



Local Ordinances That Promote Physical Activity: A Survey of Municipal Policies

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In this Utah-based study, we sought to identify the types of municipal employees responsible for physical activity policies, identify municipal ordinances that may influence physical activity, and determine local governments' intentions to implement policies.

In 2001, we mailed a survey to all of the state's municipalities with the goal of measuring 6 physical activity domains: sidewalks, bicycle lanes, shared-use paths, work sites, greenways, and recreational facilities. Data from 74 municipalities revealed that planners made up a small proportion of municipal staff. Relative to cities experiencing slow or medium growth, high growth cities reported more ordinances encouraging physical activity.

Physical activity policies can be monitored across municipalities. Moreover, evidence-based public health practice provides direction for limited staff and funding resources. (*Am J Public Health*. 2003;93:1399–1403)

REGULAR PHYSICAL ACTIVITY is associated with decreased risks of heart disease, cancer, and dia-

betes, which are leading causes of disability and death in the United States.¹ Recently the Task Force on Community Preventive Services, which conducts evidence-based reviews of the state of public health, “strongly recommended” both the creation of areas for physical activity and the enhancement of access to such areas.² This recommendation was based on a growing body of research on how physical activity levels are influenced by policy and environmental conditions.^{3–5} Commensurate with this recommendation, state and local agencies are being encouraged by federal and non-governmental organizations to use policy interventions to address the public health problem of physical inactivity.^{6–8}

The measurement of policies related to physical activity is a new area of research, but in recent years several authors have set forth conceptual groundwork that should facilitate future investigations.⁹ To date, the literature in this area has focused primarily on personal and environmental

correlates of physical activity.^{3,5,9–15} Although important, there is a paucity of literature examining the correlates of effective policy interventions addressing physical activity behaviors.

Although “policy as intervention” has been advocated by the Centers for Disease Control and Prevention (CDC) and others for some time,^{8,16–18} little progress has been made regarding how to determine which policies exist or even what kinds of policies are effective. Despite this situation, federal grants are encouraging states to implement policy-based interventions, as exemplified by CDC's recent program announcement seeking the establishment of state-led programs in nutrition and physical activity designed to prevent obesity and related chronic diseases.¹⁹

Available data suggest that such characteristics of our communities as proximity of facilities, street design, density of housing, public transit, and existence of pedestrian and bicycle facilities can play an important role in promoting physical activity.²⁰

Areas with favorable conditions in regard to these characteristics have been termed “active community environments” (ACEs).²¹ The presence of ACEs can be measured as a community-level indicator²²; however, such indicators must be operationalized (e.g., ordinances for bike lanes).

To support state initiatives in evidence-based public health practice,²³ we detail in this article an effort to collect and characterize existing policies on ACEs in the state of Utah. We analyzed ACE policies in that state to establish a baseline that can be used to formulate objectives as part of an intervention designed to increase physical activity. Our goal was to examine 3 policy-related issues at the local level: (1) What kinds of municipal employees are responsible for planning ACEs? (2) How prevalent are policies on ACEs? and (3) What are local municipalities' intentions in terms of implementing policies? Our results can be used to further evidence-based practice through program planning and evaluation that address



policy interventions designed to promote ACEs and enhance appropriate use of limited resources within local governments.

METHODS

Instrument

At the time of this study, we were unaware of any instrument used for surveying municipalities regarding their ordinances, and thus we constructed our own (a copy of the instrument is available from the authors upon request). To ensure measurement validity, we followed the framework set forth by DeVellis²⁴ in developing the instrument. This framework includes the following components: determining clearly what to measure, generating an item pool, determining the measurement format, having the initial items reviewed by context experts, administering items to a sample of respondents, evaluating the responses to each item, and optimizing the length of the instrument. This process took nearly a year to complete.

We developed community-level indicators identified by the CDC⁹ to measure the existence of ordinances related to 6 domains: sidewalks, bicycle lanes, shared-use paths, greenways, recreational facilities (neighborhood, school, and community parks and park and connector trails), and work sites (new commercial buildings only). The instrument includes a total of 15 items within these 6 sections.

