

Local Public Health Departments in California: Changing Nutrition and Physical Activity Environments for Obesity Prevention

Liz Schwarte, Sarah E. Samuels, Maria Boyle, Sarah E. Clark, George Flores, and Bob Prentice

The purpose of this research was to assess California public health departments capacity, practices, and resources for changing nutrition and physical activity environments for obesity prevention. The researchers surveyed key public health department personnel representing all 61 health departments in California using a Web-based survey tool. The response rate for the survey was 62 percent. This represented a 93 percent health department response rate. Analysis was conducted on the individual respondent and public health department levels and stratified by metropolitan statistical area and foundation-funded versus not foundation-funded. Public health departments are engaged in obesity prevention including environmental and policy change approaches. The majority of respondents stated that monitoring obesity rates and providing leadership for obesity prevention are important roles for public health. Health departments are involved in advocacy for healthier eating and/or physical activity in school environments and the development and monitoring of city/county policies to improve the food and/or physical activity environments. Funding and staff skill may influence the degree of public health department engagement in obesity prevention. A majority of respondents rate their staffing capacity for improving nutrition and physical activity environments as inadequate. Access to flexible foundation funding may influence how public health departments engage in obesity prevention.

KEY WORDS: chronic disease prevention, local health departments, nutrition and physical activity, obesity prevention

This article summarizes findings from the Public Health Departments and Obesity Prevention Survey

that assessed California public health departments' capacity, practices, resources, and opportunities for changing nutrition and physical activity environments for obesity prevention. The research was funded by The California Endowment.

● Background

Changing public health department practice

Public health departments have an important role to play in obesity prevention and are potential leaders in promoting place-based, environmental change efforts.

This work was funded by The California Endowment.

The authors would like to express their gratitude to the following individuals who have made contributions to this research: Sarah Stone-Francisco, Dr Jennifer Poirier, Bina Patel, and Steven Gelber; and to Dr Antronette Yancey for her review.

Corresponding Author: Sarah E. Samuels, DrPH, Samuels & Associates, 1222 Preservation Pkwy, Oakland, CA 94612 (sarah@samuelsandassociates.com).

Liz Schwarte, MPH, is Senior Associate, Samuels & Associates, Oakland, California. She provides research, evaluation, and strategic planning services to foundations, universities, health departments, and nonprofit organizations. Her current evaluation projects include The California Endowment's Healthy Eating, Active Communities program and the Central California Regional Obesity Prevention Program.

Sarah E. Samuels, DrPH, is President, Samuels & Associates, Oakland, California. She serves on the steering committees of California Project LEAN, Network for a Healthy California, Strategic Alliance to Promote Healthy Food and Physical Activity Environments, and on the board of California Food Policy Advocates.

Maria Boyle, MS, RD, is Associate, Samuels & Associates, Oakland, California. Maria specializes in development and evaluation of maternal and child health, and food and nutrition programs and policies.

Sarah E. Clark, BA, is Former Research Assistant, Samuels & Associates, Oakland, California.

George Flores, MD, MPH, is Senior Program Officer, The California Endowment's Healthy Communities/Disparities in Health Program, Oakland, California.

Bob Prentice, PhD, is Director, Bay Area Regional Health Inequities Initiative (BARHII) and Senior Associate, Public Health Policy & Practice, Public Health Institute, Oakland, California.

As guardians of the public's health, local public health departments are charged with protecting and promoting the health and well-being of populations and assuring conditions in which people can be healthy.^{1,2} Their institutional stability, knowledge of local conditions, and ability to partner with diverse stakeholders provides them with a vantage point in addressing health disparities.³ In recent years, the public health field has seen a growing interest in the environmental factors that influence health as an essential complement to clinical services.

