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**HTML Full Text**

The **Effect** of **Disseminating** **Evidence**-**Based** **Interventions** That **PromotePhysical** **Activity** to **Health** Departments

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**Section:**RESEARCH AND PRACTICE

**Objectives**. Weexploredthe **effect** of **disseminating** **evidence**-**based** guidelines that **promotephysical** **activity** on US **health** department organizational practices in the United States.

**Methods**. We implemented a quasi-experimental design to examine changes in the dissemination of suggested guidelines to **promote** **physical** **activity** (The Guide to Community Preventive Services) in 8 study states; the remaining states and the Virgin Islands served as the comparison group. Guidelines were disseminated through workshops, ongoing technical assistance, and the distribution of an instructional CD-ROM. The main evaluation tool was a pre- and postdis-semination survey administered to state and local **health** department staffs (baseline n = 154; follow-up n = 124).

**Results**. After guidelines were disseminated through workshops, knowledge of and skill in 11**intervention**-related characteristics increased from baseline to follow-up. Awareness-related characteristics tended to increase more among local respondents than among state participants.**Intervention** adoption and implementation showed a pattern of increase among state practitioners but findings were mixed among local respondents.

**Conclusions**. Our exploratory study provides several dissemination approaches that should be considered by practitioners as they seek to **promote** **physical** **activity** in the populations they serve. (Am J Public **Health**. 2007;97:1900-1907. doi:10.2105/AJPH.2006.090399)

Lack of **physical** **activity** is closely linked with the incidence of several chronic diseases and a lower quality of life.[ [1](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib1), [2](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib2)] There is now an array of **physical** **activity** **interventions** that have been proven to be effective across a variety of populations and geographic settings. For example, the Task Force on Community Preventive Services has produced a set of **evidence**-**based**guidelines for promoting **physical** **activity** titled The Guide to Community Preventive Services:What Works to **Promote** **Health**? (hereafter Community Guide).[ [3](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib3), [4](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib4)]

In the Community Guide, **intervention** strategies that show **evidence** of increased **physicalactivity** in targeted populations are grouped into 3 categories: ( [1](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib1)) informational approaches to change the knowledge and attitudes regarding the benefits of and opportunities for **physicalactivity** within a community among populations that state and local public **health** workers serve; ( [2](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib2)) behavioral and social approaches to teach the targeted populations the behavioral management skills necessary for successful adoption and maintenance of behavior change and for creating social environments that facilitate and enhance behavioral change; and ( [3](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib3)) environmental and policy approaches to change the structure of **physical** and organizational environments to provide safe, attractive, and convenient places for **physical** **activity**. Across these 3 categories, 8 specific **intervention** strategies were found to have sufficient or strong **evidence** of effectiveness.[ [3](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib3), [4](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib4)]

Effective **intervention** strategies, such as those in the Community Guide, can be implemented in community settings through the efforts of numerous agencies, organizations, and individuals. State and local **health** departments are key to promoting**physical** **activity** **interventions**, because of the ability to assess public **health** problems, develop appropriate programs and policies, and ensure that the programs and policies are effectively delivered and implemented.[ [5](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib5), [6](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib6)] However, data are lacking for effective methods of **disseminating** suggested **physical** **activity** **interventions** in community settings through public**health** agencies.

Even the most innovative scientific discoveries (e.g., a new and effective **intervention** strategy in the Community Guide) do not become a standard of professional practice unless targeted and sustained efforts are used to enhance their dissemination.[[7-11](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib7)] Three reviews show the limited extent to which effective **interventions** were disseminated and institutionalized. In a content analysis of 1210 articles from 12 prominent public **health** journals, Oldenburg et al.[ [12](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib12)] classified 89% of published studies as basic research and development They classified another 5% as innovation development studies, less than 1% as diffusion studies (close to our use of the term dissemination), and 5% as institutionalization studies. Similarly, Sallis et al.[ [13](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib13)] conducted a content analysis of 4 journals and found that 2% to 20% of articles fell in a category defined as "translate research to practice." A recent systematic review of 31 dissemination studies in cancer control found no strong **evidence** to recommend any 1 dissemination strategy as effective for promoting the uptake of **interventions**.[ [14](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib14)] A variety of organizational factors are likely to influence readiness to change and dissemination (e.g., resources, organizational capacity, time frame).[ [15](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib15)]

We sought to better understand the dissemination of information regarding **physical** **activity** guidelines across the United States in state and local **health** departments We focused particularly on the **evidence**-**based** guidelines in the Community Guide. We describe the extent of awareness and adoption of **evidence**-**based** **physical** **activity** guidelines in state and local public **health** departments and examine the effectiveness of active dissemination efforts among state and local public **health**practitioners.

[**METHODS Design and Sample**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

We implemented a quasi-experimental design to examine the **effect** of **disseminating** **evidence**-**based** **intervention**strategies on the promotion of **physical** **activity** in state and local **health** departments. The 8 study states were selected to reflect geographic dispersion and capacity to implement **physical** **activity** **interventions**. Capacity (i.e., existing resources, current **interventions**, policy environment) was estimated on the basis of our 2003 baseline survey.[ [16](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib16)] The target audience for dissemination efforts was public **health** practitioners (i.e., people who direct and implement population-**based** **intervention**programs in state, city, or county **health** departments, and their affiliated partners). The remaining states and the Virgin Islands served as the comparison group.