In the case of 4 domains (sidewalks, bike lanes, greenways, recreational facilities), respondents are asked about ordinances

for new, redeveloped, and mixed-use communities. Items involve 3 possible responses: “We have an ordinance,” “We intend to have an ordinance within one year,” and “We do not have an ordinance.” The section on work sites deals with ordinances requiring new commercial buildings and site plans to incorporate amenities that encourage physical activity and bike and pedestrian commuter traffic.

The section on shared-use paths (corridors of travel for recreation or transportation within a park, natural environment, or designated corridor that is not classified as, or served by, a highway, road, or street²⁵) includes a question about ordinances for building such paths, as well as an item focusing on the existence of master plans containing language addressing easements for the development of paths. Possible responses for the latter item are as follows: “We have a policy in our master plan,” “We do not have a policy in our master plan,” “We intend to have a policy in our master plan within a year,” and “We do not have a master plan.” In general, master plans formally state a city’s development and redevelopment policies, setting forth a framework of principles, standards, policies, and programs that guide decisions affecting land use management.²⁶

Collection of Ordinance Data

The administrative duty to create, implement, and enforce policies affecting communities falls under municipal governments. For this study, we defined

TABLE 1—City Officials Ranked by Preference as Survey Subjects, With Percentage of Municipal Planning Staff Represented by Title and Percentage of Survey Respondents

Rank	City Official	Percentage of Population	Percentage of Respondents
1	City planner or planning/zoning administrator	17.1	26.7
2	City manager	18.7	20.0
3	City administrator	9.4	17.3
4	City recorder	14.5	13.3
5	Parks and recreation manager	3.2	7.9
6	Mayor	1.8	5.3
7	Town clerk	33.1	2.6
8	Various	2.2	6.6

municipality as an incorporated city or town, and we defined *policy* as a specific local ordinance passed by a municipality. We defined policies on ACEs as ordinances enacted to establish any of the domains mentioned earlier (i.e., sidewalks, bicycle lanes, shared-use paths, recreational facilities, greenways, and work site facilities).

We gathered contact information on local government officials from the Utah League of Cities and Towns, which provided us with a published directory of such officials.²⁷ To identify the preferred respondents within the various cities, we developed a hierarchical protocol according to job title, with city planners or planning and zoning administrators most preferred by us because city planning is one of their main functions. The prevalence of actual respondents by job title (ranked in terms of preference rating) is shown in Table 1, as is the percentage of these city officials within the population of municipal employees who have planning responsibilities.

In September 2001, surveys were mailed to the preferred respondents within all 236 cities in Utah; the officials contacted were asked to return the surveys within 2 weeks. Cities that responded were eligible for one of a pair of \$500 incentive awards. A cover letter was also included from Utah’s governor that encouraged municipalities to complete the survey. A second mailing (to nonrespondents only) was conducted 2 weeks later. Follow-up calls were made to ensure similar response rates between cities experiencing slow growth, those experiencing medium growth, and those experiencing high growth (as described subsequently). Our final survey response rate was 48.3% (n=114 cities).

Data Analyses

Utah’s cities were classified into 3 categories according to population: (1) 100 000 or more (n=3), (2) 1000 to 99 999 (n=74), and (3) less than 1000 (n=37). Only the second category of cities was



included in the present analyses, because these cities represent local health districts' greatest return on investment in regard to staff time, money, and resources. The state's 3 largest cities have an established infrastructure to address urban sprawl,^{27,28} and cities with fewer than 1000 residents are too small to invest their limited public health resources on ACE initiatives. Moreover, they represent a very small percentage of Utah's population (2.3%).²⁸

The 74 cities selected for analysis were stratified into tertiles—"slow growth" (n=23), "medium growth" (n=26), and "high growth" (n=26)—based on their projected population growth over the next 30 years. The governor's planning and budget office has generated projections for this period using data on economic growth and decline, births, deaths, and movement of people into and out of a given area.²⁸ Slow growth, medium growth, and high growth classifications were determined according to cities' projected annual average rates of change. Cities with average rates of change of 0% to 1.3% were classified as slow growth cities, those with average rates of 1.4% to 2.6% were classified as medium growth cities, and those with average rates of 2.7% to 9.1% were classified as high growth cities.²⁸

RESULTS

As can be seen in Table 1, individuals responsible for planning (city planners and planning and zoning administrators) made

up 26.7% of our respondents; city managers and administrators, 37.3%; city recorders, 13.3%; and parks and recreation managers, 7.9%. Table 1 also displays the difference between the distribution of the population and the distribution of our respondents. To further check for response bias, we examined re-

spondents according to city population and found that the respondent distribution matched the population distribution with the exception of cities with fewer than 1000 residents. Among such cities, the respondent distribution represented 32.5% of the state, while the population distribution represented 45.1%.