The public health mandate to protect the public's health has expanded beyond responsibilities such as communicable disease control to include chronic disease prevention and addressing health disparities. According to a national profile of local health departments conducted in 2005 by the National Association of County and City Health Officials, 56 percent of local health departments provide obesity prevention services.⁴ It is not known, however, how focused these obesity prevention services are on environmental strategies over more traditional obesity prevention strategies such as health education and case management. Many health departments are still organized and staffed to deliver services that focus on prevention largely concentrated on individual education.

On the basis of recent research and interventions, it appears that dietary habits and physical activity levels are influenced by a wide variety of environmental factors,⁵ including increasing portion sizes,^{6–10} increasing availability and consumption of fast food and soft drinks,^{11–19} availability of soda and unhealthy food on school campuses and in workplaces,^{20–28} poor physical activity infrastructures in schools and communities,^{20,29–36} limited access to healthy foods and ready availability of unhealthy foods,^{37–42} and disproportionate advertising of low nutrient-dense foods.^{21,43–45}

To combat obesity and overweight and their health sequelae, health departments will need to address the social determinants of health by helping transform the environments that people live in. In California, local health departments are moving beyond activities such as nutrition education to work with community-based organizations, school districts, and other governmental partners to create healthy eating and physical activity environments.⁴⁶

Categorical funding streams have resulted in health departments organized around categorical programs, with chronic disease prevention programs such as nutrition, physical activity, and tobacco control housed in different organizational subdivisions.^{47–54} Changing nutrition and physical activity environments for obesity prevention requires new organizational and workforce capacities within the health department, includ-

ing workforce skill in areas such as policy change, land use and transportation planning, the ability to partner with and mobilize a diverse array of community and institutional partners, the capacity to collect and report local data to the community and public officials, and funding and infrastructure to support these activities. New policy strategies such as the elimination of trans fats require environmental health inspections to monitor adherence. A precedent for this approach was established with environmental health enforcement of no smoking ordinances, a major shift in the role of environmental health.

In California, programs such as Healthy Eating, Active Communities, the Central California Regional Obesity Prevention Program, and the Public Health Department Mini-Grant Program, all funded by The California Endowment,⁵⁵ provide flexible resources to health departments and their community partners for environmental and policy change activities for obesity prevention. These programs include technical assistance components to strengthen the capacity of health departments to engage in the areas of internal organizational capacity building, collaboration, and leadership in obesity prevention for the field of public health. At the national level, Kaiser Permanente,⁵⁶ the Robert Wood Johnson Foundation,⁵⁷ W. K. Kellogg Foundation,⁵⁸ and other foundations have invested in comprehensive environmental approaches to childhood obesity prevention.

● Methods

Respondent population

The Public Health Departments and Obesity Prevention Survey was sent to key personnel in California's 61 county and city health departments, including the public health director, health officer, nutrition services managers, and a chronic disease director if the health department had this position. These professional groups were selected because of the pivotal role they play in the health department in addressing obesity prevention. We sought responses from a variety of professionals to gather diverse perspectives on obesity prevention practices in the health department. California statute mandates that all 61 local health departments have a physician health officer. In some instances, the health officer is also the public health director, an administrative position. In many jurisdictions, they are separate. The survey attempted to encompass the range of local variation in how the combined responsibilities are fulfilled. Respondents were identified through their membership in professional public health associations, through Internet searches and phone calls by the researchers.

Measures—survey questions

The Public Health Departments and Obesity Prevention Survey questionnaire was developed by Samuels & Associates, in collaboration with the Partnership for the Public's Health, Public Health Institute and The California Endowment. The questions aimed to identify public health practices, opportunities, strategies, and barriers for public health department engagement in changing nutrition and physical activity environments and explore the impact of foundation-funded programs such as Healthy Eating, Active Communities and the Central California Regional Obesity Prevention Program in enhancing health departments' environmental change work. The survey design drew on the expertise of public health leaders including representatives from local public health, professional public health associations, and the California Department of Health Services.

Members of the research team and three current or former public health department directors and/or health officers were asked to review the survey for ease of completion and question clarity. Institutional review board review was not sought because the focus of the research is to gain generalizable knowledge of institutions and is not intended to produce knowledge about any particular individual or group of individuals.

