

Opportunity Meets Planning: An Assessment of the Physical Activity Emphasis in State Obesity-Related Plans

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Background: In the United States, health promotion efforts often begin with state-level strategic plans. Many states have obesity, nutrition, or other topic-related plans that include physical activity (PA). The purpose of this study was to assess PA content in these state plans and make recommendations for future plan development. **Methods:** Publically available plans were collected in 2010. A content analysis tool was developed based on the United States National PA Plan and included contextual information and plan content. All plans were double coded for reliability and analyzed using SPSS. **Results:** Forty-three states had a statewide plan adopted between 2002 and 2010, none of which focused solely on PA. Over 80% of PA-specific strategies included policy or environmental changes. Most plans also included traditional strategies to increase PA (eg, physical education, worksite). Few plans included a specific focus on land use/community design, parks/recreation, or transportation. Less than one-half of plans included transportation or land use/community design partners in plan development. **Conclusions:** Though the majority of states had a PA-oriented plan, comprehensiveness varied by state. Most plans lacked overarching objectives on the built environment, transportation, and land use/community design. Opportunities exist for plan revision and alignment with the National PA Plan sectors and strategies.

Keywords: state plans, policy, nutrition, chronic disease

Strategic planning has been identified as an important element in population-based health promotion.¹ One way to begin public health efforts to improve treatment or prevention for health conditions is the development of an overall state-wide strategic plan. Many states have developed plans for diabetes, arthritis, chronic disease, tobacco cessation, and obesity.²⁻⁵ The purpose of these plans is to recommend strategies to improve each health condition within the state population. In addition, plans

can promote support and visibility of the issue at the political level and allow stakeholders to use common objectives and strategies for improvement.⁶

Evidence supports increasing physical activity (PA) as a strategy to prevent and manage many chronic diseases.⁷ As of 2010, there were no stand-alone PA plans for any state; however, PA is often included as a component in condition-specific state plans. For example, states with obesity prevention plans most often have PA elements and strategies in the plan as compared with states without obesity prevention plans.^{2,8} Even though many of these plans have been in existence for several years, little is known about their breadth and, specifically, their focus on multilevel PA-related elements.

Because of the important role of PA in population health, the National PA Plan was developed and adopted in May 2010.⁹ The purpose of the National PA Plan is to provide a clear roadmap for actions that support short- and long-term progress in increasing Americans' PA across the lifespan.^{9,10} The National PA Plan includes recommended strategies focused on 8 sectors: public health; health care; education; transportation, land use, and community design; parks, recreation, fitness, and sports; business and industry; volunteer and nonprofit organizations; and mass media. Based on the multisectoral framework of the National PA Plan, the purpose of this study was to conduct an analysis of the nature and extent of the PA-related elements included in current state plans. This analysis will provide a baseline and

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guidance for future evaluation of national and state PA efforts and direction for future iterations of state plans, as they are typically updated on a regular basis. This study was conducted by the Physical Activity Policy Research Network (PAPRN), a thematic research network funded through the Centers for Disease Control and Prevention's Prevention Research Program.

Methods

State obesity-related plans were gathered via internet sites or state employee contacts in the Spring of 2010. Plans met inclusion criteria if they referenced obesity, PA, or related terminology in their title. If the title of the plan was disease-specific (eg, diabetes or arthritis), the plans were not included in this study. Across the 50 states and District of Columbia, 43 states were identified as having a relevant plan. Plans did not have to be formally adopted by the state to be considered relevant. The states of Idaho, Indiana, Kansas, Mississippi, New Jersey, Tennessee, and Wyoming and the District of Columbia did not have plans (formal or otherwise) at the time of data collection. The most recent version of each state's plan at the time of collection was used for coding.

Plan Coding

The research team developed a list of key plan components for analysis. Contextual information items included plan orientation (based on the plan title), endorsement (from the governor or other state leadership), authorship, framework (ie, the socioecological model¹¹ or other conceptual framework), year published, plan time frame, and mention of PA and inactivity surveillance data. Also included were mentions of PA goals, strategies, or aims, the different sector targets and the inclusion of S.M.A.R.T. objectives.¹² S.M.A.R.T. is a widely used public health planning method of setting objectives that are Specific, Measurable, Action-oriented, Relevant, and Time bound. The objectives were grouped into 2 categories (overarching and subobjective). Overarching objectives were defined as broad planning statements that framed the plans. Subobjectives were those that fell directly under the level of the main overarching objectives and included more specific planning detail. The plan coding tool went through several iterations before the research team reached consensus. The final version was transformed into an online data collection system so that team members from different sites could enter data in a central database. For training purposes, the team coded one plan together to ensure understanding of concepts and terms. Each plan was then coded by 2 team members and discrepancies were rectified with consensus coding by 2 of the study lead authors.

