Published in final edited form as:

J Phys Act Health. 2016 February ; 13(2): 207–213. doi:10.1123/jpah.2015-0010.

State Legislation Related to Increasing Physical Activity: 2006-2012

Amy A. Eyler¹, Elizabeth Budd¹, Gabriela J. Camberos¹, Yan Yan², and Ross C. Brownson¹

¹Prevention Research Center in St. Louis, Brown School, Washington University, St. Louis, MO

²Washington University School of Medicine, St. Louis, MO

Abstract

Background—Strategies to improve physical activity prevalence often include policy and environmental changes. State-level policies can be influential in supporting access and opportunities for physical activity in schools and communities. The purpose of this study was to explore the prevalence of state legislation related to physical activity and identify the correlates of enactment of this legislation.

Methods—An online legislative database was used to collect bills from 50 states in the U.S. from 2006-2012 for ten topics related to physical activity. Bills were coded for content and compiled into a database with state-level variables (e.g., obesity prevalence). With enactment status as the outcome, bivariate and multivariate analyses were conducted.

Results—Of the 1542 bills related to physical activity introduced, 30% (N=460) were enacted. Bills on public transportation and trails were more likely to be enacted than those without these topics. Primary sponsorship by the Republican Party, bipartisan sponsorship, and mention of specific funding amounts were also correlates of enactment.

Conclusion—Policy surveillance of bills and correlates of enactment are important for understanding patterns in legislative support for physical activity. This information can be used to prioritize advocacy efforts and identify ways for research to better inform policy.

Keywords

policy; exercise; environment

corresponding author: Amy A. Eyler, PhD, CHES, Prevention Research Center in St. Louis, Brown School, Washington University in St. Louis, 1 Brookings Drive, Box 1196, St. Louis, MO 63130, aeyler@wustl.edu; 314.935.7755 (ph) 314.935.0150 (fax). Elizabeth Budd, MPH, Prevention Research Center in St. Louis, Brown School, Washington University in St. Louis, 1 Brookings Drive, Box 1196, St. Louis, MO 63130, ebudd@wustl.edu; 314.935.0164 (ph) 314.935.0150 (fax) Gabriela J. Camberos, MPH, Brown School, Washington University in St. Louis, 1 Brookings Drive, Box 1196, St. Louis, MO 63130, gabrielacamberos@gmail.com Yan Yan, MD, Washington University School of Medicine in St. Louis, 660 S. Euclid Ave., Campus Box 8100, St. Louis, MO 63110, yany@wustl.edu; 314.747.1115 Ross C. Brownson, PhD, Prevention Research Center in St. Louis, Brown School and School of Medicine, Washington University in St. Louis, 1 Brookings Drive Box 1196, St. Louis, MO 63130, rbrownson@wustl.edu; 314.935.0121 (ph) 314.935.0150 (fax)

INTRODUCTION

In spite of mounting evidence on the positive health benefits of physical activity, there has been no substantial increase in the prevalence of this behavior over the last decade.¹ Nearly half of the adults in the U.S. report not being physically active at recommended levels and 25% of adults report no leisure-time physical activity at all.² Data from objective measures of physical activity using accelerometry show even lower rates than self-reported data for adults.³ In 2013, 72.9% of high school students failed to meet the national guidelines for physical activity (at least 60 minutes of physical activity per day).⁴ The positive impact on well-being and disease prevention⁵ has inspired national efforts to improve population physical activity.⁵⁻⁸ However, motivating people to be physically active can be difficult and is made even more challenging by environments where few opportunities to be physically active exist.^{2, 5, 9} The literature shows that the most promising intervention strategies for facilitating physical activity tend to include policy and environmental changes that provide opportunities and support to be more physically active.^{2, 10, 11} Three overarching policy and environmental strategies are recommended by the Community Preventive Services Taskforce, which include, creating or enhancing safe places for physical activity, enhancing physical education and physical activity in schools, and supporting street and community-scale designs that facilitate physical activity.^{2, 12}