Data collection

The survey was conducted in Survey Monkey, a Web-based survey tool. In January 2007, the researchers sent an e-mail through Survey Monkey to 157 selected public health department personnel representing all 61 health departments in California, containing a link to the survey and also a letter from Dr Mark Horton (California State Public Health Officer) encouraging participation in the survey. Over the next 2 months, the researchers sent five e-mail reminders to the individuals who had not yet responded. In some cases, the survey was forwarded by the original respondent to a person within the same health department who could complete the survey in his/her stead. During the course of the data collection, additional personnel were also recommended to the researchers by the original respondents and were added to the Survey Monkey e-mail list. In total, 182 individuals were invited to participate in the survey.

In addition, toward the end of the data collection period, four health departments were identified for which there were no respondents. To capture perspectives from all of California's diverse public health departments, the researchers sent individual e-mails with links to the survey and made follow-up phone calls to nonrespondents from these four health departments. The survey was closed in April 2007.

The survey contained 27 items and included dichotomous and multiple-choice questions, rating scales, and open-ended questions. The survey took approximately 15 minutes to complete. Respondents were assured of the confidentiality of their responses.

Data analysis

The responses were exported from Survey Monkey in Microsoft Excel format and transferred into SPSS for analysis. Analysis was conducted on both the individual respondent and public health department levels. To conduct the public health department level analysis, the researchers aggregated the individual respondents' answers for certain questions; if at least one respondent from each public health department answered in the affirmative to the question, an affirmative response was assigned to the health department. For example, if at least one person in the public health department responded that the health department received WIC (Special Supplemental Nutrition Program for women, infants, and children) funding, the public health department was noted as receiving WIC funding.

Analyses by the size of the population served by the health department were conducted on the basis of an urbanization classification system developed by the National Center for Health Statistics at the Centers for Disease Control and Prevention.⁵⁹⁻⁶¹ The researchers adapted the classification scheme and stratified the health departments participating in the survey into large metro, medium/small metro, or non-metro health departments. The classification scheme takes into account population size and density of core areas, as well as the integration of outlying areas.

For analysis on the individual level, the responses were stratified by position within the public health department (public health director/health officer, nutrition services, or other) and by metropolitan statistical area (large, medium/small, or nonmetro). For analysis on the public health department level, the responses were stratified by foundation-funded versus not foundation-funded and by the size of the population served by the health department. Cross tabulations were then computed for each survey question by each of these stratifications.

The number of individuals surveyed within each health department ranged from 1 to 10, and was typically (median and mode) 3. The number of respondents per health department ranged from 0 to 6, and was typically (median and mode) 2.

A small percentage of respondents did not complete the survey in its entirety. The researchers included their responses in the questions they completed, but excluded them from the remaining questions. The total

response rate per question therefore decreases as the survey progresses.

● Results

Response rate

The individual completion rate for the survey was 62 percent (115 respondents out of a population of 182). However, this represented a 93 percent health department response rate. In 57 of California's 61 health departments, at least one respondent responded to the survey. In 81 percent of those health departments (46 of 57), either the health officer or the public health director, or both, responded to the survey. In some of California's health departments, the positions of health officer and public health director are held by the same person. On the survey, respondents were asked to self-identify as either position.

Respondent demographics

Thirty-seven percent of responders self-identified as nutrition services. This included nutrition and WIC directors and managers, and other nutrition services personnel. Thirty percent self-identified as the public health director, and 21 percent self-identified as the health officer. The remaining participants self-identified as the chronic disease director (4%), other director/manager (7%), or other staff (3%).

Chi-square analyses were conducted to examine any potential differences between responders and nonresponders at both the individual and public health department levels. Attributes examined included the size

of the population served by the health department (for both individuals and public health departments), whether the public health department that an individual worked at had foundation funding or not, and type of position an individual held.