[**Dissemination Activities**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

We used 3 interrelated dissemination approaches: workshops, ongoing technical assistance, and the distribution of an instructional CD-ROM. To inform the dissemination approaches, formative research was conducted using 11 key informant interviews in February 2003 Each interview took approximately 30 minutes and was designed to gather information from opinion leaders within state **health** departments who were knowledgeable about applying data and scientific findings to **physicalactivity** programs and policies. Questions assessed sources of credible information, influences on decisionmaking, and familiarity with and uses of **evidence**-**based** **intervention** approaches such as those in the Community Guide. All interviews were taped, transcribed, and summarized.

**Workshops to promote evidence-based intervention strategies.**Eight workshops for state and local **health** departments and their partners were convened between August 2003 and March 2004. There were 200 attendees and an average of 25 attendees per workshop. Participants represented a range of professions including program managers (45%), **health** educators (23%), epidemiologists (2%), and department heads (2%).

The workshops had 6 objectives, which were organized around the framework shown in Figure 1: to help participants understand ( [1](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib1)) the burden of **physical** inactivity, ( [2](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib2)) state and local patterns of **physical** **activity**, ( [3](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib3)) basic concepts of**evidence**-**based** decisionmaking in public **health** settings, ( [4](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib4)) selected tools to enhance **evidence**-**based** practice, ( [5](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib5)) the Community Guide **physical** **activity** **interventions**, and ( [6](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib6)) how the Community Guide can be used to implement and evaluate**physical** **activity** programs and policies. In addition to hearing formal presentations, attendees participated in case study applications of **interventions**, which incorporated their experience and "real world" examples along with **intervention**strategies from the Community Guide.

**Ongoing technical assistance.**After the workshops, we offered ongoing technical assistance to the state and local **health**departments for which workshops had been conducted. Workshop attendees and others in the 8 study states could select from a list of possible technical assistance topics, including the following:

* Assistance with strategic planning that incorporated **evidence**-**based** decisionmaking regarding **physical** **activity**
* Assistance with grant writing related to **evidence**-**based** approaches for promoting **physical** **activity**
* Tuition waivers for **health** department staff members to attend our course, **Evidence**-**Based** Public **Health**[ [17](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib17)]
* Phone and e-mail consultation about effective **intervention** planning
* Guidance on how a state **health** department might best work with city and county **health** departments to disseminate Community Guide recommendations

After the workshops, additional technical assistance was provided to 6 of the 8 study states.

**Instructional CD-ROM development and distribution.**In addition to conducting in-person workshops and providing ongoing technical assistance, we created a CD-ROM that would provide background on **evidence**-**based** approaches and skills and skills to enhance adoption of the Community Guide. The CD-ROM was a mini-version of the workshop and was designed to provide additional information to state and local practitioners who were unable to attend the workshop. In addition to the project team, prominent public **health** leaders were featured on the CD-ROM, including David Satcher, Steven Blair, and William Dietz. Because key informant interviews indicated that "tools" would be helpful, the CD-ROM also featured a resource section to help viewers put the Community Guides **physical** **activity** recommendations into practice. The resources section featured the Centers for Disease Control and Prevention's evaluation handbook, slide sets, grant-related resources, selected government reports, and selected Web sites. Dissemination of the CD-ROM began in October 2004 and included 228 individuals in the 8 study**intervention** states. Recipients of the CD-ROM included workshop participants and other individuals who could help **promotephysical** **activity** in the 8 states.

[**Evaluation and Data Collection**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

According to diffusion theory, the dissemination of programs and policies usually occurs in stages.[ [18](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib18)][ [19](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib19)] We therefore adopted a 3-stage framework for our evaluation. The awareness stage included actions we took to make target audiences aware of the effective **interventions** across sites and settings.[ [20](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib20)][ [21](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib21)] The adoption and implementation stage is when we examined the workshop participants' "decision to make full use of an innovation as the best course of action available,"[ [18](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib18)] which determined whether an **evidence**-**based** intervention was to be carried out And finally, the maintenance stage is the stage wherein we measured the extent to which there were adequate resources and policy support to sustain **interventions**.

[**Evaluation Tool**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

The principal evaluation tool we used was a pro- and postdissemination survey administered to state and local **health**departments.

On the basis of our input and previous literature,[ [18](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib18)][ [19](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib19)][ [22-24](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib22)] we developed a 46-item questionnaire. First, 5 staff members who worked in **health** communication research at Saint Louis University (St. Louis, Mo) pretested the questionnaire for length, clarity, and organization. By using established methods of cognitive response testing,[ [25-27](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib25)] we obtained feedback and revised the instrument. After revision, the questionnaire underwent a second round of testing with mid- to senior-level employees of a large county **health** department. Within a 7-to 10-day period, 15 people completed the survey twice to examine test — retest properties. On the basis of these results, questions with concordance (r values) less than 0.60 were either discarded or revised. The final questionnaire included 25 questions (some with multiple parts) that covered 4 major areas:( [1](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib1)) awareness and use of the Community Guide, ( [2](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib2)) **physical** **activity** programs and priorities, ( [3](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib3)) funding and the policy environment, and ( [4](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib4)) biographical information about the respondent (the questionnaire is available at<http://prc.slu.edu/articles.htm>).