Analysis

Once the 43 plans were coded, data from the online system were imported into statistical analysis software

(SPSS 17.0, Chicago IL). Descriptive statistics were computed for each of the variables and text variables were condensed and coded. From these analyses, frequencies and percentages were tabulated and compared. To quantify the comprehensiveness of the plan goals, a composite score was developed. This score was based on a sum of PA-related overarching plus subobjectives in 8 content areas (Education-PE, Education non-PE, Health Care, Urban Design/Planning, Transportation, Mass Media, Worksite, Parks/Recreation).

Results

Contextual Content and Plan Development

The 43 state plans were publicly accessible on websites or within state documents between 2002 and 2010, with Pennsylvania being the first state to develop a plan in 2002. Nine (20.9%) of the plans were endorsed by the Governor, and 21 (48.8%) by the State Health Director (Table 1). The majority of the plans (79.1%) had a PA orientation (defined as PA in the plan title), but fewer specifically mentioned PA in the plan framework (32.6%). For example, a plan title could have included obesity, PA and nutrition, but the framework was focused on nutrition or general obesity reduction without mentioning PA.

Each plan listed key stakeholders and affiliated agencies that helped develop the plan. An analysis of sectors involved indicated public health, education, nonprofit, advocacy, health/medical, and academia were most represented with more than 81% of plans including these stakeholders. Thirty-one plans (72.1%) included parks/recreation, 30 plans (69.8%) included business and industry, and 22 plans (51.2%) included transportation representatives on their planning committee. Twenty-two plans (51.2%) had transportation representatives. Fewer than half of the plans included food/beverage industry, land use/community design, faith based organizations, elected officials, and media representatives.

Most plans included statewide PA data for adults (88.4%). Twenty-seven plans (62.8%) included PA data for adolescents/children. Twenty-eight plans (65.1%) mentioned some type of national PA standards, with National Association of Sports and Physical Education (NASPE) standards for physical education being the most frequently cited.

Plan Goals, Objectives, and Strategies

Each plan had tiered levels of goals, objectives, and strategies (Table 2). For analysis, these were divided into 2 categories: infrastructure and content. Infrastructure included aspects of the overall plan structure and content included more specific details within sectors. Policy and environmental change to increase PA were reported as infrastructure factors in both overarching objectives

Table 1 Characteristics of State Physical Activity–Related Plans

Characteristic	# of states	% States with plans (N = 43)	% All states** (N = 51)
Plan orientation*#			
Physical activity (PA)	34	79.1	66.7
Nutrition	33	76.7	64.7
Obesity	27	62.8	52.9
Chronic disease	14	32.6	27.5
Other	2	4.7	3.9
Plan endorsement*			
Director of Health	21	48.8	41.2
Governor	9	20.9	17.6
Other	8	18.6	15.7
Entities involved in plan development*##			
Public health	41	95.3	80.4
Education	38	88.4	74.5
Volunteer/non-profit organizations	38	88.4	74.5
Advocacy/coalitions	36	83.7	70.6
Health care/medical	35	81.4	68.6
University faculty	35	81.4	68.6
Parks, recreation, fitness, and sport	31	72.1	60.8
Business and industry	30	69.8	58.8
Transportation	22	51.2	43.1
Food/beverage industry	18	41.9	35.3
Land use and community design	14	32.6	27.5
Faith-based organizations	9	20.9	17.6
Elected officials	6	14.0	11.8
Media	5	11.6	9.8
Conceptual framework			
Included and PA/inactivity addressed in detail	14	32.6	27.5
Included and PA/inactivity briefly mentioned	9	20.9	17.6
Physical activity not included	20	46.5	39.2
References national PA-related standards (eg, National Physical Activity Plan, Community Guide, NASPE)	28	65.1	54.9
PA data presented in plan by*:			
Statewide/overall	38	88.4	74.5
Adults	38	88.4	74.5
Adolescents/children	27	62.8	52.9
Gender	16	37.2	31.4
Race/ethnicity	12	27.9	23.5
Income/SES	10	23.3	19.6
Geography/county	3	7.0	5.9
Evaluation and implementation			
PA overarching goals—all/some are S.M.A.R.T.	12	27.9	23.5
PA subgoals—all/some are S.M.A.R.T.	22	51.1	43.2
PA-specific evaluation section in plan	18	41.9	35.3
Organizations assigned to implement PA-specific strategies—all/some	13	30.2	25.5

* Items are not mutually exclusive ** include District of Columbia.