We compared slow growth, medium growth, and high growth cities in regard to 3 policy outcomes (Figure 1): (1) overall reported prevalence of ordinances for each of the ACE indicators, (2) percentage of cities intending to implement a new ACE ordinance within 1 year, and (3) actual prevalence of ACE ordinances implemented in instances in which municipalities reported an intention to implement an ordinance (i.e., actual prevalence plus prevalence of intention). With the exception of sidewalk ordinances, high growth cities were more likely to report having an ordinance in place than were medium growth and slow growth cities (Figure 1). The reported prevalence of ordinances also increased commensurate with projected annual average rate of change. In contrast, in the case of bike lanes, shared-use paths, greenways, and recreational facilities, slow growth cities were more likely to report an intention to have an ordinance in place within 1 year if one did not exist.

DISCUSSION

The goals of this study were to further evidence-based practice through program planning and evaluation addressing policy interventions designed to promote ACEs and to enhance appropriate use of limited resources within local governments. Consistent with application of the social ecological model, which describes interactions between interpersonal and intrapersonal attributes,²⁹ toward physical activity interventions, agencies

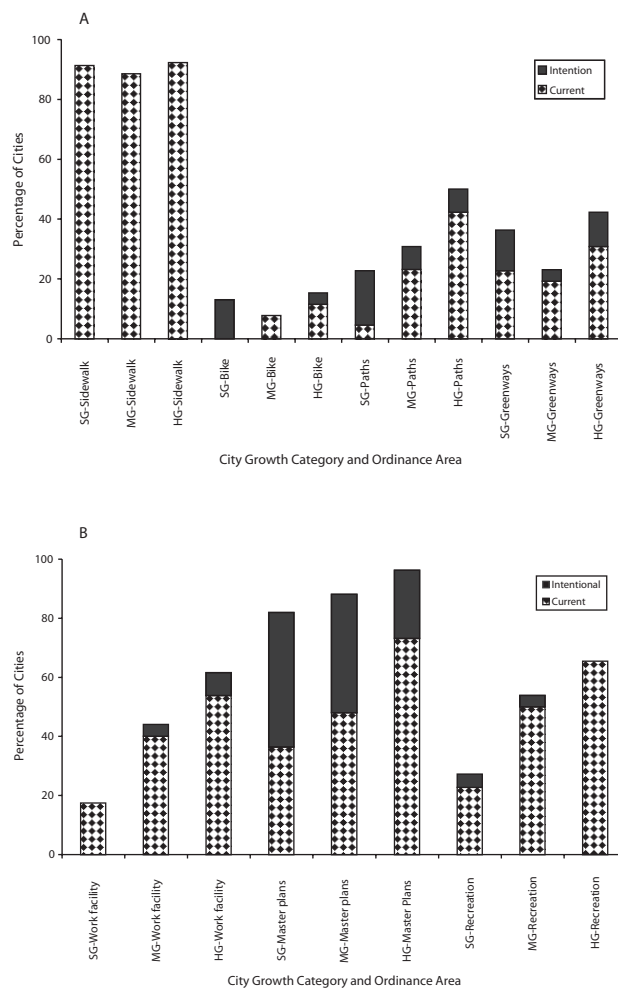


FIGURE 1—Percentages of slow (SG), medium (MG), and high (HG) growth cities with current and intended ordinances for pedestrian and bike use (A) and for physical activity infrastructure (B).



should be encouraged to implement policy interventions.^{6,8,30} Because there is a dearth of information supporting the implementation of such interventions, we sought to examine 3 policy-related issues at the local level: the kinds of municipal employees responsible for planning ACEs, prevalence rates of such policies, and cities' intentions to implement policies.