At the state level, the respondent for the survey was the **physical** **activity** program contact person in the **health** department of each state, Guam, and the Virgin Islands. These individuals were identified by using the Centers for Disease Control and Prevention's state-**based** **Physical** **Activity** Program Directory[ [28](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib28)] and through leadership information listed within the directory of the National Association of Chronic Disease Directors.[ [29](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib29)] The role of the **physical** **activity** program contact person from each state is to lead and facilitate **activities** for promoting **physical** **activity**, serve as a clearinghouse for information, and develop new initiatives. The role is a set of responsibilities rather than a specific job title.

At the local level, the National Association of City and County **Health** Officials provided a list of 510 local **health** departments in the United States with jurisdictions of 100 000 or more. The baseline survey was conducted by e-mail and fax from March through June 2003. Follow-up surveys were conducted from April to July 2005. Baseline and follow-up response rates were higher among state (baseline=94%; follow-up=98%) than among local respondents (baseline=73%; follow-up=73%).

We also evaluated participant learning at each of the 8 workshops by using an evaluation tool that was similar to the pre- and post-dissemination survey described earlier. This instrument was modeled after earlier workshops conducted by members of the project team on **evidence**-**based** public **health** and tobacco control.[ [17](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib17)][ [30](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib30)] The measures assessed attitudes regarding, as well as knowledge and uses of, **evidence**-**based** approaches.

[**Statistical Analysis**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

We conducted descriptive analyses to summarize demographic variables for state and local respondents separately. We assessed pre-to postworkshop changes in knowledge, attitudes, skills, and rates of use of **evidence**-**based** approaches by organization type (local **health** department, state **health** department, other). We evaluated change in knowledge over time for each workshop learning objective in each of these groups using a paired-sample t test. We used analysis of variance to compare the degree of change across the organization types.

We used exact logistic regressions to assess the **effect** of the **intervention** on change between baseline and follow-up in awareness, adoption and implementation of the **intervention**, and maintenance of **physical** **activity** programs. Awareness was assessed by determining whether administrators and managers were aware of the Community Guide and 7 specific modalities of that awareness (Table 1). Adoption and implementation was assessed by the occurrence of 7 **evidence**-**based** programs and whether existing programs were modified or new programs were developed. Maintenance was assessed using 4 variables that detailed staffing, executive and legislative support, and budgetary constraints. Each of these 20 variables was entered independently into a regression equation in which the time-2 value was related to **intervention** status with control for the time-1 value.

We also created 2 summary-dependent variables. The first was an **intervention** assessment (adoption) variable in which program **activity** was summed over 7 **evidence**-**based** programs and policies.[ [3](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib3)][ [4](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib4)] These represented the 8 **interventions**recommended in the Community Guide; 2 were collapsed into a single category because of their similarity (i.e., street-scale and community-scale changes in the urban planning and policy category were combined). The second summary-dependent variable was a level of awareness variable in which 7 awareness-related factors were summed. The net difference in each of these 2 measures was then calculated to create variables that assessed the pre- to post-change in the number of **interventions** and awareness, which accounted for baseline differences in **intervention** and comparison sites, using the formula:

(1) (%**intervention**-post - %**intervention**-pre) (%[sub

comparison-post] - %comparison-pre).

We used least squares linear regression to examine the association of these variables with independent measures of**intervention** status, **activity** level, relative priority of **physical** **activity** to other **health** issues, administrative support, authority, timing, funding of programs, and executive and legislative support for physical **activity** **interventions**.

[**RESULTS**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

Before and after the dissemination workshops, change scores were compared by place of employment (state **health**department local **health** department, other; Table 2). From baseline to follow-up, knowledge and favorable attitudes increased for each of 11 characteristics. Change scores were larger for local than for state **health** participants in every category except methods in understanding cost. The largest increase occurred in attitudes regarding the Community Guide.

There were 154 respondents to the baseline **health** department survey (state n=49; local n= 105; Table 3). Follow-up rates differed by group (state=98%; local=71%). Most state respondents were program managers or administrators, whereas local respondents included more division, bureau, or agency heads and "other" positions (e.g., program planner, nutritionist). State respondents were more likely than were local respondents to have a shorter tenure in their agency, to have a master's or doctorate degree, and to personally meet **physical** **activity** recommendations.

Longer-term change was assessed among state and local practitioners from the pre- to postsurveys (Table 1). Baseline awareness rates were higher among state than among local respondents. Baseline adoption and implementation rates were closer, yet percentages were consistently higher among state respondents. Although statistically significant for 2 variables (heard of recommendations in the Community Guide and attended training), awareness-related characteristics showed no consistent pattern among state participants and a pattern of increase more among local respondents.

The 7 **physical** **activity** **interventions** listed within the adoption and implementation category were those recommended as effective in the Community Guide. Adoption and implementation showed a clear pattern of increase among state practitioners with mixed findings for local respondents. The maintenance variables assessed resources, financial constraints, and political climate. Among state respondents, some maintenance variables increased and some decreased. For local participants, all maintenance variables decreased.

