



**May 2007**

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Support for this report was  
provided by the Wisconsin  
Tobacco Prevention and  
Control Program, Bureau of  
Community Health  
Promotion, Division of  
Public Health, Wisconsin  
Department of Health and  
Family Services.

## School Tobacco Program Assessment Report

### Summary

- In 2005, school tobacco program funding was provided to 25 projects covering 151 school buildings in 28 districts in Wisconsin. The purpose was to continue to support enhanced implementation of school tobacco programs which followed the Centers for Disease Control and Prevention's Guidelines for School Health Programs to Prevent Tobacco Use and Addictions.
- From 2001 to 2003, approximately two million dollars were spent on school tobacco programs in more than 300 school buildings in the state of Wisconsin. In school years 2004-05 and 2005-06, a new run of funding, \$332,617 each year, was distributed to a group of newly selected school districts. Most of the funded schools had been previously funded and subsequently evaluated in 2002, 2003, and/or 2004. Only a handful of them had not been funded prior to 2005.
- Students were benefited most by the program. School districts reported approximately 20,715 students received classroom instruction, 15,309 received peer-to-peer services from trained peers, a total of 3,891 students were served by the cessation programs, and 3,951 were served by or referred to the NEW cessation programs during the 2005-06 funding year.
- Relative to year 2005, mean scores for 2006 declined for some areas but increased for others. The activities and efforts in the areas of curriculum and training declined significantly while those in the areas of instruction and evaluation increased. Some schools, especially those which did not have baseline assessments at the time the program started in 2004, declined more than others.
- Improvement was observed over the five years of the program, despite a setback in school year 2005-06. The average score across all reporting schools (on a scale ranging from 0 to 2) for policy increased from 1.54 to 1.66, for curriculum from 1.19 to 1.53, for instruction from 0.99 to 1.34, for training from 0.60 to 1.04, for family and community involvement from 0.68 to 1.25, for cessation from 0.42 to 1.00, and for evaluation from 0.45 to 1.25. The overall score increased from 1.08 to 1.45 over the five years of data collection, reflecting overall increased consistency with CDC guidelines over time.

## **BACKGROUND**

The Department of Public Instruction (DPI), in cooperation with the Department of Health and Family Services' Wisconsin Tobacco Prevention and Control Program, administers and oversees the School Tobacco Program Grants. This program allows public school districts and consortia to apply for funds to create or expand upon strategies identified as effective by the Centers for Disease Control and Prevention (CDC) in reducing or eliminating youth tobacco use. There is research evidence that implementation of the CDC Guidelines in California schools was significantly related to reduced smoking prevalence, increased quit attempts and increased negative expectations and attitudes regarding tobacco among students (Rohrbach et al., 2002). Another study in Oregon found that schools with high or medium levels of implementation of the Guidelines, relative to low implementation schools, had greater decline in 8<sup>th</sup> graders' 30-day smoking prevalence (Rohde et al., 2001). Thus, the DPI used the CDC Guidelines as the cornerstone of this grant program.

In order to be considered for grant receipt, districts and consortia were required to submit policy and program assessments for each of their respective school buildings. In school year 2001-02, one hundred and nine school districts and consortia throughout the state applied for grant funding on behalf of the 313 school buildings they serve. Forty-six applicant school districts and consortia received first year grant funding, with a total award amount of about \$1.1million. (See Anderson, Moberg and White, 2002, for a detailed report on the baseline data). In school year 2002-03 the same projects (districts and consortia) were awarded a reduced second year total of approximately \$625,000. By school year 2003-04, because funding was greatly reduced, only 11 projects received a total of \$225,000. In 2004, twenty-five school districts and one consortium were newly selected to receive \$332,617. The same districts were subsequently funded in 2005. The funding covered 28 school districts, or more than 100 school buildings, in total each year.