There were no notable differences in any of the comparisons, with one exception: those who responded were more likely to be in nutrition services than those who did not ($\chi^2_{1,N=185} = 3.775, P = .052$).

Important roles for public health department in obesity prevention

Table 1 shows the roles of the health department indicated by respondents as "important" roles in obesity prevention. More than eighty percent of respondents stated that "increasing community awareness of obesity prevention" and "increasing community awareness of disparities in access to healthy eating and physical activity environments" are important roles for the public health department in preventing obesity. More than 70 percent of respondents felt that assessing and monitoring obesity rates, acting as a bridge across organizations or providing leadership for community stakeholders around obesity prevention were "important" roles for public health.

Taking the lead on obesity prevention and obesity/chronic disease prevention plans

Eighty-three percent of health departments responding to the survey have an individual or a unit taking the lead on obesity prevention (Table 2). When comparing

TABLE 1 ● Important roles for public health departments in obesity prevention

Role of public health department	Total responses (n = 115), %
Increase community awareness about obesity prevention.	87.0
Increase community awareness about disparities in access to healthy eating and physical activity environments.	80.9
Provide leadership for community stakeholders around obesity prevention.	77.4
Act as a bridge across various agencies around obesity prevention.	73.0
Assess and monitor rates of community obesity.	72.2
Establish partnerships with the city/county planners to influence the built environment.	67.8
Be actively involved in other advocacy and influence policy efforts.	67.0
Use local media to provide obesity prevention messages.	66.1
Participate in school policy development around food and physical activity.	60.9
Partner with business to improve nutrition and physical activity environments.	57.4
Promote improvements in worksite nutrition and physical activity environments.	55.7
Participate in neighborhood policy development around food and physical activity.	54.8
Increase participation in Food Stamps and Child Nutrition programs to increase food security.	49.6
Provide or develop financial resources for community obesity prevention.	27.0

TABLE 2 • Individual or division coordinating or taking the lead on obesity prevention; obesity and/or chronic disease prevention plans; internal organizational nutrition and physical activity policies in health departments

	Foundation-funded (n = 26), %	Nonfoundation funded (n = 28), %	Total public health departments (n = 54), %	
Individual or division taking the lead	92.3	75.0	83.3	
Obesity and/or chronic disease prevention plan	57.7	7.1	31.5	
Internal nutrition policy	57.7	25.0	40.7	
Internal physical activity policy	46.2	17.9	31.5	
Other programs/policies	88.5	53.6	70.4	
	Large metro (n = 18), %	Medium/small metro (n = 19), %	Nonmetro (n = 17), %	Total public health departments (n = 54), %
Individual or division taking the lead	83.3	94.7	70.6	83.3
Obesity and/or chronic disease prevention plan	50.0	42.1	0.0	31.5
Internal nutrition policy	55.6	47.4	17.6	40.7
Internal physical activity policy	44.4	31.6	17.6	31.5
Other programs/policies	88.9	68.4	52.9	70.4

health departments that receive foundation funding to those that do not, 92 percent of health departments that receive funding from a foundation have an individual or a unit taking the lead on obesity prevention, compared to 75 percent of health departments not funded by foundations. Ninety-five percent of medium/small metro health departments had an individual or unit taking the lead on obesity prevention, followed by large metro and nonmetro health departments at 83 percent and 71 percent, respectively (Table 2). Units taking the lead in health departments on obesity prevention included health education, chronic disease, nutrition, and WIC.

Obesity/chronic disease prevention plans

Fifty-eight percent of health departments that received foundation funding have an obesity and/or chronic disease prevention plan compared to seven percent of health departments that do not receive foundation funding (Table 2). Half of large metro health departments and 42 percent of medium/small metro health departments have an obesity/chronic disease prevention plan compared to 0 percent of nonmetro health departments (Table 2).