Although these strategies to increase physical activity can be supported at several levels of government, state policies can be particularly influential. Through the constitutional doctrine of reserved powers, individual states hold tremendous authority on protecting the public's health.^{13, 14} State legislation can impact multiple areas related to physical activity in both school and community settings. For example, the regulation of physical education,^{2, 15-17} funding of parks and trails,^{15, 17, 18} and laws influencing active transportation options^{15, 17, 19} are often introduced and enacted at the state level. State laws can also be instrumental in distributing federal program funds. Federal mandates attached to funding such as the transportation budget program MAP 21 (Moving Ahead for Progress in the 21st Century) distribute funds for transportation projects and state legislation can allocate these funds.²⁰

The State Childhood Obesity Policy Evaluation (SCOPE) was a larger study that examined obesity-related state legislation between the years 2006-2012. As part of this larger study, the goals of this paper are to 1) explore the prevalence of state legislation between 2006-2012 related to increasing physical activity in schools and communities; and 2) identify the correlates of enactment of this legislation.

METHODS

Identification of Legislation

An aggregate, online legislative database (LexisNexis)²¹ was used to identify state legislation. The research team identified 26 legislative topic areas (16 general or nutrition topics and 10 physical activity topics) from the literature^{15, 22, 23, 24} and current obesity prevention recommendations.²⁵ Boolean search terms were developed with the assistance of reference attorneys and a law student to best capture the most appropriate content in each

topic area. These search terms were tested for relevancy and modifications were made. Each search term was run for all 50 states for the years 2006 through 2012. All the bills returned by the search were scanned for relevance, with a relevant bill defined as a new bill containing language related to one of the 26 obesity prevention topics or a pre-existing bill with new language related to one of the topics. From this list of obesity prevention bills, only those containing at least one of the ten physical activity-related topics were included in this analysis. The general search identified 2066 bills, of which 1542 containing physical activity content were used in current analysis.

Coding of Bill Content

A coding tool was developed using methods from several past projects.^{15, 17, 22} The tool included basic bill information (e.g., bill status, sponsor), topic content, and other components such as strength of bill language, funding, and enforcement language. To test the coding tool, three members of the research team coded the same ten bills within one topic area and discussed the process. After several iterations, the final version of the coding tool was transferred to an online data collection system. A training session for an additional four coding team members was implemented. Each bill was coded and data were entered into the online system. In order to address reliability, 5% of the total sample of bills (N=78) were coded by two team members. The majority (80%) of variables in the coding tool had inter-rater reliability correlations greater than 75%.

Outcome Variable

The outcome of interest for this study was bill enactment status. This variable was divided into two categories: enacted or not enacted. Bills were coded as “enacted” if they progressed through and passed both chambers (the unicameral Legislature in Nebraska) and were signed into law by the governor.

State-Level Variables

State-level variables included additional variables hypothesized to influence the enactment of legislation related to physical activity. The variables included socio-demographic status variables (e.g., % non-white population, index of income inequality, high school non-completion rate), health variables (e.g., child and adult obesity prevalence, physical activity prevalence), and government variables (e.g., type of legislature, presence of term limits, party of governor and chambers).

Bill-Level Variables

Bill-level variables were divided into two categories: general bill information and bill topic. General bill information included year introduced, originating chamber, sponsor information, appropriations, and enforcement language. Physical activity topic(s) within the bill were coded as dichotomous yes/no variables (See Table 1). The bill content coding by topic was not mutually exclusive as many bills contained more than one physical activity-related topic.

Statistical Analysis

The aims of the analyses were to identify important state- and bill-level characteristics associated with bill enactment, and to describe the variations in the likelihood of bill enactment across states after accounting for these important state- and bill-level characteristics. To identify the important state- and bill-level characteristics, strategies proposed by Hosmer and Lemeshow²⁶ in logistic regression modeling were adopted. First, a simple bivariate mixed logistic regression model for each of the state- and bill-level characteristics was fit with a random intercept and a fixed parameter for each characteristic. Those characteristics with a p value of $<.10$ were included in a multiple variable analysis with the mixed logistic regression model. Statistical significance of one variable in the presence of others was examined by type 3 tests of fixed effect, and the magnitude and direction of influence of the variable on the outcome was quantified by an odds ratio and its 95% confidence interval. The random effects (variance parameter) were tested with likelihood ratio tests.