We also examined overall predictors of change (awareness, adoption) from baseline to follow-up with pooled state and local data (not shown). For the summary awareness score, the largest **effect** was shown for the independent variable of whether the respondent met **physical** **activity** recommendations (B=1.71 ; P=.08). When predicting whether **interventions** were adopted from baseline to follow-up, the largest **effect** was observed for whether the respondent had authority to implement**interventions** (B=0.62; P=.08).

[**DISCUSSION**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

Although there is growing **evidence** of the **effect** of clinical guidelines such as those sponsored by the US Preventive Services Task Force,[ [31-33](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib31)] compelling **evidence** for the adoption of **evidence**-**based** guidelines in community settings is lacking. Cross-sectional research from Canada suggests that organizational decisionmakers have a positive view of the usefulness of systematic reviews and that these guidelines have had a positive **effect** on public **health** practice.[ [34](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib34)]

There are a few examples of successful dissemination and institutionalization of a particular **physical** **activity** program. For example, the US Child and Adolescent Trial for Cardiovascular **Health** is a comprehensive, school-**based** **physical** **activity** and diet change **intervention** that has now been disseminated and sustained over time.[ [35](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib35)] By contrast, the goal of our study was to **promote** and sustain a wide range of **evidence**-**based** **intervention** strategies.

Our study was among the first to apply an active dissemination approach to numerous **evidence**-**based** **intervention** strategies and measure changes in awareness and adoption. Although we consider our study exploratory, several themes emerged that deserve consideration. We found that baseline awareness of the Community Guide varied greatly between state and local respondents. Our analysis of longer-term change in awareness and uses of **evidence**-**based** approaches among public **health**practitioners showed positive net increases in awareness among local **health** departments as well as adoption and implementation in state **health** agencies. However, often these changes were not statistically significant partially because of the limited number of **intervention** states. As illustrated in Table 3, our sample of practitioners indicates a higher degree of heterogeneity in job types among local than among state **health** respondents This suggests that dissemination planning may need to be. tailored differently to these audiences because one's professional role and past experiences are likely to influence the way in which **evidence** and work-related training is assimilated. Just as behavioral **interventions** are often modified according to the stage of readiness,[ [36](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib36)][ [37](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib37)] dissemination approaches also should carefully consider stages as they are developed and implemented.

We found that respondents from state **health** departments were much more likely to meet the **physical** **activity**recommendation than were those from local **health** departments (71% compared with 48% at baseline). The **activity** patterns of the people in charge of programs may influence success in implementation ("practice what we preach"). A recent study from Kansas showed that program delivery agents who were physically active were more likely to implement **physical** **activity**programs at the local level.[ [38](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib38)] Staff members who take a personal interest in **physical** **activity** may enhance uptake of effective programs and policies. Giving **physical** **activity** program coordinators adequate authority to shape priorities might also affect dissemination rates.

In cross-sectional analyses of state **health** practitioners from 2003,[ [16](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib16)] most respondents (90%) were aware of**evidence**-**based** guidelines to **promote** **physical** **activity**. However, less than half the respondents (41%) had the authority to implement **evidence**-**based** programs and policies. A minority of respondents reported receiving support from their state governor (35%) or from most of their state legislators (21%). Several key factors were correlated with the presence of**evidence**-**based** **interventions**, including ( [1](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib1)) the presence of state funding for **physical** **activity**, ( [2](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib2)) the respondent's participation in moderate **physical** **activity**, ( [3](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib3)) the presence of adequate staffing, and ( [4](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib4)) the presence of a supportive state legislature. These baseline characteristics were derived from cross-sectional analyses. Factors that influence dissemination and change over time may be different. A limitation of our longitudinal analyses was the relatively small sample size. Other limitations included the lack of comprehensive process evaluation data, difficulty determining attribution, and difficulty assessing the **effects**of other events in the 2-year period from baseline to follow-up. These events external to our study may have included educational campaigns or budget reductions, which could in part explain why some variables (e.g., maintenance measures among local respondents) showed a net decrease during the study period.

From our results and the existing dissemination literature,[ [8](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib8)][ [10](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib10)][ [39-45](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib39)] several important topics emerged:

* The need for more innovative, active approaches. Many of the dissemination approaches within the US federal **health** system are passive" and largely ineffective,[ [8](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib8)][ [14](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib14)][ [46](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib46)][ [47](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib47)] which suggests the need for more active approaches. It is unclear whether our study approach was active enough to sustain positive changes.
* The need for better adaptation to the audience. As noted in the differences between state versus local respondents, dissemination approaches need to be informed by audience analysis and adapted on the basis of the information gathered. For example, our data showed lower baseline rates of awareness and adoption of **evidence**-**based** guidelines among local practitioners. Yet, the local audience seemed to be receptive to active dissemination according to the large knowledge change scores from our workshops State versus local dissemination approaches should be targeted appropriately. Lack of **physicalactivity** is closely linked with the incidence of several chronic diseases, and the relatively low capacity for many local **health**agencies to control chronic diseases should be taken into account.[ [48](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib48)] Our study focused mainly on state and local public**health** workers; it is important to understand effective dissemination approaches among many other partners (e.g., urban planners, community advocates).
* The need for better measures. To determine the success of dissemination approaches, we need to determine reliable and valid indicators of organizational and policy change (in addition to measuring traditional, individual level endpoints such as **physicalactivity** rates).[ [49](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib49)] Furthermore, basic economic measures (cost of development, delivery, training) should be reported to help determine the economic efficiency of an **intervention** and ultimately enhance the uptake of those programs in various settings.
* Greater understanding of mediators and moderators. Little is known about the mediators (intermediate factors that lie in the causal pathway) and moderators (factors that alter the causal **effect** of an independent variable) of dissemination.[ [49-52](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib49)] If these can be better characterized, public **health** researchers will likely identify the pathways that are most promising for**interventions**.