Defined as having words in title of the plan.

Involvement defined as being listed as partners in plan development or part of the network responsible for plan development.

Table 2 Physical Activity–Related Objectives Included in State Plans

Focus	Overarching objectives*			Subobjectives*		
	n	% states with plans (n = 43)	% all states (n = 51)	n	% states with plans (n = 43)	% all states (n = 51)
Changing physical activity (PA)/inactivity rates**	27	62.8	52.9	—	—	—
Infrastructure focus						
Workforce development	8	18.6	15.7	28	65.1	54.9
Coalitions and partnerships	12	27.9	23.5	31	72.1	60.8
Surveillance	18	41.9	35.3	23	53.5	45.1
Evaluation	6	14.0	11.8	16	37.2	31.4
Policy change	21	48.8	41.2	35	81.4	68.6
Environmental change	21	48.8	41.2	37	86.0	72.5
Content focus						
Urban design/planning	8	18.6	15.7	30	69.8	58.8
Transportation	4	9.3	7.8	29	67.4	56.9
Parks/recreation	7	16.3	13.7	25	58.1	49.0
Education/PE	11	25.6	21.6	32	74.4	62.7
Education/non-PE	14	32.6	27.5	37	86.0	72.5
Health care	12	27.9	23.5	32	74.4	62.7
Worksites	16	37.2	31.4	35	81.4	68.6
Mass media/public education	14	32.6	27.5	30	69.8	58.8
Health disparities	4	9.3	7.8	12	27.9	23.5
Other	10	23.3	19.6	16	37.2	31.4

* 41 of the 43 states with plans had at least 1 PA-oriented overarching objective. All states with plans had at least 1 sublevel PA objective.

** Item not assessed for subobjectives.

(N = 21) and subobjectives (N = 37) with evaluation (N = 6) as the least represented infrastructure factor. PA was less frequently included in overarching objectives within the plans and most often included in subobjectives. There was a variance with the inclusion of PA in these subobjectives within sectors. Only one-half of the plans included S.M.A.R.T. subobjectives. See Table 3 for examples. More plans focused on changing PA rates than infrastructure improvements. The total scores for the PA-related objectives ranged from 0–14 (out of 16) and 0–15 (out of 16) for the overarching and subobjectives, respectively. When these were added together, scores ranged from 0–28 (out of 32). Five states had scores of 24 or higher (FL, HI, NH, UT, IA).

Discussion

State plans can provide guidance and support to efforts aimed at increasing population PA. The fact that most states had some type of plan addressing PA is encouraging; however, the plans varied greatly in length, depth, and PA orientation. PA was never the sole focus of any plan and most often combined with plans for nutrition and obesity prevention. This could have affected the

amount of PA coverage within the plans. The incomplete PA orientation was noted by limited inclusion of PA in a conceptual framework, overarching goals, and evaluation strategies. Thus, there are numerous opportunities to strengthen and expand PA orientation in most state plans. For example, PA can be integrated into more of the overarching plan objectives.

States may choose to examine the comprehensiveness of the National PA Plan in outlining plan elements and for guidance in plan revision or initial development. Texas¹³ and West Virginia¹⁴ are developing PA-specific state plans based on sectors and components included in the National PA Plan. Examining the process of state plan development and tracking state PA plan goals and strategies and how these align with the National PA Plan are worthy topics for future investigation.