To describe variation of bill enactment across states, a random intercept-only model was fit and a variance parameter estimate obtained. Models were then fit with important state- and bill-level characteristics and comparisons were made by the change in the variance parameter estimates. Inter-correlation coefficients (ICC) were used to quantify the variation across states with the latent variable method, which assumes that there is a latent continuous variable that describes the propensity for a state to enact the bills. The latent variable follows the logistic distribution with a unit scale parameter, yielding the variance of $\pi^2/3 = 3.29$. Therefore the ICC was obtained using $V_s / (V_s + 3.29)$, where V_s was the variance parameter estimate. All analyses were performed using SAS 9.2 software.²⁷

RESULTS

There were 1542 bills introduced between 2006 and 2012 relating to the ten topics of physical activity legislation studied, with an overall percentage of enactment of 30% ($N=460$). The number of bills introduced varied by state with a range from 1 in Nevada to 117 in New York (See Table 2). More bills were introduced by the House compared with the Senate, yet enactment rates for both chambers were similar; 29% and 30%, respectively. Even though over half (56%) of the 1542 bills analyzed for this study were introduced by Democrat primary sponsors, enactment rate was higher for bills introduced by Republican primary sponsors. Thirty-two percent of Republican-sponsored bills were enacted compared with 25% for Democrat-sponsored bills. The highest percentage of bills enacted were those with mixed-party primary sponsorship (38%). Additionally, the majority of bills introduced did not include strong enforcement wording (e.g., require or mandate), yet a higher percentage of those that did were enacted compared with bills with weak enforcement language (e.g., recommend or encourage).

Over the study period, the number of bills that were introduced across topics relating to physical activity varied. Physical education was the most frequent topic occurring in bills ($N=436$), followed by parks ($N=398$) and bicycle/pedestrian safety ($N=371$). The topics with the highest percentage of enactment were public transportation (42%) and trails (41%).

Physical education had the lowest enactment rate of 21%, similar to bills relating to school day physical activity at 22%.

Multilevel model results

In step one with bivariate analysis, five of the ten bill topics (parks, public transportation, physical education, active transportation to/from school, and school day physical activity) met the criteria for significance and moved to step two of the multilevel analysis. Four other general bill information variables reached significance in step one and were included in the multilevel analysis. These were primary sponsor party, bipartisan sponsorship, appropriations, and enforcement wording. Three of the ten state-level variables reached bivariate significance (type of legislature, income inequality index, and adult physical activity prevalence) and were included in step two of the multilevel analysis.

In step two of the analysis only two bill topics remained significant. Bills that included either trails or public transportation were more likely to be enacted compared with bills that did not include these topics. Bills with Republican primary sponsorship were significantly more likely to be enacted (OR = 1.49, 95% CI 1.06-2.08) than those with Democrat primary sponsorship. Bills without bipartisan sponsorship were less likely to be enacted (OR= 0.66, 95% CI 0.46-0.96) than bills sponsored by representatives of both the Democrat and Republican parties. Bills that mentioned funding with no amount specified (OR = 1.61, 95% CI 1.11-2.35) or bills with mention of a specific amount of funding (OR = 2.02, 95% CI 1.38-2.95) were significantly more likely to be enacted, compared with bills that did not mention funding. Of the three state-level variables moved to step two of this analysis, only one remained significant. When compared to professional legislatures, bills from states with intermediate or citizen legislatures were significantly less likely to be enacted (See Table 3).

DISCUSSION

State legislation can support policy and environmental efforts to increase physical activity.² Findings from this study bring to light the prevalence of state legislation relating to physical activity introduced across the U.S. and rates at which the legislation is enacted by state- and bill-level characteristics. Even though the number of bills introduced varied by state, the efforts being presented to increase population physical activity is encouraging. Overall enactment across physical activity topics (30%) was higher for this study than for previous studies on broader sets of state childhood obesity legislation.^{15, 17} Politics, budgets, the bill topic, and other state contexts can impact overall enactment rates, making interpretation complex. For example, overall enactment rate of introduced bills across all topics varies by state and year and can range from 10-50%; Ohio with the lowest and Texas with the highest enactment rate.²⁸ In this study, Ohio and Texas had comparable numbers of physical activity bills introduced (24 and 26, respectively), but differed greatly in their enactment rates of these bills (54% and 19%, respectively). Regardless of dynamic conditions like politics and budgets, findings from this study and others^{16, 17} show that enactment rates for the topic of physical education remained consistent in state legislation since 2001. Given the increase in childhood obesity rates and the evidence in favor of frequent and high-quality physical education for improved child and adolescent well-being,²⁹ one might expect to find an

increase in enactment rates of physical education-related bills over the past decade. Despite no increase in enactment rate, consistency in enactment rates over time may be interpreted as a better trend than a decrease in enactment, particularly with ongoing economic and political challenges within states. Recent data showed that the steadily decreasing time and frequency in which school-age children spend in physical education since 1991 has plateaued.⁴