There is a substantial body of **interventions** that effectively **promote** **physical** **activity**.[ [3](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib3)][ [4](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib4)] However, researchers and practitioners often lack the knowledge and resources to successfully implement the programs and **interventions** that are proven to be effective. If the needed public **health** **effect** from decades of **intervention** research is to be achieved, we must better understand which factors support or inhibit the uptake of effective programs and policies. Our findings suggest several dissemination approaches that should be considered by practitioners as they seek to **promote** **activity** in the populations they serve.

DIAGRAM: FIGURE 1 — Framework for a systematic approach to promoting effective **physical** **activity** programs and policies.

[**TABLE 1 — Change from Baseline to Follow-Up in the State and Local Health Department Survey of Physical Activity Programs, United States, 2003-2005**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

Legend for Chart:

A - Characteristic

B - State Respondents: Baseline Prevalence, %

C - State Respondents: Net Change,[a] %

D - State Respondents: P

E - Local Respondents: Baseline Prevalence, %

F - Local Respondents: Net Change,[a] %

G - Local Respondents: P

Awareness

A: Administrators and managers at **health** dept. are aware of the

Community Guide[b]

B: 80.5

C: 28.0

D: .635

E: 10.5

F: 6.4

G: .636

Community Guide awareness

A: Heard of recommendations in the Community Guide

B: 89.8

C: 0.0

D: …

E: 29.5

F: 28.6

G: .040

A: Read or seen materials of the Community Guide

B: 85.7

C: 0.0

D: …

E: 21.0

F: 31.6

G: .260

A: Visited Community Guide Web site

B: 68.8

C: -15.4

D: .576

E: 18.1

F: 11.5

G: .808

A: Printed materials from Web site

B: 47.9

C: -23.7

D: .272

E: 8.6

F: -2.5

G: .639

A: Attended training to learn about the Community Guide

B: 20.8

C: 39.5

D: .553

E: 1.0

F: 23.7

G: .025

A: Attended professional meeting during which the Community Guide was

discussed

B: 51.1

C: 16.5

D: >.999

E: 7.6

F: 13.6

G: .314

Adoption and implemetation

Physical **activity** **interventions** underway

A: Communitywide campaigns

B: 71.4

C: 15.1

D: >.999

E: 44.8

F: -10.7

G: .646

A: Stair-use campaigns

B: 40.8

C: 6.1

D: >.999

E: 22.9

F: -12.6

G: .607

A: School-**based** **physical** education programs

B: 73.5

C: 7.8

D: .867

E: 34.3

F: -7.8

G: .378

A: Social-support **interventions**

B: 71.4

C: 28.7

D: .112

E: 55.2

F: -9.9

G: .276

A: Individually adapted **health** behavior change

B: 61.2

C: 15.6

D: >.999

E: 42.9

F: 20.0

G: .001

A: Enhanced access and outreach programs

B: 85.7

C: 29.6

D: .884

E: 67.6

F: 23.2

G: .270

A: Urban planning and policy approaches

B: 73.5

C: 34.6

D: .132

E: 39.0

F: 17.8

G: .575

Changes occurred on the basis of the Community Guide

A: Existing programs were changed

B: 20.4

C: -0.5

D: >.999

E: 0.0

F: 12.5

G: .348

A: New programs were developed or implemented

B: 34.7

C: 9.2

D: >.999

E: 3.8

F: 21.7

G: .374

Maintenance

A: My agency's staff is adequate for developing and implementing

**physical** **activity** **interventions**

B: 14.6

C: -0.3

D: >.999

E: 14.9

F: -14.4

G: .305

A: The governor is supportive of **physical** **activity** **interventions**

B: 35.4

C: 19.6

D: .822

E: 44.6

F: -23.2

G: .074

A: Most state legislators are supportive of **physical** **activity**

**interventions**

B: 21.3

C: 34.9

D: .198

E: 15.8

F: -37.9

G: .022

A: Budget constraints have disproportionately affected programs and

staff to **promote** **physical** **activity**

B: 63.6

C: -39.9

D: .109

E: 83.8

F: -19.5

G: .627

aNet percentage change was calculated using the formula (%[sub

**intervention**-post]-%intervention-pre) - (%[sub

comparison-post]-%comparison-pre).

bThe full title is The Guide to Community Preventive Services: What

Works to **Promote** **Health**?