The focus on traditional PA sectors (eg, schools and worksites) was apparent in both plan development and objectives. Nontraditional partners such as transportation and urban planning were less frequently involved with plan development than representatives from public health or education. This is consistent with findings from a review of European PA plans. Daugbjerg et al found that most of the 29 plans in their review lacked transdisciplinary input in plan development.⁶ Not

Table 3 Examples of S.M.A.R.T Objectives or Subobjectives by Content Focus

Content focus	Example
Urban design/planning	By 2010, 50 communities in Wisconsin will conduct an environmental audit to identify and support barriers to physical activity within their community.
Transportation	By 2010, increase the proportion of trips made by walking from 17% to 25% for adults and from 31% to 50% for children and adolescents ages 5–15. (Iowa)
Parks/recreation	By December 31, 2009, develop and promote a statewide trail plan, linking local and regional plans, including priorities for trail completion, anticipated timelines, and identification of implementation funding. (Ohio)
Education/PE	By 2010, increase the number of large school districts that adopt written implementation plans consistent with current PA guidelines. (Montana)
Education/non-PE	By 2010, increase the number of communities that have 1 or more school, community, or company facilities that are open for physical activity during evening or weekend hours. (Delaware)
Health care	By 2011, increase to 40% the percentage of adults advised by their healthcare provider in the past 12 months to be physically active. (Alaska)
Worksites	By December 30, 2015, 60 small-to medium sized Rhode Island worksites (under 400 employees) will implement documented policy and environmental changes that support physical activity and healthy eating.
Mass media/public education	By 2010, implement and evaluate a statewide campaign to promote healthy eating, physical activity, decreased sedentary activity, and breastfeeding. (Georgia)

surprisingly, the state plans in our study mainly focused on improving PA rates through increased physical education, worksite programming, mass media campaigns, and healthcare interventions, rather than built environment or community infrastructure changes. There have been repeated calls in the public health literature for cross-sectoral and transdisciplinary approaches to population-based health.¹⁵ Five states showed high comprehensiveness in their planned strategies for increasing PA as evidenced by overarching and subobjectives included in 8 of the content areas relevant to a transdisciplinary PA approach. With the National PA Plan as a model in addition to the growing trend of multisectoral collaborations in PA, perhaps the plans will become more integrative over time.

Most plans lacked specific sub- population targets and rarely included needs assessment data beyond the overall behavioral state rates for adult PA or inactivity. This lack of disaggregated baseline data makes it difficult to set and evaluate progress in meeting goals and objectives. At a minimum, state plans should include PA/inactivity data on persons of varying age, race/ethnicity, gender, and geographic location to develop targeted goals and objectives. Even though research on the built environment and PA has grown rapidly over the past decade, state surveillance systems have been slow to adapt. New methods that include Geographic Information Systems, systematic pedestrian and cycling audits, and state and local level policy assessments are needed to measure the progress toward achieving policy and environmental change outcomes.

Evaluation activities are more feasible if measurable goals and objectives are developed within a plan. Plans are most effective when there are measurable objectives

against which outcomes can be measured. One-half of the plans in our analysis included at least some S.M.A.R.T. objectives. As noted in our state plan analysis and the European PA plan study, there is a clear need for more specific and measurable targets.⁶ The lack of measurable objectives makes assessing progress almost impossible. Future plans should not only include well developed objectives, but also evaluation plans. PA-specific evaluation was absent in the majority of state plans, a finding that is consistent with an analysis of national level plans.¹⁶ Ideally, states should revisit their plans annually to assess progress toward goals and identify areas where changes are needed.

Limitations of this study warrant mention. First, we evaluated plans that were available during our data collection period. Many states with plans initially developed in 2005 were updating their plan as analysis occurred. Coding goals and objectives was also challenging due to the variance in definitions for these terms. The research team endeavored to provide consistent and reliable comparative data for overarching and sublevel goals and objectives by using multiple raters and consensus coding. Lastly, having a plan does not imply implementation. We only examined plan content, not the extent to which or how goals or strategies have been implemented. This is a topic for future study. In spite of these limitations, this is the first systematic analysis of state plans with PA elements. In addition, this analysis provides a baseline for measuring the PA orientation of plans over time and their alignment with the National PA Plan. Lastly, these results will be disseminated to state staff responsible for PA plan development with recommendations for more multisectoral involvement and inclusion of evaluation activities.

Conclusion

State plans can be an effective catalyst for improving population PA rates. States need to be encouraged to develop plans or to strengthen goals for PA in existing plans. Opportunities exist for collaboration of transdisciplinary stakeholders to strengthen state PA and related plans. As states update or develop new plans with PA elements, the comprehensive National PA Plan may be used as a guide. More studies are needed to explore PA plan development, implementation, and evaluation.

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