In addition to providing grant dollars to local school districts, targeted training and technical assistance was provided to schools and communities through ongoing collaboration between the Department of Public Instruction, American Lung Association of Wisconsin, Cooperative Educational Service Agency (CESA), and local tobacco free coalitions. Statewide training and technical assistance efforts targeted cessation, youth education programs (including curriculum, instruction, family and community involvement), and staff development as well as policy communication and enforcement.

## **METHODS**

### *Sample*

All applicant school districts completed self assessments of their school tobacco prevention programs as part of their grant application process. These assessments serve as the baseline for evaluation. In order to evaluate change, funded schools completed the year-end assessment at the end of each year of funding. Since 2004, there were 163 school buildings participating in the program. Among them, 120 buildings participated in both the 2004-05 and 2005-06 programs; 12 buildings participated only in 2004-05; 28 buildings participated only in 2005-06. Three buildings were new to this cycle of funding but had assessments prior to 2004. The 120 buildings with both 2004-05 and 2005-06 assessments are referred as the longitudinal sample. They, along with the 12 buildings of 'school year 2004-05 only', are referred to as 2005 cross-sectional sample; later, along with the 28 buildings of 'school year 2005-06 only', they are referred as 2006 cross-sectional sample. Table 1 shows the complexity of the total sample. Note that some schools did not answer, or give valid answers to, all questions in the tool. Thus, the actual (analytical) longitudinal sample

size is 107, the actual 2006 cross-sectional sample size is 139 (i.e., 112 and 27), and the actual 2005 cross-sectional sample size is 126 (i.e., 115 and 11).

**Table 1. The Number of School Buildings for Analysis, by Availability of 2005 and 2006 Assessment, and Completion of Questionnaires**

Years of Assessment	Number of Buildings	Completed Questionnaires	Incomplete Questionnaires
2005-06 & 2004-05	120	112/115	8/5
2005-06 & pre-2004-05	3	3	0
2005-06 only	28	27	1
2004-05 only	12	11	1
Total	163	153/156	10/7

The longitudinal sample provides major evidence on the program assessment. They include 59 (49%) elementary, 32 (27%) middle school or junior high, 27 (23%) high school, and 2 (2%) k-8 buildings.

### School Building Assessment

The assessment questions were developed from the CDC’s Guidelines for School Health Programs to Prevent Tobacco Use and Addiction (1994). A total of 58 questions assess the level to which school buildings had elements of quality tobacco education programs and policies in place. Following CDC’s recommendations for ensuring quality school programs that prevent, reduce or eliminate tobacco use, the 58 questions cover seven specific areas: policy, instruction, curriculum, training, family & community involvement, tobacco cessation, and evaluation. There are 17 questions for the construct of policy, 17 for curriculum, 6 for instruction, 4 for training, 7 for family and community, 3 for cessation, and 4 for evaluation. Questions were scored according to whether a given characteristic existed completely (‘yes’), existed only to some degree (‘somewhat’), or not at all (‘no’). Responses were scored two, one, or zero points, respectively, to each question and averaged within each area of the guidelines. The higher the score, the more consistent anti-tobacco programs were with the guidelines.

Tables 2, 3 and 4 present the data in the original metric of the questions, averaged across the items in each area. The scales can thus range from 0 = “Not in place”, 1 = “Somewhat”, to a possible high of 2 = “Yes, is in place.” A “0” score would indicate none of the elements of an area are in place, while a “2” would indicate all elements in that area are in place.

## **FINDINGS**

### **A. Cross-sectional Comparisons**

Table 2 shows mean scores for participating buildings in school year 2004-05 and participating buildings in school year 2005-06. In school year 2004-05, the longitudinal schools performed slightly better than discontinued schools in policy, curriculum, family/community and evaluation, but did not perform as well in other areas. In school year 2005-06, they did better in policy, family/community, cessation and evaluation areas than new schools, but did not do as well in other areas. There were no statistically significant differences between the longitudinal schools and the discontinued schools. However, differences were apparent between the longitudinal sample and the new schools in the 2005-06 areas of policy and family/community participation.