[**TABLE 2 — Pre- and Postassessment Changes in Knowledge or Skills From Workshops on Evidence-Based Decision-making, by Type of Agency: United States, 2003-2004**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

Legend for Chart:

A - Knowledge or Skill

B - State **Health** Department: (n=58), mean

C - State **Health** Department: P

D - Local **Health** Department: (n=55), mean

E - Local **Health** Department: P

F - Other Settings[a]: (n=80), mean

G - Other Settings[a]: P

H - Difference Between Groups

A: How to decide if an **intervention** is scientifically effective

B: 0.638

C: <.001

D: 1.061

E: <.001

F: 0.809

G: <.001

H: P=.043

A: How to decide if an **intervention** provides good economic value

B: 0.660

C: <.001

D: 0.735

E: <.001

F: 0.717

G: <.001

H: P=.915

A: How to interpret summary data from economic evaluations

B: 0.478

C: <.001

D: 0.714

E: <.001

F: 0.761

G: <.001

H: P=.254

A: How to assess advantages and challenges to using **evidence**-**based**

**interventions**

B: 0.696

C: <.001

D: 1.208

E: <.001

F: 0.711

G: <.001

H: P=.013

A: How to assess advantages and challenges to using economic evaluation

data

B: 0.698

C: <.001

D: 1.143

E: <.001

F: 0.622

G: <.001

H: P=.008

A: How to understand methods used to estimate the cost of an

**intervention**

B: 0.543

C: <.001

D: 0.531

E: <.001

F: 0.422

G: .003

H: P=.789

A: How to understand methods used to compare the costs and **health**

outcomes of an **intervention**

B: 0.630

C: <.001

D: 0.755

E: <.001

F: 0.644

G: <.001

H: P=.818

A: Where to find **evidence**-**based** **physical** **activity** **interventions**

B: 0.870

C: <.001

D: 1.500

E: <.001

F: 1.364

G: <.001

H: P=.015

A: Awareness of the Guide to Community Preventive Services: What Works

to **Promote** **Health**?

B: 1.087

C: <.001

D: 1.8337

E: <.001

F: 1.977

G: <.001

H: P=.002

A: Awareness of **Physical** Activity and **Health**: A Report of the Surgeon

General

B: 0.533

C: .003

D: 0.653

E: <.001

F: 0.696

G: <.001

H: P=.767

A: Awareness of the Guide to Clinical Preventive Services

B: 0.844

C: <.001

D: 1.367

E: <.001

F: 1.227

G: <.001

H: P=.097

Note. Value is the change in the mean value from pre- to

postassessment, on the basis of a 5-point Likert scale.

aOther settings include **health** coalitions, voluntary **health** agencies,

schools, and private businesses.

[**TABLE 3 — Characteristics of Participants In the State and Local Health Department Survey of Physical Activity Programs: United States, 2003-2005**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

Legend for Chart:

A - Characteristic

B - State Respondents: Baseline, %

C - State Respondents: Follow-Up, %

D - Local Respondents: Baseline, %

E - Local Respondents: Follow-Up, %

A: Total sample, no.

B: 49

C: 48

D: 105

E: 74

Job title

A: Program manager or administrator

B: 60.4

C: 60.4

D: 34.3

E: 40.5

A: **Health** educator

B: 14.6

C: 22.9

D: 9.5

E: 18.9

A: Program planner

B: 8.3

C: 6.3

D: 1.0

E: 4.1

A: Division or bureau head

B: 6.3

C: 2.1

D: 33.4

E: 21.6

A: Other

B: 10.4

C: 8.3

D: 21.9

E: 14.9

Years working for **health** department

A: <2

B: 16.3

C: 19.1

D: 13.3

E: 6.8

A: 2-4

B: 30.6

C: 29.8

D: 18.1

E: 18.9

A: 5-9

B: 14.3

C: 17.0

D: 20.0

E: 27.0

A: ≥10

B: 38.8

C: 34.0

D: 48.6

E: 47.3

Highest degree held

A: BS or BA

B: 33.3

C: 21.3

D: 27.9

E: 34.2

A: MS

B: 12.5

C: 31.9

D: 13.5

E: 19.2

A: MPH or MSPH

B: 18.8

C: 21.3

D: 12.5

E: 15.1

A: Other master's degree

B: 27.1

C: 21.3

D: 23.1

E: 19.2

A: PhD

B: 6.3

C: 2.1

D: 2.9

E: 2.7

A: Other

B: 2.1

C: 2.1

D: 20.2

E: 9.6

Meets **physical** **activity** recommendation[a]

A: Yes

B: 71.4

C: 77.1

D: 47.6

E: 52.7

A: No

B: 28.6

C: 22.9

D: 52.4

E: 47.3

aObtaining moderate **physical** **activity** 5 or more time per week, 30 min

or more per day.

[**References**](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#toc)

[*1.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib1up)***Physical******Activity****and****Health****. A Report of the Surgeon General, Atlanta, Ga: US Department of****Health****and Human Services, Centers for Disease Control and Prevention; 1996.*

[*2.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib2up)*Zaza S, Briss PA, Harris KW, eds. The Guide to Community Preventive Services: What Works to****Promote******Health****? New York, NY: Oxford University Press; 2005.*

[*3.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib3up)*Heath GW, Brownson RC, Kruger J, et al. The effectiveness of urban design and land use and transport policies and practices to increase****physical******activity****: a systematic review. J Phys Ac****Health****. 2006;3(suppl 1): S55-S76.*

[*4.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib4up)*Kahn EB, Ramsey LT, Brownson RC, et al. The effectiveness of****interventions****to increase****physical******activity****. A systematic review. Am J Prev Med. 2002;22:73-107.*

[*5.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib5up)*Institute of Medicine. The Future of the Public's****Health****in the 21st Century. Washington, DC: National Academies Press; 2003.*

