

# Understanding Policies and Physical Activity: Frontiers of Knowledge to Improve Population Health

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With increasing evidence of the detrimental effects of physical inactivity, there is interest in enhancing research on policies that may influence physical activity in communities. Given the potential policy impact, a framework that organized and conceptualized policy interventions and priorities for public health efforts to promote physical activity was developed. In addition, the Physical Activity Policy Research Network (PAPRN) was formed as a way to operationalize the contents of the framework. Recommendations for future work in this area include enhancing transdisciplinary collaborations, raising the priority of policy evaluation, studying policies at all levels, and emphasizing dissemination of findings.

Public health has a long history of addressing important challenges through regulatory and policy mechanisms.<sup>1,2</sup> Successes include clean-indoor air policies,<sup>3</sup> vaccination policies,<sup>4</sup> and seat-belt and child safety seat mandates.<sup>5</sup> With increasing evidence of the detrimental effects of physical inactivity,<sup>6,7</sup> there is interest in enhancing research on policies that may influence physical activity in communities.<sup>8</sup> Policies to improve physical activity may be direct, such as the development and required participation in quality physical education programs in schools, or less direct, such as a transportation policy that improves access to transit and thereby induces additional walking, or reduces automobile/cycling conflicts and results in increases cycling. To better visualize, categorize, and understand research and programmatic efforts in physical activity policy research, Schmid and colleagues (2006) developed a framework physical activity policy research<sup>8</sup> (see Figure 1). This conceptual framework includes the important components of policy research (identification, determinants, implementation, and outcomes) as well as the settings in which policies apply by sectors (schools, worksites, public spaces, transportation, health, etc.) and levels (national, state, regional, local). In addition to the framework, the following areas were identified as critical priorities to future physical activity policy research: schools, worksites, parks and public spaces, walkability, safety and crime, economic factors, and liability. This framework organized and conceptualized policy interventions and priorities for public health efforts to promote physical activity.

With the framework in place, the Centers for Disease Control and Prevention (CDC) created the Physical Activity Policy Research Network (PAPRN) in Octo-

ber of 2004. The PAPRN seeks to study the genesis, implementation and effectiveness of policies related to increasing physical activity in communities. The PAPRN was established as a thematic research network of the Prevention Research Centers (PRC) program, with funding from the Division of Nutrition, Physical Activity and Obesity. The network initially consisted of 4 PRC member centers, 1 coordinating/member and CDC technical advisors. Several other PRCs have joined the network as affiliate member centers, and 3 non-PRC universities are represented.

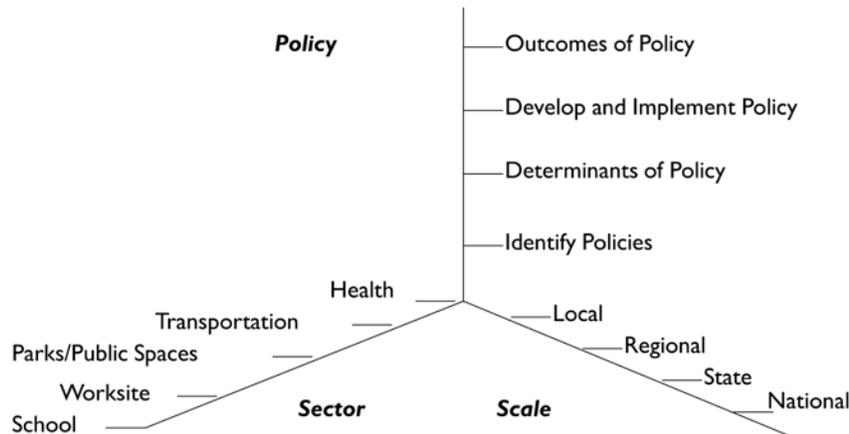
The mission of PAPRN is to build policy research capacity and to conduct transdisciplinary research by identifying physical activity policies and the determinants of those policies; describing the policy implementation process; and determining policy outcomes. The benefits of conducting research as a network include building and supporting a community of researchers with shared interests in physical activity policy that provide a broader perspective on the research topic, the ability to conduct and coordinate multiple studies at the same time, better generalization of results, and increased dissemination channels.<sup>9-12</sup>