If changes are to occur in ACE-related policies, effective networks must be formed between professionals at the state and local levels.^{5,6,17,30–33} Although our respondents may not have been those who have final decisions regarding policy implementation, our results indicate ways in which to implement recent calls for transdisciplinary collaboration. We found, from our database of local government officials, that some small cities had simple staff structures for planning that involved a town clerk and a mayor. The planning structure in the large cities involved more staff, such as city administrators, city managers, city recorders, city planners, zoning administrators, parks and recreation directors, planning commissioners, and directors of community and economic development. Practitioners and evaluators will need to identify the organizational structures existing within their region.

State and local planning helps to ensure the effective allocation of limited municipal resources. In attempting to provide guidelines for resource allocation, we identified the projected growth rates of cities and stratified them accord-

ing to these rates. Descriptive statistics revealed an apparent relationship between growth rates of cities and implementation of ACE ordinances. Moreover, the data collected provide a baseline of the prevalence of ACE ordinances in Utah. We used these data to provide planning objectives for the Utah Cardiovascular Health Plan, which includes goals and objectives that provide guidance for state and local partners addressing cardiovascular disease prevention.

For example, in our preliminary analysis, we stratified cities into slow growth and high growth cities. Thirty-four percent of cities falling under our high growth category reported having ordinances for shared-use paths, and another 16% reported an intention to implement these types of ordinances within 1 year. Using these data, we outlined a specific planning objective for the Utah Cardiovascular Health Plan to increase the prevalence of multi-use path ordinances from 34% to 50% among these high growth cities through several specific policy intervention strategies.

These goals would change slightly if we focused on the top tertile of the cities described in this article as experiencing high growth. Under these conditions, the goal would be to increase the prevalence of ordinances in high growth cities from a base of 42% to 50%. Results from analyses in which cities were classified into tertiles reveal that 73% of high growth cities currently incorporate shared-use paths in their master plans, and 23% intend to

include language for shared-use paths in their plans. Thus, there is the potential to move this 73% baseline prevalence rate to 96%.

Limitations

Several limitations should be considered when interpreting our data. One limitation relates to respondent variability. We found considerable variation in types of respondents, and we are uncertain as to how this variability affected the validity of our survey. Although the alpha reliability coefficient³⁴ for our instrument was moderately high (0.71), follow-up test–retest reliability analyses are recommended to address this limitation.

A second limitation relates to the quality of the implementation of the ordinances and the specificity of those ordinances. The possibility that policies existed but had not been implemented must be considered.³⁰ An associated survey attempted to validate the existence of the environmental infrastructure, but respondents could not accurately quantify the existence of these types of environmental indicators (e.g., linear distance of bicycle lanes and sidewalks). The reason, in part, was that municipalities have not traditionally maintained accurate records of infrastructure. With the advent of geographic information systems, efforts are under way to address this limitation.

A related concern is the type of ordinance that exists. Although we specifically asked whether ordinances existed for the “building of” sidewalks, bike

lanes, shared-use paths, greenways, and recreational facilities, the specificity of these ordinances is unknown at this point. Further descriptive analyses in which actual ordinances are examined and facilities are identified through current evaluation and application of auditing methods will be necessary to discern this information.

Implications

According to emerging research and recommendations, providing more access to areas conducive to physical activity is an important policy intervention.² Although recent research has provided convincing arguments for public health practitioners, there is a dearth of evidence-based public health practice in the area of ACEs. A recent report, *Policy and Environmental Change: New Directions for Public Health*,⁶ encouraged public health professionals and organizations to address policy and environmental changes by providing data, convening interested parties, conducting needs assessments and evaluations, educating the public, and advocating for specific policy and environmental change strategies.

Our study provides information that can help public health practitioners and their partners make decisions about where their efforts may be most successful and offers insight into the particular strategies that should be used. Our results indicate that states can collect information related to the prevalence of policies related to ACEs. Such data,



which can be collected at low cost, can be used to develop objectives for community-level physical activity initiatives.³⁵ ■

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Contributors

J.J. Librett designed the study and the instrument, collected and analyzed the data, and wrote the article. M.M. Yore contributed to analyses of the data and to the writing of the article. T.L. Schmid provided expertise in policy and environmental correlates of physical activity and contributed to the development of the instrument and the writing of the article.

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