[*6.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib6up)*Institute of Medicine. The Future of Public****Health****Washington, DC: National Academy Press; 1988.*

[*7.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib7up)*Community****Intervention****Trial for Smoking Cessation (COMMIT): I. cohort results from a four-year community****intervention****.Am J Public****Health****. 1995;85:183-192.*

[*8.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib8up)*Bero LA, Grilli R, Grimshaw JM, Harvey E, Oxman AD, Thomson MA. Closing the gap between research and practice: an overview of systematic reviews of****interventions****to****promote****the implementation of research findings. The Cochrane Effective Practice and Organization of Care Review Group. BMJ. 1998;317:465-468.*

[*9.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib9up)*Briss PA, Brownson RC, Fielding JE, Zaza S. Developing and using the Guide to Community Preventive Services: lessons learned about****evidence****-****based****public****health****. Annu Rev Public****Health****. 2004;25:281-302.*

[*10.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib10up)*Brownson RC, Kreuter MW, Arlington BA, True WR. Translating scientific discoveries into public****health****action: how can schools of public****health****move us forward? Public****Health****Rep. 2006;121:97-103.*

[*11.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib11up)*Kerner J, Rimer B, Emmons K. Introduction to the special section on dissemination: dissemination research and research dissemination: how can we close the gap?****Health****Psychol. 2005;24:443-446.*

[*12.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib12up)*Oldenburg BF, Sallis JF, French ML, Owen N.****Health****promotion research and the diffusion and institutionalization of****interventions****.****Health****Educ Res. 1999;14:121-130.*

[*13.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib13up)*Sallis JF, Owen N. Fotheringham MJ. Behavioral epidemiology: a systematic framework lo classify phases of research on****health****promotion and disease prevention. Ann Behav Med. 2000;22:294-298.*

[*14.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib14up)*Ellis P, Robinson P, Ciliska D, et al. A systematic review of studies evaluating diffusion and dissemination of selected cancer control****interventions****.****Health****Psychol 2005;24:488-500.*

[*15.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib15up)*McLean S, Feather J, Butler-Jones D. Building****Health****Promotion Capacity: Action for Learning, Learning from Action.Vancouver: University of British Columbia Press: 2005.*

[*16.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib16up)*Brownson RC, Ballew P, Dieffenderfer B, et al.****Evidence****-****based******interventions****to****promote******physical******activity****. What contributes to dissemination by state****health****departments. Am J Prev Med. 2007;33(suppl 1):S66-S78.*

[*17.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib17up)*Brownson RC, Baker EA, Leet TL, Gillespie KN.****Evidence****-****Based****Public****Health****. New York, NY: Oxford University Press; 2003.*

[*18.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib18up)*Rogers EM. Diffusion of Innovations. 5th ed. New York, NY: Free Press; 2003.*

[*19.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib19up)*Steckler A, Goodman RM, McLeroy KR, Davis S, Koch G. Measuring the diffusion of innovative****health****promotion programs.Am J****Health****Promot. 1992;6:214-224*

[*20.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib20up)*Kar SB. Implications of diffusion research for planned change. Int J****Health****Educ. 1976;17:192-220.*

[*21.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib21up)*McCormick LK, Steckler AB, McLeroy KR. Diffusion of innovations in schools: a study of adoption and I implementation of school-****based****tobacco prevention curricula. Am J****Health****Promot. 1995;9:210-219.*

[*22.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib22up)*Brink SG, Basen-Engquist KM, O'Hara-Tompkins NM, Parcel GS, Gottlieb NH, Lovato CY. Diffusion of an effective tobacco prevention program. Part I: Evaluation of the dissemination phase.****Health****Educ Res. 1995;10:283-295.*

[*23.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib23up)*Parcel GS, O'Hara-Tompkins NM, Harrist RB, et al. Diffusion of on effective tobacco prevention program. Part II: Evaluation of the adoption phase.****Health****Educ Res. 1995;10:297-307.*

[*24.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib24up)*Riley BL. Dissemination of heart****health****promotion in the Ontario Public****Health****System: 1989-1999.****Health****Educ Res.2003;18:15-31.*

[*25.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib25up)*Forsyth BH, Lessler JT. Cognitive laboratory methods: a taxonomy. In: Biemer PP, Groves RM, Lyberg LE, Mathiowetz NA, Sudman S, eds Measurement Errors in Surveys. New York, NY: Wiley-Interscience, 1991:395-418.*

[*26.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib26up)*Jobe JB, Mingay DJ. Cognitive research improves questionnaires. Am J Public****Health****. 1989;79:1053-1055.*

[*27.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib27up)*Jobe JB, Mingay DJ. Cognitive laboratory approach to designing questionnaires for surveys of the elderly. Public****Health****Hep.1990;105:518-524.*

[*28.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib28up)*Centers for Disease Control and Prevention. State-****based******Physical******Activity****Program Directory Available at:<http://apps.nccd.cdc.gov.ezp.waldenulibrary.org/DNPAProg>. Accessed August 1, 2006.*

[*29.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib29up)*National Association of Chronic Disease Directors. Promoting****Health****Preventing Disease. Available at:[http://www.chronicdisease.org](http://www.chronicdisease.org/). Accessed August 1, 2006.*