In 2007, PAPRN conducted a Concept Mapping process to develop a national agenda for physical activity policy research, based on input from both researchers and transdisciplinary practitioners.<sup>13</sup> Concept Mapping is a scientifically rigorous process that uses a group brainstorming process and hierarchical clustering analysis to create clusters and concept maps. From this process, a research agenda in 9 categories or clusters was formulated. These clusters include: transportation and recreational physical activity, city planning and design, implementation of policies, measurement and methodology, community design, population subgroups, incentives and benefits, economic evaluation, and schools and the community. Research statements in each of these categories were rated by importance and feasibility. The

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# Physical Activity Policy Framework



**Figure 1** — Framework for physical activity policy research developed by Schmid and Colleagues, 2006.

statements with high importance and feasibility suggest specific priorities for future physical activity policy research.

## Filling in the Puzzle Pieces

Building on Schmid's Physical Activity Policy Research Framework<sup>8</sup> and the Concept Mapping process,<sup>13</sup> PAPRN identified priority research within many of the 9 clusters from the environmental and policy research agenda. The papers in this special issue of the *Journal of Physical Activity and Health* reflect these priorities and is, we believe, the first full journal issue devoted to physical activity policy research.

As indicated in the environmental and policy research agenda,<sup>13</sup> physical activity policy research in schools and the community is a priority. In this issue, 3 articles outline important facets of policy in these settings. Pluto et al describe active travel to school from the view of the school and district administration. This study found that most districts had a policy or position about students walking to school. Respondent's personal beliefs about health and academic benefits of walking were important in formulating active transport initiatives in schools. The study by Evenson et al, documents the lack of progress from 2000 to 2006 in the ability of members of the community to use schools. Having access to school facilities can positively impact the physical activity in community members. Measuring the prevalence of this access is an important first step toward assessment of effectiveness of these policies. In a related school oriented study, Harris et al provide guidance on how to evaluate a state-level initia-

tive to prevent student obesity in West Virginia. Changing the school environment to accommodate healthy eating and physical activity is not an easy task. Top-down, statewide policy efforts such as the West Virginia Healthy Lifestyles Act can help promote these changes.

More specific than overall community policy studies, community design and city planning policies also emerged from the Concept Mapping process as a research priority. Several articles in this issue highlight how community design policies are a factor in efforts to increase population physical activity levels. Traditional Neighborhood Design, community trails, parks, and walkable community environments are discussed.

Transportation has a longstanding (and often adversarial) relationship with physical activity. However, recent federal transportation policies are the impetus to safe routes to school programs and development of features critical to such efforts such as sidewalks, trails, and bike lanes.<sup>14</sup> Not only do these features increase transportation options, they also provide sustainable access to recreational physical activity opportunities. Eyler et al outline state-level trail policies, and found that over half of the nonappropriations trial bills included at least 1 evidence-informed element, most commonly funding. They conclude that tracking legislation and identifying "evidence informed elements" can be used to inform policy makers and influence policy content. From a more local and regional transportation planning aspect, Steinman et al make comparisons across communities that have pedestrian and bicycle master plans. This snapshot of such communities reveals that their general demographic characteristics are comparable to overall

use profile, suggesting master plans are not the purview of elite, progress communities and therefore could be spread to communities throughout the US.

Studying specific population subgroups is also a top priority within the PAPRN research agenda. Two articles in this supplement focus on unique population groups to understand specific policy needs. Frank et al identify influences of community design on physical activity and body weight in older Americans. This article reinforces the idea that making a community more walkable can increase physical activity levels and improve health across age groups and that policy/regulatory initiatives can be crafted to increase walking in older adults. Craddock et al study the amount and nature of state legislation on childcare and daycare facilities. Although there was considerable variation, they found on average only about one-third of safety and performance standards for outdoor play areas are full addressed in most state regulations.