Organizational nutrition and physical activity policies

As presented in Table 2, 41 percent of health departments have an internal organizational nutrition policy and 32 percent of health departments have an internal physical activity policy. Foundation-funded health departments are more likely to have both nutrition (58% vs 25%) and physical activity policies (46% vs 18%) than health departments that do not receive founda-

tion funding for changing nutrition and physical activity environments.

The proportion of health departments with institutional physical activity or nutrition policies increased with the size of the population served by the health department. Eighteen percent of nonmetro health departments have a nutrition policy compared to 56 percent of large metro health departments, and 18 percent of nonmetro health departments have a nutrition and physical activity policy compared to 44 percent of large metro health departments (Table 2).

Seventy percent of health departments also have other programs or policies that encourage employees to engage in physical activity during or outside work hours (eg, wellness programs, fitness club memberships, walking clubs). Foundation-funded health departments were more likely to offer other policies/programs (89% vs 54%) than health departments that do not receive foundation funding. (Table 2) Eighty-nine percent of large metro health departments offer other policies/programs compared to 53 percent of nonmetro health departments. (Table 2)

Most frequently cited funding sources supporting health departments in obesity prevention

As shown in Table 3, 72 percent of health departments report using WIC funding for changing nutrition and physical activity environments for obesity prevention, followed by realignment funding. More than half of health departments support these activities with funding from the US Department of Agriculture (USDA)-funded California Nutrition Network (now Network for a Healthy California) or Title V-MCAH (Maternal, Child and Adolescent Health) funding. Nearly half of

TABLE 3 ● Most frequently cited funding sources for changing nutrition and physical activity environments for obesity prevention

Funding source ^a	Total public health departments (<i>n</i> = 54), %	Foundation-funded health departments (<i>n</i> = 26), %	Nonfoundation-funded health departments (<i>n</i> = 28), %
Nonfoundation funding sources			
Women, infants, and children	72.2	84.6	60.7
Realignment ^b	68.5	65.4	71.4
California Nutrition Network/5-A-Day	57.4	80.8	35.7
Title V (MCAH)	55.6	65.4	46.4
Local general fund	37.0	57.7	17.9
Title XIX plus match (MCAH)	33.3	38.5	28.6
California Project LEAN	27.8	42.3	14.3
CX ³ pilot site	13.0	23.1	3.6
Center for Physical Activity	13.0	26.9	0.0
Centers for Disease Control and Prevention categorical funding	3.7	3.8	3.6
Steps to a Healthier US	3.7	3.8	3.6
None	5.6	0.0	10.7
Foundation funding sources			
Healthy Eating, Active Communities (TCE)	14.8	30.8	...
Central California Regional Obesity Prevention Program (TCE)	11.1	23.1	...
Healthy Eating Active Living (Kaiser Permanente)	18.5	38.5	...
Active Living by Design (Robert Wood Johnson Foundation)	7.4	15.4	...
Other foundation funding	22.2	46.2	...

Abbreviations: MCAH, Maternal, Child and Adolescent Health; TCE, The California Endowment.

^aSee "Appendix" for descriptions of selected nonfoundation and foundation-funding sources.

^bIn California, realignment refers to funding from the transfer of program responsibility and revenue sources for sales tax and vehicle license fees from the state to counties.

health departments receive foundation funding for obesity prevention.

Health departments that receive foundation funding are more likely to utilize WIC, California Nutrition Network, Title V-MCAH, and local general fund funding sources for changing nutrition environments for obesity prevention than health departments that do not receive foundation funding for these activities. (Table 3)

Large metro health departments were more likely to have foundation funding for changing nutrition and physical activity environments for obesity prevention than health departments serving smaller jurisdictions. Seventy-eight percent of large metro health departments use foundation funding to support these activities compared to 53 percent of medium/small metro health departments and 12 percent of nonmetro health departments.

Staffing capacity and workforce skills for improving nutrition and physical activity environments

Seventy percent of respondents rate their current staffing capacity for improving nutrition and physical activity environments as "fair," "not very good," or "nonexistent."