Bills that contained the topics of public transportation and trails were more likely to be enacted during the study period than bills with other physical activity topics. One potential reason for this is that both public transport and trail legislation often include a contribution from federal transportation funds that are of benefit to state infrastructure projects. Also, bills containing these topics often contained very specific wording (e.g., approval for funding a new section of a trail or expansion of public transit in a specific region) as opposed to broad and complex mandates like requiring multi-modal use options on all new road construction. Transportation and trail bills may also have been more likely to be enacted due to the time period studied (2006-2012). In a qualitative analysis of governors' State of the State Addresses presented during 2009-2013, governors indicated that state transportation projects were an economic priority for job creation and increasing state commerce.³⁰ Perhaps framing other physical activity legislative topics to highlight a positive impact on state and local economies may be an advocacy strategy. For example, studies show that enhancing parks and green spaces can be economically beneficial to cities.^{31, 32} Emphasizing this finding in information to both policymakers and constituents may increase support for these types of bills.

Sponsorship support for bills from both parties has important policy implications.³³ Given the changes in partisan majority within many states during the study period, bipartisan sponsorship remained an important aspect of bill enactment as in previous studies.^{15, 17} Tailoring advocacy messages about physical activity to partisan ideologies may influence broad support. For example, while some may consider physical activity personal behavioral choice, bills promoting physical activity opportunities have the potential to improve state economies by reducing healthcare costs.³⁴⁻³⁶

This study has several limitations that warrant mention. First, although law experts and past methodologies informed our search for relevant bills, there are bills that may have been missed due to state legislative reporting errors or oversight. Second, we did not include bills that had a negative consequence on physical activity (e.g., repealing a law on distance required between cyclist and motorist). This may have impacted our findings and calls for future study. Third, due to the changing political landscapes of the United States and individual states during the time period studied (e.g., changes in governor or majority political party), broad generalizations cannot be made. We did include majority party within the House and Senate in our initial bivariate analysis, but it did not reach significance and thus was not included in the multivariate analysis. A historical analysis within states may parse complexities of the political influences on enactment. Lastly, we did not include bill implementation, enforcement, or effectiveness as outcome variables. Even though decades of research show the health benefits of physical activity,⁵ there is a lack of evidence linking policies to the behavior on a population level.⁹ Research on both the process of policy implementation and the effectiveness over time are needed to establish the connection of

policy to physical activity. In spite of these limitations, this study is novel in that it analyzes state bills related to physical activity within schools and communities. Findings can inform future research and advocacy efforts related to population physical activity.

CONCLUSION

State legislation can influence physical activity through a broad list of policy topics, and states vary in the nature and extent of the bills introduced and enacted. Continued surveillance of the bills and correlates of enactment is important for understanding patterns in legislative support for physical activity. This information can be used to prioritize advocacy efforts and identify ways for research to better inform policy aimed at increasing population physical activity.

Acknowledgements

The Robert Wood Johnson Foundation (RWJF) funded this project through contract #65559. The authors are grateful for the assistance of Ms. Katherine Etheridge who assisted in collecting and analyzing the state legislation used for this paper.

