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MODEL SCHOOL WELLNESS POLICIES: OPPORTUNITIES FOR IMPROVEMENT

BY

MATY SKINNER

A thesis submitted in partial fulfillment of the requirements for the

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MODEL SCHOOL WELLNESS POLICIES: OPPORTUNITIES FOR IMPROVEMENT
MATY SKINNER

This thesis is approved as a creditable and independent investigation by a candidate for the Master of Science degree and is acceptable for meeting the thesis requirements for this degree. Acceptance of this does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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This thesis is dedicated to Chad Morrison, Theresa and Bryan Skinner, Vickie Narum, Elizabeth Bye, Silvia Zanini, and Claire Sylvestre for their love and support with this project.

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ABSTRACT

MODEL SCHOOL WELLNESS POLICIES: OPPORTUNITIES FOR IMPROVEMENT

MATY SKINNER

2019

Schools that participate in the US Child Nutrition program are required to have a wellness policy. Many state agencies provide model wellness policies to aid schools in writing wellness policies. However, use of model wellness policies has not been associated with higher quality policies. PURPOSE: Assess the strength and comprehensiveness of model wellness policies and to determine if federal regulations are more likely to be included in model wellness policies than evidence-based, best-practices that are not required per federal regulation. METHODS: Model wellness policies available online through state agency websites in January 2019 were analyzed for comprehensiveness and strength using the Wellness School Assessment Tool 3.0 (WellSAT 3.0). The percentage of model policies that included each WellSAT 3.0 item was calculated and item status as a federal regulation or best-practice was assigned. Linear regression was used to determine if federal regulation status was associated with inclusion in model wellness policies. RESULTS: Thirty-four states had model wellness policies available online. The total comprehensiveness and strength of model wellness policies was 59.3 ± 17.5 and 21.4 ± 17.6 , respectively, out of 100 possible points. Among policy sections, comprehensiveness was highest within Nutrition Education (NE) (73.2 ± 31.6) and lowest in Wellness Promotion and Marketing (49.8 ± 27.2). The NE section had the highest strength (30.9 ± 31.4) and the Physical Education and Physical Activity section had the lowest strength (14.7 ± 13.8). Of the 67 WellSAT 3.0 items, 20 were included in $\geq 75\%$ of model policies. Ten items were included in $\leq 25\%$ of model

policies. On average, WellSAT 3.0 items that were federal regulations (n=18) were covered in 71% of model policies, while best-practices (n=49) were only covered in 54% of model policies (p=.008). CONCLUSION: There is a need to improve the comprehensiveness and strength of model wellness policies provided to schools by state agencies. The development of a uniform model policy may be warranted to provide schools with a comprehensive list of federal regulations and best-practices, written with strong language, for inclusion within their school wellness policy.

INTRODUCTION

In 2015-16 the prevalence of obesity among youth aged 6-11 and adolescents aged 12-19 was 18.4% and 20.6% in the United States, respectively.¹ Childhood obesity is associated with many chronic diseases such as, type 2 diabetes, hypertension, dyslipidemia, and metabolic syndrome.² Children spend an average of 32.5 hours a week in school.^{3,4} Due to time children spend in school and the opportunities for physical activity and nutrition, schools have been identified as an ideal environment in which to implement childhood obesity prevention strategies.^{4,5}

All local education agencies participating in Child Nutrition programs⁶ were required to create a school wellness policy by the 2006-07 academic year, per the Child Nutrition and WIC Reauthorization Act of 2004.⁷ The Healthy Hunger Free Kids Act of 2010 added to this legislation by further clarifying what needed to be included in school wellness policies, such as, goals in nutrition promotion and education and physical activity, as well as requirements for policy dissemination, monitoring, and school compliance, and administrator and/or school official involvement.⁸ The final rule of 2016 requires schools to meet expanded school wellness policies regulations consistent with regulations set forth by the Healthy Hunger Free Kids Act of 2010.⁹

At the beginning of the 2013-14 school year 95% of schools in the United States had created a wellness policy.¹⁰ Data from school years 2006-07 to 2013-14 showed that while school wellness policies have improved over time, less than 50% of schools nationwide included all required elements within their wellness policies during the school year 2013-14.^{10,11} Furthermore, the average comprehensiveness and strength scores of school wellness policies during the 2013-14 academic year were 44.1 and 25.3 out of

100, respectively.¹⁰ These data show that there is a low quality of written wellness policies in the United States.