As shown in Table 4, 69 percent of respondents stated that their health department needs staff capacity or expertise in urban transportation and planning. Forty-nine percent of respondents reported needing staff skill in the area of physical activity, and 45 percent of respondents need skill in the area of policy development. Respondents in nonmetro health departments were more likely to need workforce skill in 9 of 10 areas when compared to large metro and medium/small health departments. In the area of urban transportation/planning, nearly 80 percent of both medium/small and nonmetro health departments reported needed workforce skill.

Health department involvement in advocacy and policy change for improving nutrition and physical activity environments

Public health departments are engaged in a variety of advocacy and policy change activities for nutrition and physical activity environments, including advocacy for healthier school environments (76%) and work-site environments (74%) (Table 5). Seventy percent of health departments are providing support for and/or involved in monitoring of city/county policies to improve nutrition and/or physical activity environments. Health departments are less likely to be engaged in

TABLE 4 ● Workforce skills needed for changing nutrition and physical activity environments for obesity prevention

Capacity	Total responses (n = 104), %	Large metro (n = 41), %	Medium/small metro (n = 39), %	Nonmetro (n = 24), %
Urban planning/community design/transportation planning	69.2	53.7	79.5	79.2
Physical activity	49.0	39.0	35.9	87.5
Policy	45.2	26.8	46.2	75.0
Research/data	45.2	24.4	48.7	75.0
Food security	44.2	36.6	43.6	58.3
School health	40.4	36.6	38.5	50.0
Community organizing/advocacy	35.6	22.0	43.6	45.8
Communications/public information/media advocacy	25.0	19.5	23.1	37.5
Nutrition	19.2	4.9	17.9	45.8

activities such as media advocacy (50%) and testifying before governmental agencies on environmental change strategies (37%). Health departments receiving foundation funding for obesity prevention were more likely to engage in advocacy and policy change activities than health departments not receiving foundation funding across all activities identified in the survey.

● Discussion

Local public health departments are engaged in obesity prevention through environmental and policy change approaches

In California, support and resources for obesity prevention are provided by state government, local foun-

dations, and health plans. The governor supports state obesity prevention policies and programs and convened the Governor’s Summit on Health, Nutrition and Obesity in 2005.⁶² The state health department receives significant USDA funding for nutrition education programs for low-income Californians, and The California Endowment and Kaiser Permanente have significant investments in communities around obesity prevention. In addition, the recent implementation of statewide legislation in California that set standards for foods and beverages offered for sale in schools⁶³ and federal legislation requiring all school districts to develop and implement school wellness policies⁶⁴ has paved the way for public health departments to become involved in policy and environmental change activities in addition to more traditional obesity prevention approaches. Our results show that public health

TABLE 5 ● Advocacy and policy change for improving nutrition and physical activity environments for obesity prevention

Activity	Total public health departments (n = 54), %	Foundation-funded public health departments (n = 26), %	Nonfoundation-funded public health departments (n = 28), %
Advocacy for healthier eating and/or physical activity environments in school or after school environments	75.9	88.5	64.3
Advocacy for healthier eating and/or physical activity environments in worksites, including the health department	74.1	92.3	57.1
Support for and/or monitoring of city/county policies to improve nutrition and/or physical activity environments	70.4	88.5	53.6
Involvement in the development, implementation, and/or monitoring of local school wellness policies	66.7	80.8	53.6
Advocacy for policies to improve nutrition and/or physical activity environments in neighborhoods	64.8	88.5	42.9
Support for policies regulating marketing and advertising of unhealthy beverages and foods to children	53.7	69.2	39.3
Media advocacy to support policies addressing obesity prevention	50.0	57.7	42.9
Advocacy for changes in clinical practice for obesity prevention	46.3	65.4	28.6
Testifying on environmental change strategies and policies before government agencies (eg, planning commission)	37.0	57.7	17.9

departments in California are involved in a variety of activities to change nutrition and physical activity environments, with 76 percent of public health departments reporting being engaged in advocacy for healthier eating and/or physical activity in school environments and 67 percent reporting involvement in school wellness policies.