REFERENCES

1. Carlson SA, Fulton JE, Schoenborn CA, Loustalot F. Trend and prevalence estimates based on the 2008 Physical Activity Guidelines for Americans. *Am J Prev Med.* Oct; 2010 39(4):305–313. [PubMed: 20837280]
2. Centers for Disease Control and Prevention. State Indicator Report on Physical Activity, 2014. Atlanta, GA: 2014.
3. Troiano RP, Berrigan D, Dodd KW, Masse LC, Tilert T, McDowell M. Physical activity in the United States measured by accelerometer. *Med Sci Sports Exerc.* Jan; 2008 40(1):181–188. [PubMed: 18091006]
4. Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance–United States, 2013. *MMWR.* 2014; 63:SS-4.
5. Physical Activity Guidelines Advisory Committee. Physical Activity Guidelines Advisory Committee Report. Washington, DC: 2008.
6. Pate R. Inside the National Physical Activity Plan. *Journal of Physical Activity and Health.* 2014; 11(3):461–462. [PubMed: 24714331]
7. Pate R. A national physical activity plan for the United States. *Journal of Physical Activity and Health.* 2009; 6(Suppl(2)):S157–158. [PubMed: 20120124]
8. Obama, M. [Dec 10, 2012] Let's Move: America's move to raise a healthier generation of kids. Available at: <http://www.letsmove.gov/about>
9. Eyler A, Brownson R, Schmid T, Pratt M. Understanding policies and physical activity: frontiers of knowledge to improve population health. *J Phys Act Health.* Mar; 2010 7(Suppl 1):S9–12. [PubMed: 20440018]
10. Brownson RC, Kelly CM, Eyler AA, et al. Environmental and policy approaches for promoting physical activity in the United States: a research agenda. *J Phys Act Health.* Jul; 2008 5(4):488–503. [PubMed: 18648115]
11. Sallis JF, Cervero RB, Ascher W, Henderson KA, Kraft MK, Kerr J. An ecological approach to creating active living communities. *Annu Rev Public Health.* 2006; 27:297–322. [PubMed: 16533119]
12. Centers for Disease Control and Prevention. [June 10, 2014] Guide to Community Preventive Services: Promoting physical activity, environmental and policy approaches. Sep 27. 2013 Available at: <http://www.thecommunityguide.org/pa/environmental-policy/index.html>

13. Administration USAaR. [Dec 29, 2014] The Bill of Rights:Text. Available at: http://www.archives.gov/exhibits/charters/bill_of_rights_transcript.html
14. McGowan, A.; Brownson, R.; Wilcox, L.; Mensah, G. Prevention and control of chronic diseases. In: Goodman, R.; Rothstein, M.; Hoffman, R.; Lopez, W.; Matthews, G., editors. Law and Public Health Practice. Oxford University Press; New York, NY: 2007.
15. Boehmer TK, Luke DA, Haire-Joshu DL, Bates HS, Brownson RC. Preventing childhood obesity through state policy. Predictors of bill enactment. Am J Prev Med. Apr; 2008 34(4):333–340. [PubMed: 18374247]
16. Eyler AA, Brownson RC, Aytur SA, et al. Examination of trends and evidence-based elements in state physical education legislation: a content analysis. J Sch Health. Jul; 2010 80(7):326–332. [PubMed: 20591097]
17. Eyler AA, Nguyen L, Kong J, Yan Y, Brownson R. Patterns and predictors of enactment of state childhood obesity legislation in the United States: 2006–2009. Am J Public Health. Dec; 2012 102(12):2294–2302. [PubMed: 23078482]
18. Eyler A, Lankford T, Chiqui J, et al. An analysis of state legislation on community trails. J Phys Act Health. Mar; 2010 7(Suppl 1):S40–47. [PubMed: 20440011]
19. Chiqui JF, Taber DR, Slater SJ, Turner L, Lowrey KM, Chaloupka FJ. The impact of state safe routes to school-related laws on active travel to school policies and practices in U.S. elementary schools. Health Place. Jan; 2012 18(1):8–15. [PubMed: 22243902]
20. Transportation USDo. Moving Ahead for Progress in the 21st Century Act (MAP-21). U.S. Department of Transportation; Available at: <http://www.dot.gov/map21> [Dec 7, 2014]
21. LexisNexis. [June 10, 2014] LexisNexis. LexisNexis. Available at: <http://www.lexisnexis.com/enus/home.page>
22. Boehmer TK, Brownson RC, Haire-Joshu D, Dreisinger ML. Patterns of childhood obesity prevention legislation in the United States. Prev Chronic Dis. Jul.2007 4(3):A56. [PubMed: 17572960]
23. Dodson EA, Fleming C, Boehmer TK, Haire-Joshu D, Luke DA, Brownson RC. Preventing childhood obesity through state policy: qualitative assessment of enablers and barriers. J Public Health Policy. 2009; 30(Suppl 1):S161–176. [PubMed: 19190572]
24. Brennan L, Castro S, Brownson RC, Claus J, Orleans CT. Accelerating evidence reviews and broadening evidence standards to identify effective, promising, and emerging policy and environmental strategies for prevention of childhood obesity. Annu Rev Public Health. 2011; 32:199–223. [PubMed: 21219169]
25. Kahn L, Sobush K, Keener D, et al. Recommended community strategies and measurements to prevent obesity in the United States. MMWR. 2009; 58(RR07):1–26.
26. Hosmer, D.; Lemeshow, S. Applied Logistic Regression. 2nd. John Wiley & Sons; New York, NY: 2000.
27. SAS Institute I. SAS, V. 9.2. SAS Institute, Inc.; Available at: http://www.sas.com/en_us/home.html
28. Bill Track 50. Resource OLT. [April 1, 2015] Comparing state legislatures by counting bills. Available at: <http://www.billtrack50.com/blog/election/comparing-state-legislatures-by-counting-bills/>
29. Institute of Medicine of the National Academies. Educating the student body: Taking physical education and physical activity to school. The National Academies Press; Washington, D.C.: 2013.
30. Zwald, M.; Eyler A, inventors. APHA, assignee. How do governors communicate transportation priorities? A qualitative analysis of governors' State of the State addresses. 2014.
31. Association AP. How cities use parks for economic development. American Planning Association; Available at: <https://www.planning.org/cityparks/briefingpapers/economicdevelopment.htm> [Dec 21, 2014]
32. Crompton J. The impact of parks and open streets on property values. California Parks and Recreation. 2007; 63(1):32.
33. Rocca M, Sanchez G. The effect of race and ethnicity on bill sponsorship and cosponsorship in congress. Am Politics Res. 2008; 36(1):130–152.