Similar to previous findings, the overall strengths of the school grant program have been in the areas of school district policy, youth curriculum, and instruction. On the 2005 self assessments, we found that school policies were most consistent with the CDC Guidelines (83% of possible score), followed by curriculum (82%) and instruction (81%). Less consistent with guidelines were the areas of family/community involvement (69%), staff training (73%), evaluation (66%) and cessation programming (58%). Thus, there was a great deal of room for improvement in some of the guideline areas. Results from self assessments at the end of the 2005-06 school year showed that the levels of consistency declined, especially in the curriculum, instruction, training, family/community involvement, and cessation program.

**Table 2. Mean scores by school years and participatory status, 126 school buildings in 2004-05 and 139 buildings in 2005-06**

Assessment Area (number of items)	2005 cross-sectional sample			2006 cross-sectional sample		
	2004-06 Schools	Discont'd Schools	Total	2004-06 Schools	New Schools	Total
Policy (17)	1.69	1.52	1.67	1.66	1.75	<b>1.68</b>
Curriculum (17)	1.66	1.64	1.64	1.54	1.64	<b>1.57</b>
Instruction (5)	1.61	1.65	1.62	1.34	1.36	1.34
Training (4)	1.47	1.57	1.46	1.04	1.04	1.04
Family/community (7)	1.39	1.30	1.37	1.26	0.95	<b>1.19</b>
Cessation (3)	1.19	1.09	1.16	0.99	0.93	0.98
Evaluation (4)	1.34	1.14	1.32	1.24	1.06	1.18
Overall (57)	1.58	1.48	1.56	1.45	1.47	1.46
Number of Buildings	115	11	126	112	27	139

## B. Longitudinal Comparisons

Of 120 longitudinal schools, eighty completed baseline (measured in 2004), 2005, and 2006 assessments. This rare sample provided the opportunity to assess the progress of a complete funding cycle. In Table 3, mean scores for each area were reported from all three years. We also compared 2004 to 2006 and 2005 to 2006, and reported the significance level in the last two columns. All areas in 2005 and 2006, scores were higher than at the baseline. Improvements from baseline to year 2006 were particularly evident in areas of policy (1.60 in 2004 and 1.65 in 2006), instruction (1.50 and 1.69), family/community involvement (1.16 and 1.30), cessation programming (0.85 and 1.09), and evaluation (1.04 and 1.35). That is, p-value is less than 0.05. The improvements in curriculum and training were not statistically significant. About half the mean scores in 2005 were higher than in 2006. Statistically significant declines were noted in curriculum and training (marked by italics in the last column), and significant increases were noted in instruction and evaluation. Though the comparisons between baseline and 2005 were not reported in the table except instruction, all areas showed significantly improvement. We also observed a continuous significant improvement in instruction and evaluation: 1.50 in 2004, 1.53 in 2005, and 1.69 in 2006 for instruction; 1.04, 1.22, and 1.35 for evaluation.

In summary, fully funded/participating buildings have continued to increase their implementation of programs in evaluation and instruction over the last two years. Most activities to improve school policy, family/community involvement and cessation programs had occurred in the first year, and similar activities were significantly less in the second year.

**Table 3: Mean Change from Baseline (2004) to Year-End Assessment (2005, 2006), 80 buildings that completed 2004, 2005, and 2006 questionnaires.**

Assessment Area (number of items)	2004 scores	2005 scores	2006 scores	Significance level ( <i>p</i> )	
				'04 vs. '06	'05 vs. '06
Policy (17)	1.60	1.68	1.65	<b>.008</b>	.058
Curriculum (17)	1.52	1.65	1.58	.130	<b>.009</b>
Instruction (5)	1.50	1.53	1.69	<b>.013</b>	<b>.004</b>
Training (4)	1.06	1.33	1.12	.410	<b>.004</b>
Family/Community (7)	1.16	1.27	1.30	<b>.017</b>	.493
Cessation (3)	0.85	1.09	1.09	<b>.004</b>	.931
Evaluation (4)	1.04	1.22	1.35	<b>.000</b>	<b>.018</b>
Overall (57)	1.41	1.53	1.48	<b>.014</b>	<b>.026</b>

Note: The comparisons were conducted using paired sample t-tests.