[*30.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib30up)*O'Neall MA, Brownson RC. Teaching****evidence****-****based****public****health****to public****health****practitioners. Ann Epidemiol.2005;15:540-544.*

[*31.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib31up)*Harris RP, Helfand M, Woolf SH, et al. Current methods of the US Preventive Services Task Force. A review of the process.Am J Prev Med. 2001;20:21-35.*

[*32.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib32up)*Lawrence RS. Diffusion of the US Preventive Services Task Force recommendations into practice. J Gen Intern Med.1990;5(suppl 5):S99-S103.*

[*33.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib33up)*Woolf SH, DiGuiseppi CG, Atkins D, Kamerow DB. Developing****evidence****-****based****clinical practice guidelines: lessons learned by the US Preventive Services Task Force. Annu Rev Public****Health****1996;17:511-538.*

[*34.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib34up)*Dobbins M, Thomas H, O'Brien MA, Duggan M. Use of systematic reviews in the development of new provincial public****health****policies in Ontario. Int J Technol Assess****Health****Care. 2004;20:399-404.*

[*35.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib35up)*Hoelscher DM, Feldman HA, Johnson CC, et al. School-****based******health****education programs can be maintained over time:results from the CATCH Institutionalization study. Prev Med. 2004;38:594-606.*

[*36.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib36up)*Prochaska JO, Diclemente CC. States and processes of self-change in smoking: toward an integrative model of change. J Consult Clinical Psychol. 1983;51:390-395.*

[*37.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib37up)*Prochaska JO, Velicer WF. The Transtheoretical Model of****health****behavior change. Am J****Health****Promot. 1997;12:38-48.*

[*38.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib38up)*Estabrooks P, Bradshaw M, Fox E, Berg J. Dzewaltowski DA. The relationships between delivery agents'****physical******activity****level and the likelihood of implementing a****physical******activity****program. Am J****Health****Promot. 2004;18:350-353.*

[*39.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib39up)*Glasgow RE, Klesges LM, Dzewaltowski DA, Bull SS, Estabrooks P. The future of****health****behavior change research: what is needed to improve translation of research into****health****promotion practice? Ann Behav Med. 2004;27:3-12.*

[*40.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib40up)*Glasgow RE, Marcus AC, Bull SS, Wilson KM.****Disseminating****effective cancer screening****interventions****. Cancer.2004;101:1239-1250.*

[*41.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib41up)*Granados A, Jonsson E, Banta HD, et al EURASSESS Project subgroup report on dissemination and impact. Int J Technol Assess****Health****Care 1997;13:220-286.*

[*42.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib42up)*Johnson JL, Green LW, Prankish CJ, MacLean DR, Stachenko S. A dissemination research agenda to strengthen****health****promotion and disease prevention. Can J Public****Health****. 1996;87(suppl 2):S5-S10.*

[*43.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib43up)*Kerner JF, Guirguis-Blake J, Hennessy KD, et al. Translating research into improved outcomes in comprehensive cancer control. Cancer Causes Control. 2005;16(suppl 1):S27-S40.*

[*44.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib44up)*Redman S. Towards a research strategy to support public****health****programs for behaviour change. Aust N Z J Public****Health****.1996;20:352-358.*

[*45.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib45up)*Brownson RC, Haire-Joshu D, Luke DA, Shaping the context of****health****: a review of environmental and policy approaches in the prevention of chronic diseases. Annu Rev Public****Health****. 2006;27:341-370.*

[*46.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib46up)*Patterson RE, Kristal AR, Biener L, et al. Durability and diffusion of the nutrition****intervention****in the Working Well Trial. Prev Med. 1998;27:668-673.*

[*47.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib47up)*Sorensen G, Thompson B, Basen-Engquist K, et al. Durability, dissemination, and institutionalization of worksite tobacco control programs: results from the Working Well Trial. Int J Behav Med 1998;5:335-351.*

[*48.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib48up)*Frieden TR. Asleep at the switch: local public****health****and chronic disease. Am J Public****Health****2004;94:2059-2061.*

[*49.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib49up)*Rabin BA, Brownson RC, Kerner JF, Glasgow RE. Methodological challenges in disseminating****evidence****-****based******interventions****to****promote******physical******activity****. Am J Prev Med. 2006;31 (suppl 4):S24-S34.*

[*50.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib50up)*Bauman AC, Sallis JF, Dzewaltowski DA, Owen N. Toward a better understanding of the influences on****physical******activity****: the role of determinants, correlates, causal variables, mediators, moderators, and confounders. Am J Prev Med. 2002;23(suppl 2):5-14.*

[*51.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib51up)*Glasgow RK, Klesges LM, Dzewaltowski DA, Estabrooks PA, Vogt TM. Evaluating the impact of****health****promotion programs:using the RE-AIM framework to form summary measures for decision making involving complex issues.****Health****Educ Res.2006;21:688-694.*

[*52.*](http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?vid=9&hid=11&sid=e88631fb-13c1-48b7-809e-007753ca93a5%40sessionmgr12&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib52up)*Kraemer HC, Stice E, Kazdin A, Offord D, Kupfer D. How do risk factors work together? Mediators, moderators, and independent, overlapping, and proxy risk factors. Am J Psychiatry. 2001;158:848-856.*

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