34. Nguyen HQ, Ackermann RT, Maciejewski M, et al. Managed-Medicare health club benefit and reduced health care costs among older adults. *Prev Chronic Dis.* Jan.2008 5(1):A14. [PubMed: 18082003]
35. Andreyeva T, Strum R. Physical activity and changes in health care costs in late to middle ages. *J Physical Act Health.* 2006; 3(S1):S16–19.
36. Wu S, Cohen D, Shi Y, Pearson M, Sturm R. Economic analysis of physical activity interventions. *Am J Prev Med.* Feb; 2011 40(2):149–158. [PubMed: 21238863]

Table 1**Physical Activity Bill Topic and Definitions**

Bill Topic	Definition
Trails	Language that supports the development, improvement, connectivity, maintenance, or other aspect related to trails, paths, greenways etc.
Streets	Language related to components of community or street-level design that facilitates walking, bicycling, or other modes of active transportation
Parks	Language related to the development, funding, maintenance or other aspects of parks or green space within states or communities
Bicycle/Pedestrian Safety	Language that supports safety of modes of active transportation
Public Transportation	Language related to development, enhancement, connectivity, or funding of public transit projects.
Physical Education (PE)	Language related to requirements, time, instruction or other PE topics
Active Transport to/from School	Language related to programs, enhancements, infrastructure, or funding of active transportation to and from school
Before/After School Physical Activity	Language that supports requirements, minutes, instruction or other aspects of physical activity in programs before or after the school day, but within the school environment
After School Recreation/Sports	Language related to physical activity, recreation, and sports programs conducted after school hours administered through schools
School Physical Activity	Language related to aspects of physical activity during the school day but outside of PE such as recess or in-classroom physical activity

Table 2

Number of Bills Relating to Physical Activity, Introduced and Enacted by State 2006-2012

State ^a	Number Introduced	Number Enacted	% Enacted ^b
New York	117	17	15
Minnesota	95	9	9
New Jersey	83	9	11
California	81	36	44
Hawaii	76	14	20
Massachusetts	71	14	20
Washington	71	22	31
Florida	65	12	20
Maryland	57	22	39
Illinois	55	17	31
Michigan	50	20	40
Mississippi	42	7	17
Rhode Island	37	16	43
North Carolina	34	13	38
Missouri	33	7	21
Oklahoma	33	10	30
Virginia	33	14	42
Alabama	29	6	21
Connecticut	28	7	25
Iowa	27	5	19
Kentucky	27	5	19
Oregon	26	9	35
Texas	26	5	19
Ohio	24	13	54
West Virginia	24	7	29
Tennessee	23	4	17
Vermont	23	16	69
Arkansas	22	17	77
Arizona	21	8	38
Indiana	20	6	30
Alaska	19	8	42
Louisiana	19	8	42
Maine	17	9	53
Georgia	16	6	38
New Mexico	16	9	56
Wisconsin	16	4	25

