, p = .03$).

DISCUSSION

Our results indicate that relationships exist between the presence of state and district health education policies and school-level practices. Familiarity with and enforcement of school policy prohibiting tobacco use was reported at consistently high levels across all schools—indicating that schools were complying with the Texas Education Code.¹⁶ This conclusion was supported by a statewide survey that showed similar results.²⁴ In contrast, national reports indicated lower levels of familiarity and enforcement.²⁵ The Texas law was strengthened even further in the 2005 legislative session to require school districts to (1) publish in the student handbook and post on the district's Internet Web site a statement of district adoption and enforcement of policies and penalties for use of tobacco products by students and

others on school campuses or at school-sponsored or school-related activities and (2) submit annual data-based reports summarizing district and campus compliance with the law.²⁶

While reports often are compiled based on summaries of results across all middle schools and/or high schools in a specific study area, our results indicate that schools differed significantly on many TUPE practices based on whether or not they had the presence of a district health education requirement. Schools in districts with a health education requirement were reported to be significantly more likely to (1) require TUPE in the eighth grade; (2) offer TUPE units, lessons, or activities in health classes through classroom teachers; (3) have 3 or more teachers providing TUPE; (4) involve Safe and Drug-Free School Coordinators; (5) use research-derived, published curricula that provide instruction on the social and physiological influences and consequences of tobacco use—including a SAMHSA-recommended "Model Program"; (6) utilize TUPE-related school curriculum materials; (7) include student-centered, interactive methods such as role-playing, simulations, or practice; the Internet; and special projects; and (8) request TUPE-specific staff development. Knowing that school differences are prone to exist based on district policies provides interventionists and regional, state, and national program planners a basis for selection of participating districts/schools in planning for the diffusion of new curricula.

All schools were reported to have notable practices that limited their provision of effective TUPE programs. For example, less than 20% reported using a published curriculum. Of which, only one of the curricula used had demonstrated effectiveness in modifying youth tobacco use practices. Few schools used that curriculum. Our study, as well as a statewide survey the same year,²⁴ indicated that less than a third of teachers had been provided TUPE staff development, despite expressed preferences for more TUPE training. Staff development and training are widely recognized to contribute to the fidelity of program implementation and increased effectiveness of a curriculum.²⁷ Both the nature of faculty support needed and preferred, and strategies for teacher recruitment for training require advanced planning. For example, attention to issues of teacher recruitment for training is increasingly important given current environments of competing school priorities and resource demands.

The limitations of the study should be noted. The contents of the district-level policies were not analyzed: only their presence was reported. Yet, this policy presence was sufficient to account for many of the differences noted. More rigorous, specific policies in school districts with dedicated health education classes may be expected to produce even more

contrasts than those documented in this study. A future study to investigate this issue is warranted.

Looking to the Future: Implications of Recent State Policy Changes in Texas

In addition to recent state laws requiring increased accountability and public notification of school tobacco policies and penalties,²⁶ several additional state laws have been passed after this study was conducted. They have the potential to strengthen health education in general, as well as TUPE specifically. These laws have implications for all school health programs.

School Health Advisory Councils (SHACs) are now required at state and district levels.²⁶ One of the stipulations of Texas Education Code Chapter 28.004 (2003) requires provision of a curriculum designed to prevent obesity, cardiovascular disease, and type 2 diabetes through coordination of (1) health education, (2) physical education and physical activity, (3) nutrition services, (4) parental involvement, and (5) instruction to prevent the use of tobacco. Relatedly, the state education agency is charged with the responsibility of providing elementary and middle schools with a selection of approved curricula for coordinated health programs designed to prevent obesity, cardiovascular disease (including TUPE), and type 2 diabetes.

Despite these new state requirements, numerous potential barriers to adoption and implementation still exist at the district and school levels. For example, despite recent legislation, no state-level provision has been made for a required middle school health course. Also, the laws did not include additional provision for funding for training for implementation. They were passed in the context of an environment with limited resource augmentation and a major emphasis on achievement of No Child Left Behind goals. So, even though the state mandated new programs, translation of the new laws into effective practice will require grassroots-level involvement of knowledgeable, motivated individuals at both the district and local school levels.

The SHACs are charged with determining the number of hours of health required in schools, as well as key components of the content to be offered. The results of this study illustrate how important district and campus policies can be in influencing school-level decision making. Advocacy for establishing a health education course and content requirements district by district, or strengthening district policies and mandating coverage of specific health topics is very labor and resource intensive. Strategies are necessary to facilitate informed decision making that meaningfully addresses student health needs and guide SHAC representatives in the planning,

implementation, and evaluation of their initiatives.⁵ Once district and school requirements and priorities have been set, curricula exist²⁸ and tools have been developed to assist in the planning and building of school capacity for implementation success.^{5,29}

CONCLUSIONS

The influence of policy on practice demonstrated in this study has implications for numerous health program interventions. Those seeking to modify or strengthen state laws and to diffuse interventions in districts and schools in states without state-level health education requirements should be encouraged that those policies can make a difference.

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