Documenting the economic benefit of policies can help increase public and political support for a physical activity policy and increase its sustainability. In spite of this importance, economic analysis is often complex and difficult to conduct with limited time and resources. Research in Europe has often preceded work in the United States. Kahlmeier and colleagues describe the process of developing a policy tool that provides quantify the health/economic benefits of infrastructure changes that promote cycling and walking and provide suggestion for how a “Health in all Policies” perspective can be advanced. Understanding the process of policy formation and implementation is another important PAPRN research priority. Learning about barriers to implementation and applying best practice strategies to policy development are essential to effectiveness of policy. One way to identify these issues is described in Stamatakis et al, where the research team outlines effective ways to translate research findings and describes barriers to communicating physical activity messages to policy makers. Researchers and practitioners can both benefit from learning how to frame messages and address concerns to those who are responsible for implementing top-level policies.

## Next Steps

This journal supplement is a compilation of efforts from PAPRN members and other researchers in the field of physical activity policy. The articles span countries, populations, sectors, and policy scale. Articles in this supplement highlight several important themes for improving the capacity for physical activity policy research.

### Continue to Build Transdisciplinary Relationships

Transdisciplinary public health strategies are currently receiving much attention as captured in the phrase

“health in all policies.”<sup>15</sup> Operationalizing this concept will require expanding our understanding of how policies in other sectors influence health and physical activity. Transdisciplinary research projects provide valuable opportunities to collaborate on interventions to improve the health and well-being of both individuals and communities.<sup>16,17</sup> Physical activity is a multifaceted, complex behavior and one can argue that the significant if not some of the biggest, improvements in rates of physical activity are likely to come from sectors outside of health (eg, transportation, urban planning, parks and recreation). To sustain changes in physical activity behavior, cooperation from diverse groups; groups not traditionally brought to the public health table, is imperative. For example, Carnoske et al describe a survey of realtors and home builders to assess factors influencing homebuyers’ decisions and about the incentives and barriers to Traditional Neighborhood Development. Their insights into what is important to people buying homes gives the field insights on how to approach promoting physical activity within community and neighborhood design. Partnerships that bring together diverse people and organizations have the potential for developing new and creative ways of dealing with today’s complex health issues.<sup>18</sup>

### Raise the Priority of Policy Evaluation

Demonstrating a positive cost/benefit ratio of policies we study, will greatly elevate the importance of our work. Kahlmeier discussed both the importance and challenges of economic appraisals. This type of evaluation can be time intensive, costly, and require the expertise of health economists and other experts. However, we propose taking advantage of “low hanging fruit” by looking for natural experiments to evaluate or using existing methods to monitor policy changes in community health outcomes.

### Extend and Enrich the Policy Research Agenda From the Local to Global Level

As noted physical activity policy research is in its infancy, and this issue of the JPAH has compiled an impressive contribution to the small but growing body of work. Innovative approaches to community design, transportation policy, climate change, social development and social equity at city, state, national, and global levels are providing abundant opportunities to evaluate policy processes and impacts on health, quality of life and physical activity. Some of these innovations such as urban growth boundaries in the US,<sup>19</sup> urban design in Curitiba, Brazil<sup>20</sup> and reclaiming public space in Bogota, Colombia<sup>21</sup> have been evaluated. Many other promising strategies such as congestion pricing in London, climate change policies in New York City, and implementation of Bus Rapid Transit (BRT) systems in many middle income countries remain to be evaluated for their impact on health and physical activity.

## Place More Emphasis on Dissemination of Findings

Assessments and inventories are excellent first steps in physical activity policy research. For example, this supplement outlines 2 examples of inventories of state legislation for trails and childcare regulations. Disseminating information about these findings to policy makers and practitioners is the next logical step. Equally important for a growing field is dissemination of research methods to potential policy researchers around the world. These dissemination efforts need to take into account creative methods of communication and focus better on the needs of the target audience.

## Conclusion

The articles in this supplement and the work of PAPRN begin to provide a clearer understanding of the policy process, content, and outcomes.<sup>22</sup> To significantly impact the preventable burden of chronic diseases and physical inactivity, history and current research tell us that evidence-based policy change may have the largest potential. To make use of the best available evidence on physical activity policy, we need to expand the role of researchers and practitioners in communicating this evidence and it must be packaged appropriately for the various policy audiences. In doing so, we anticipate that promotion of physical activity will become a higher priority, integrated across a wide range of relevant policy thus conferring significant benefits to population health.

## Disclaimer

The findings and conclusions of this report are those of the authors and do not necessarily reflect the official position of the Centers for Disease Control and Prevention.

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