State ^a	Number Introduced	Number Enacted	% Enacted ^b
Kansas	11	3	27
Pennsylvania	11	7	64
Nebraska	10	5	50
Colorado	9	7	77
South Carolina	8	5	63
Utah	7	5	71
Delaware	6	5	83
New Hampshire	6	3	50
Idaho	5	1	20
North Dakota	4	3	75
Montana	3	1	33
Wyoming	3	3	100
South Dakota	2	1	50
Nevada	1	0	0

^a States are listed in order of greatest number of bills relating to physical activity introduced to least number of bills relating to physical activity introduced.

^b Percentages are rounded to the nearest whole number.

Table 3

Frequencies of Variables by Bill Coding Category (n = 1542)

Variable	Introduced, No.	Enacted, No. (%)
Originating Chamber		
House	894	263 (29%)
Senate	637	192 (30%)
Legislative	11	5 (50%)
Total	1542	460 (30%)
Primary Sponsor Party		
Democrat	877	220 (25%)
Republican	332	106 (32%)
Mixed	189	72 (38%)
Unknown or Not Applicable	144	62 (40%)
Bipartisan Sponsorship		
Yes	358	119 (33%)
No	1045	280 (27%)
Not Applicable	139	61 (44%)
Enforcement Wording		
Yes (shall, require, mandate)	75	24 (32%)
No (recommend, suggest, encourage)	1091	258 (24%)
Not Applicable (e.g. appropriations)	376	178 (47%)
Appropriate Money		
Yes, actual amount listed	484	218 (45%)
Mentions funding, no amount	222	66 (30%)
No funding mentioned	836	176 (21%)
Type of Legislature *		
Professional	573	149 (28%)
Intermediate	734	215 (29%)
Citizen	235	96 (40%)
Term Limits in State		
Yes	389	307 (27%)
No	1153	153 (39%)
Topic **		
Trails	293	120 (41%)
Streets	72	22 (31%)
Parks	398	154 (39%)
Bike/Pedestrian Safety	371	117 (32%)
Public Transportation	355	148 (42%)

Variable	Introduced, No.	Enacted, No. (%)
Physical Education	436	93 (21%)
Active Transportation to/from School	162	57 (35%)
Before/After School Physical Activity	104	32 (31%)
School Day Physical Activity	320	70 (22%)

* Professional Legislature requires 80% or more of a full-time job from legislators, Intermediate Legislature is one that requires the time equivalent of two-thirds of a fulltime job from legislators and a Citizen legislature is where average lawmakers spend the equivalent of half of a full-time job doing legislative work.

** Bills may include more than one topic.

Table 4

Multilevel Model Results for Predictors of Enactment of State Legislation 2006-2012 related to Physical Activity

	Odds Ratio	95% Confidence Intervals
<u>PA Topic</u>		
Trails (no)	1.00	
Trails (yes)	2.04	1.47-2.84a
Public Transportation (no)	1.00	
Public Transportation (yes)	1.48	1.10-1.99a
<u>Primary Sponsor Party</u>		
Democrat	1.00	
Republican	1.49	1.06-2.08a
Both or Committee	1.32	0.81-2.15
<u>General Sponsorship</u>		
Bipartisan	1.00	
Single Party	0.66	0.46-0.96a
<u>Appropriations</u>		
No funding mentioned	1.00	
Mentions, but no amount	1.61	1.11-2.35a
Mentions amount	2.02	1.38-2.95a
<u>Enforcement Language</u>		
Recommends	1.00	
Requires	0.89	0.46-1.73
<u>Type of Legislature *</u>		
Professional	1.00	
Intermediate	0.27	0.13-0.54a
Citizen	0.47	0.26-0.84a

* Professional Legislature requires 80% or more of a full-time job from legislators, Intermediate Legislature is one that requires the time equivalent of two-thirds of a full-time job from legislators and a Citizen legislature is where average lawmakers spend the equivalent of half of a full-time job doing legislative work.