School wellness policies have the potential to reduce the risk of adolescent overweight and obesity.¹² School wellness policies containing stronger language have also been shown to have a greater degree of policy implementation.^{13,14} In an effort to help support schools in the creation of quality written wellness policies, many state agencies have created model wellness policies to be used as examples for schools when creating a wellness policy. However, previous studies have shown that use of a model policy may not improve the quality of school wellness policies.^{15,16} In a study by Eggert et al., South Dakota districts that self-reported use of the state model policy, did not have stronger, more comprehensive wellness policies.¹⁵ In a similar study, Smith et al. found that policies in Virginia that utilized a state template were not as comprehensive nor strong as those that did not. Policies that were created using a template were also found to include less of the federal regulations.¹⁶ Together these data suggest that model policies may not be effective in assisting schools with writing quality wellness policies. Therefore, the purpose of this project was to assess the strength and comprehensiveness of model wellness policies and to determine if federal regulations are more likely to be included in model wellness policies than evidence-based, best-practices that are not required per federal regulation.

METHODS

A comprehensive search was completed in January of 2019, to locate all model wellness policies available online through state Department of Education or Department of Health websites. The types of model wellness policies found differed in their format

and approach. Model policies were grouped into three different categories: instructional, templates, and mixed tools. Instructional models, provided direction for schools on how to construct a wellness policy that meets regulations. Template models were constructed as examples in the format of a model policy, and mixed tools, included a combination of both instructional and template format.

A qualitative coding system, the Wellness School Assessment Tool 3.0 (WellSAT) was used to assess written policy quality of all model wellness policies.¹⁷ The WellSAT evaluates policy strength and comprehensiveness for six sections: Nutrition Education (NE), Standards for U.S. Department of Agriculture School Meals (SM) Nutrition Standards for Competitive and Other Foods and Beverages (NS), Physical Education and Physical Activity (PEPA), Wellness Promotion and Marketing (WPM), and Implementation, Evaluation, and Communication (IEC).¹⁸ The WellSAT contains 67 items, 18 of which are federal regulations, and 49 are best-practice items. Each item is given a score of 0 (no mention), 1 (mentioned with vague or weak language), or 2 (mentioned with language indicating specific strategies). Comprehensiveness scores are calculated by counting the number of items in each section rated a “1” or “2,” dividing this number by the total number of items in the section and multiplying the number by 100. Strength scores are calculated by counting the number of items in each section rated as “2,” dividing this number by the total number of items in the section, and multiplying this number by 100. The total comprehensiveness and strength scores are calculated by averaging the section scores.¹⁷

Policies were scored by two research assistants. After initial scoring, coder 1 and coder 2 compared WellSAT scores. If any policy items varied, the policy item was

discussed until the score provided by coder 1 and 2 was consistent. In order to calculate the percentage of model policies that included each WellSAT item, items were classified as covered (items that scored a 1 or 2) versus not covered (items that scored a 0) and as federal regulation versus evidence-based, best-practice (denoted within the WellSAT 3.0 tool).

Data Analysis

One-way ANOVA was used to compare strength and comprehensiveness among groups (model policies, instructional tools and mixed tools). Linear regression was used to determine if federal regulation status was associated with inclusion in model wellness policies. Statistical significance was set at $p < 0.05$ and data was presented as means + SD. STATA14 was used for all statistical analysis.

RESULTS

Thirty-four ($n=34$) model policies were available online via state agencies. Forty-one percent of the model wellness policies were instructional, 24% were formatted as templates, and 35% were mixed tools. There was no difference in the comprehensiveness ($p=0.80$), nor strength ($p=0.94$) between the format types of model policies. Thus, all models were grouped together for further analysis.

The total comprehensiveness of the state model wellness policies was 59.3 ± 17.5 and the total strength was 21.4 ± 17.6 out of 100 possible points. Among policy sections comprehensiveness was highest within NE (73.2 ± 31.6) and lowest in WPM (49.8 ± 27.2). Similarly, the NE section had the highest strength score (30.9 ± 31.4) while the PEPA section had the lowest strength score (14.7 ± 13.8) (table 1). Of the 67 WellSAT

items, which include federal regulations and evidence-based, best-practices, 20 items were included in $\geq 75\%$ of model policies, 37 items were included in 26-74% of model policies, and 10 items were included in $\leq 25\%$ of model policies (table 2). On average, WellSAT items that were federal regulations (n=18) were covered in 71% of model policies, while best-practices that are not federal regulations (n=49) were only covered in 54% of model policies (p=.008).