P-values in bold font are statistically significant; italicized values indicate declining scores.

### C. General Assessment from School Districts/CESA

In addition to building assessments, 25 school districts and one CESA provided online summary reports of grant participation in 2005-06. Students were greatly benefited by the tobacco program during school year 2005-06. Combined, these districts reported that a total of 1,661 (compared to 633 in 2004-05) students were disciplined under the new/revised tobacco policy, 1,275 (1,185) students trained in peer-to-peer tobacco program mediation, 15,309 (12,318) students received peer-to-peer services from trained peers, and 20,715 (18,608) students received instruction using “curriculum developed, enhanced or purchased through the grant”. There were 3,891 (no data in 2004-05) students served by cessation programs, and 3,951 (2,094) students referred or served by “new tobacco programs or services”. In general, student participation increased between 2004-05 and 2005-06. Moreover, the total number of parents/family members that received tobacco cessation services directly or through referral increased from 45 to 135. However, the total number of staff trained or providing classroom instruction decreased from 5,384 in 2004-05 to 271 in 2005-06; the total number of staff attending meetings/activities sponsored by local tobacco coalitions decreased from 537 to 325.<sup>1</sup> The total number of parents/family members receiving information on tobacco issues or receiving services through the program slightly decreased from 22,642 to 21,169 and from 1,873 to 1,809.

### D. Limitations

The self assessment tool was developed primarily as a planning and needs assessment device for schools. As such, validity and reliability of responses were not issues in the initial development of the tool. The limitations from an evaluation research perspective are that the tool is completed as

<sup>1</sup> The decline was in accordance with the decline in training areas from the school building assessment report. There was an overall decline in all four training-related questions, that is, whether the school provided staff training to understand the theory/model underlying the curriculum, to review the entire program or curriculum/rationale, and to model and help practicing instructional activities, and whether students who taught other students a tobacco free lifestyle participated in training. More than 70% of such declines occurred among school buildings which reported having “a great deal” of various training activities in 2004-05.

a self report from individuals or teams in each school, potentially with differential incentives for impression management at baseline (to demonstrate need) and at follow-up (to demonstrate progress). In addition, different individuals/teams may have completed the tool at the baseline and follow-ups – with different response biases inherent in the process. Moreover, given the wide range of areas assessed, individuals who answered the tool might not have knowledge of all areas. It is also possible that districts and buildings might have focused their funding and activities differently each year. Thus, a longer observation for each district or building is critical to assess the outcomes.

## COMMENT

The current analyses on recipient schools of the 2004-06 Tobacco Program grants indicate significant improvement of school tobacco prevention strategies following CDC guidelines. Despite the setback observed in the most recent year, the general improvement is evident. Improvements were fairly consistent over the prior 4 years of this program. The average score across all reporting schools (on a scale ranging from 0 to 2) for policy increased from 1.54 (2001-02) to 1.66 (2005-06), for curriculum from 1.19 to 1.53, for instruction from 0.99 to 1.34, for training from 0.60 to 1.04, for family and community involvement from 0.68 to 1.25, for cessation from 0.42 to 1.00, and for evaluation from 0.45 to 1.25. The overall score increased from 1.08 to 1.45 during these 5 years of data collection. (Note: 2001-02 data are available in earlier reports, available at [www.medsch.wisc.edu/mep](http://www.medsch.wisc.edu/mep).)

Generalizing from other research linking student outcomes to high levels of implementation of CDC Guidelines, it is anticipated that student tobacco use will be significantly reduced by this grant program. However, given data limitations, this outcome has not been directly measured. To strengthen the evidence and expand our knowledge of the effectiveness of the program, linkage to a large database of actual student tobacco use would be needed. Additional analyses may also be helpful. First, we could pool all school buildings over the life of this funding to compare the changes from baseline to year-end between funded and unfunded schools. Further, the influences of socioeconomic profiles of the community and available funding per student or per school could be analyzed.

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