DISCUSSION

The present study investigated the strength and comprehensiveness of model wellness policies and found that model wellness policies are not comprehensive in the items they include, nor do they always utilize strong language, regardless of policy format. The quality of model wellness policies, commonly used as examples by schools, could explain previous findings of why schools using models do not have better strength and comprehensiveness scores when compared with schools who did not use models.^{15,16} Eggert et al.¹⁵ found no difference between the strength and comprehensiveness of wellness policies that utilized a model and those that did not in South Dakota. Eggert et al. reported the total comprehensiveness score and strength score of wellness policies that used a model was, 51.5 ± 21.2 and 25.3 ± 17.6 , respectively.¹⁵ Smith et al.¹⁶ found policies in Virginia that used a template scored lower than policies that didn't, with comprehensiveness and strength scores of 30.8 ± 10.9 and 9.1 ± 4.8 , respectively¹⁶, which were even lower than those found by Eggert et al.¹⁵ In the present study, we found that model policies available from state agencies had an average comprehensiveness score of 59.3 ± 17.5 and strength score of 21.4 ± 17.6 . The low comprehensiveness and strength found in model wellness policies, assessed in the present study, helps further

explain the low scores found in wellness policies that were created utilizing model policies as an example. These findings also highlight the need to find a better way to assist schools in writing strong and comprehensive school wellness policies.

The present study also found that federal regulations are more likely to be found in model policies than items that are evidence-based, best-practices that are not federal regulations. Federal regulations may be covered in model wellness policies more often because the federal regulations are more visible on public websites that discuss school wellness policies, than evidence-based, best-practices. Interestingly, Smith et al.¹⁶ found that federal regulations were covered less often in school wellness policies that used a template compared to those that did not. The present study found federal regulations were more likely to be covered in models wellness policies than other evidence-based, best-practices. However, none of the model wellness policies assessed in these data covered all of the federal regulations, yet, all model wellness policies were able to include at least five federal regulations. It is likely that the degree to which model policies cover all of the federal regulations would greatly impact the number of federal regulations covered within school policies that utilize the model.

The WPM section was the lowest scoring section in comprehensiveness. This section includes a large proportion of the more recently implemented federal regulations and evidence-based, best-practices. For instance, many of the new items in this section address food and beverage marketing in schools and their alignment with the nutrition standards of Smart Snacks.¹⁹ Smart Snacks refer to the national nutrition standards for food and beverages sold outside of the school meal program, during the school day.¹⁹ Within the WPM section, six of the 12 items relate to Smart Snack advertising. For

example, five items ask if wellness policies address where marketing is taking place (scoreboards, in curricula, vending machines, school publications, fundraisers, etc.) and whether these advertising outlets limit marketing to only Smart Snacks. The final rule of 2016 updated Smart Snack marketing to prohibit the marketing of all foods and beverages that do not meet Smart Snack standards.^{9,19} The timeframe over which this legislation was introduced may have resulted in unfamiliarity in this section and led to its low comprehensiveness score. It is also plausible that model policies were written before the majority of the regulations and evidence-based, best-practices in this section were developed. However, these state level models are still available online, showing the difficulty of keeping state level model policies current with best practices and federal regulations.

The PEPA section of model wellness policies had the lowest strength score. Chiqui and colleagues noted physical activity and physical education provisions were addressed in school wellness policies more often during the 2013-14 school year compared to the 2006-07 school year, yet strength scores for each school year were lower than 50 out of 100 possible points.¹⁰ It is plausible that the lack of strong language in this section of model wellness policies and school wellness policies may stem from the volume of resources that are perceived necessary in order to make positive physical activity and physical education changes in schools. National standards for physical education recommend elementary students receive 150 minutes of physical education per week, while middle and high school students receive 225 minutes of physical education per week.²⁰ However, results from a 2014 CDC report found that less than 4% of schools met these national standards.²¹ Model policies created by state agencies may realize

schools in their state might not always have the resources available to meet the national physical education recommendations to make changes to a school's physical activity environment. A lack of time for physical education classes has been noted as a barrier school districts face with regard to their school wellness policies.²² Therefore, model wellness policy creators may utilize weak language in this section to allow schools to address physical activity and physical education, and strive for improvements, while also allowing for flexibility within this section if resources do not allow for the proposed changes.

A limitation to the present study was that some of the model wellness policies did not appear to have been updated after the final rule of 2016. The WellSAT 3.0 was released in 2018 and includes all federal regulations and evidence-based, best-practices available at the time of release. Although not all had been updated, these model wellness policies were still available through state agencies for use by school districts. Updating models to be current with regulations is critical to having a comprehensive model policy. The present study evaluated all model policies currently available through state agencies, and did not limit to those that had been updated after the final rule of 2016 to provide an assessment of the quality of model policies that are currently available from state agencies to aid schools in the creation of quality wellness policies.

Together, the present study and previous findings from Eggert et al.¹⁵ and Smith et al.¹⁶ showcase the need to improve the quality of model wellness policies. If model wellness policies are to provide a gold standard example to aid in the creation of wellness policies at the school level, model policies should be comprehensive and use strong language, to allow schools to see a list of all of the federal regulations and additional

evidence-based, best-practices that could be incorporated into their policies. Currently, model policies are created and updated at the state level, requiring time and energy of personnel from each state. This process produces model policies at the state level that vary greatly in their level of comprehensiveness and strength. The creation of a uniform model policy that is comprehensive (including federal regulations and additional evidence-based, best-practices) and written with strong language at the national level is warranted. Furthermore, a national level model policy would eliminate the duplication of efforts to create, and update, models at the state level, while providing one consistent resource for use by all states.

Table 1. WellSAT 3.0 Scores (Mean \pm SD)		
	Comprehensiveness Score (out of 100)	Strength Score (out of 100)
Nutrition Education (NE)	73.2 \pm 31.6	30.9 \pm 31.4
Standards for US Department of Agriculture USDA School Meals (SM)	50.6 \pm 21.3	17.7 \pm 17.9
Nutrition Standards for Competitive and Other Foods and Beverages (NS)	60.6 \pm 20.6	23.5 \pm 23.0
Physical Education and Physical Activity (PEPA)	57.5 \pm 24.0	14.7 \pm 13.8
Wellness Promotion and Marketing (WPM)	49.8 \pm 27.2	20.8 \pm 24.6
Implementation, Evaluation and Communication (IEC)	64.3 \pm 26.5	21.0 \pm 23.6

Table 2. WellSAT 3.0 Item Coverage in State Model wellness policies.

WellSAT 3.0 Item	MODEL WELLNESS POLICIES item coverage (%)
*SM1: Assures compliance with USDA nutrition standards for reimbursable school meals.	91%
*NS6: Addresses fundraising with food to be consumed during the school day.	91%
NS12: Addresses food not being used as a reward.	91%
*NS9: Regulates food and beverages served at class parties and other school celebrations in elementary schools.	88%
PEPA14: Addresses physical activity breaks during school.	88%
*IEC2: Addresses how all relevant stakeholders (parents, students, representatives of the school food authority, teachers of physical education, school health professionals, the school board, school administrator, and the general public) will participate in the development, implementation, and periodic review and update of the local wellness policy.	88%
*NE1: Includes goals for nutrition education that are designed to promote student wellness.	85%
NE2: Nutrition education teaches skills that are behavior focused, interactive, and/or participatory.	85%
*NS4: Regulates food and beverages sold in vending machines.	85%
PEPA13: Addresses recess for all elementary school students.	85%
WPM5: Addresses physical activity not being withheld as a punishment.	85%
NE7: Links nutrition education with the school food environment.	82%
PEPA1: There is a written physical education curriculum for grades K-12.	82%
SM2: Addresses access to the USDA School Breakfast Program.	79%
*IEC3: Identifies the officials responsible for the implementation and compliance of the local wellness policy.	79%

*IEC5: Addresses the assessment of district implementation of the local wellness policy at least once every three years.	79%
NE6: Nutrition education is integrated into other subjects beyond health education.	76%
*NS1: Addresses compliance with USDA nutrition standards (commonly referred to as Smart Snacks) for all food and beverages sold to students during the school day.	76%
*NS3: Regulates food and beverages sold in a la carte.	76%
IEC1: Addresses the establishment of an ongoing district wellness committee.	76%
SM6: Specifies strategies to increase participation in school meal programs.	74%
*NS5: Regulates food and beverages sold in school stores.	74%
PEPA3: Physical education promotes a physically active lifestyle.	74%
SM7: Addresses the amount of "seat time" students have to eat school meals.	71%
NE3: All elementary school students receive sequential and comprehensive nutrition education.	68%
NE4: All middle school students receive sequential and comprehensive nutrition education.	68%
WPM2: Addresses strategies to support employee wellness.	68%
WPM6: Specifies marketing to promote healthy food and beverage choices.	68%
*IEC4: Addresses making the wellness policy available to the public.	68%
NE5: Addresses the assessment of district implementation of the local wellness policy at least once every three years.	65%
*SM8: Free drinking water is available during meals.	65%
PEPA2: The written physical education curriculum for each grade is aligned with national and/or state physical education standards.	65%
PEPA7: Addresses qualifications for physical education teachers for grades K-12.	65%
PEPA16: District addresses active transport (Safe Routes to School) for all K-12 students who live within walkable/bikeable distance.	65%
WPM1: Encourages staff to model healthy eating and physical activity behaviors.	65%
WPM4: Addresses physical activity not being used as a punishment.	65%
PEPA4: Addresses time per week of physical education instruction for all elementary school students.	62%

PEPA12: Addresses before and after school physical activity for all students including clubs, intramural, interscholastic opportunities.	62%
PEPA5: Addresses time per week of physical education instruction for all middle school students.	59%
PEPA11: Addresses family and community engagement in physical activity opportunities at all schools.	59%
*WPM7: Restricts marketing on the school campus during the school day to only those foods and beverages that meet Smart Snacks standards.	59%
NE8: Nutrition education addresses agriculture and the food system.	56%
*SM9: Ensures annual training for food and nutrition services staff in accordance with USDA Professional Standards.	56%
NS13: Addresses availability of free drinking water throughout the school day.	53%
*IEC7: Addresses a plan for updating policy based on results of the triennial assessment.	53%
PEPA8: Addresses providing physical education training for physical education teachers.	50%
*IEC6: Triennial assessment results will be made available to the public and will include: 1. The extent to which schools under the jurisdiction of the LEA are in compliance with the local school wellness policy; 2. The extent to which the LEA's local school wellness policy compares to model local school wellness policies; 3. A description of the progress made in attaining the goals of the local school wellness policy.	50%
PEPA6: Addresses time per week of physical education instruction for all high school students.	44%
WPM10: Addresses marketing on exteriors of vending machines, food or beverage cups or containers, food display racks, coolers, trash and recycling containers, etc.	44%
NS2: USDA Smart Snack standards are easily accessed in the policy.	41%
WPM8: Addresses marketing on signs, scoreboards, sports equipment.	41%
SM10: Addresses purchasing local foods for the school meals program.	38%
NS10: Addresses nutrition standards for all foods and beverages served to students after the school day, including, before/after care on school grounds, clubs, and after school programming.	38%
WPM9: Addresses marketing in curricula, textbooks, websites used for educational purposes, or other educational materials, both printed and electronic.	35%

WPM11: Addresses marketing on advertisements in school publications, on school radio stations, in-school television, computer screen savers and/or school-sponsored Internet sites, or announcements on the public announcement (PA) system.	32%
NS7: Exemptions for infrequent school-sponsored fundraisers.	29%
PEPA15: Joint or shared-use agreements for physical activity participation at all schools.	26%
NS8: Addresses foods and beverages containing caffeine at the high school level.	24%
NS11: Addresses nutrition standards for all foods and beverages sold to students after the school day, including before/after care on school grounds, clubs, and after school programming.	21%
PEPA10: Addresses physical education substitution for all students.	21%
WPM12: Addresses marketing on fundraisers and corporate-sponsored programs that encourage students and their families to sell, purchase, or consume products and/or provide funds to schools in exchange for consumer purchases of those products.	21%
IEC8: Addresses the establishment of an ongoing school building level wellness committee.	21%
PEPA9: Addresses physical education exemption requirements for all students.	15%
WPM3: Addresses using physical activity as a reward.	15%
*SM3: District takes steps to protect the privacy of students who qualify for free or reduced priced meals.	12%
SM4: Addresses how to handle feeding children with unpaid meal balances without stigmatizing them.	12%
SM5: Specifies how families are provided information about determining edibility for free/reduced priced meals.	9%
Description: Percentage of model wellness policies (n=34) that covered each WellSAT 3.0 item. Items are in order from most commonly found items to least commonly found items. The green section represents items covered in $\geq 75\%$ of model policies. The yellow section represents items covered in 26-74% of model polices. The red section represents items covered in in $\leq 25\%$ of model policies. WellSAT 3.0 items that include federal regulations are denoted by *.	

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