In our research, we also found that 70 percent of health departments are encouraging the adoption and monitoring of city/county policies to improve the food and/or physical activity environments within government agencies. Public health departments in this area serve as role models and leaders in increasing access to healthy foods and physical activity within government worksites.

Less than half of the health departments have nutrition and physical activity policies (41% of health departments have internal nutrition policies and only 32% have physical activity policies). However, health departments in large metro areas or health departments that receive foundation funding are more likely to have these internal policies. Technical assistance may help those smaller, less resource rich health departments develop and implement policies to improve internal nutrition and physical activity environments.

Funding influences public health department engagement in environmental change obesity prevention strategies

Not surprisingly, the two most frequently cited supportive factors for changing nutrition and physical activity environments for obesity prevention were new funding sources and more flexible funding streams. In the survey, two frequently cited funding sources for changing nutrition and physical activity environments for obesity prevention were the WIC program and Nutrition Network (Network for a Healthy California), both USDA funding sources. However, these sources restrict funds to specific populations and focus primarily on nutrition education, making it difficult to utilize the funds for community and environmental change strategies. Foundation funding appears to free up health departments to pursue less traditional obesity prevention activities such as policy and environmental change strategies. Foundation-funded health departments were more likely to have an obesity and/or chronic disease prevention plan (58%) than those not receiving foundation funding for obesity prevention (7%) and to have an individual or unit taking the lead on obesity prevention (92% compared to 75%).

Foundation funding may be viewed as a proxy for noncategorical funding sources, as these funding sources are more flexible, allowing health departments to blend categorical and noncategorical funding

sources and pursue more comprehensive approaches to addressing the multiple factors leading to obesity. The findings also show that foundation funding, largely focused on environmental change strategies, may have an effect on how the more restricted federal funding sources are used by health departments, though this requires further investigation. Health departments with foundation funding were more likely to state that their environmentally focused obesity prevention activities were supported by the more restrictive federal funding sources, leveraging federal funding sources in creative ways to shape nutrition and physical activity environments. Local health departments that obtained foundation funding may also have the staff skill, contacts, leadership support, and initiative to seek extramural funding.

To enter fully into environmental change strategies for obesity and chronic disease prevention, local health departments need long-term, flexible funding sources as well as guided development of infrastructure and capacities. Although private funding sources may allow public health departments to embrace environmental approaches, they alone cannot support this approach. A mix of flexible public and private funding sources is needed to build and maintain public health infrastructure for sustaining environmental and policy approaches to obesity and chronic disease prevention.

Nonmetro health departments face additional challenges in changing nutrition and physical activity environments for obesity prevention

Health departments that serve smaller or more rural communities are especially challenged by funding issues and face staffing challenges. Our findings show that large metro health departments are more likely to have foundation funding for changing nutrition and physical activity environments for obesity prevention than nonmetro health departments. The tax base in small, rural communities may be low, and these health departments may be less likely to attract foundation funding because of staff shortages, geographic isolation, and less access to technical assistance and capacity building opportunities. The nonmetro health departments were more likely to need staff capacity in all of the skill areas examined in the survey than larger urban health departments.

In spite of these results, it is important to note that models of best practices are emerging from nonmetro health departments. In California, The California Endowment's Public Health Department Mini-Grant Program has cultivated an evolution toward environmental approaches in nonmetro health departments to prevent obesity. In fact, the efforts made by these grantees in California to move beyond obesity

prevention and build capacity toward chronic disease prevention in general have been credited as a considerable factor in the launch of a statewide chronic disease prevention campaign.

Future role for public health departments in changing nutrition and physical activity environments for obesity prevention

While public health departments currently are involved in changing nutrition and physical activity environments, our research indicates that there are areas where public health departments could do more in the future.

We found that 70 percent of respondents rate their current staffing capacity for improving nutrition and physical activity environments as “fair,” “not very good,” or “nonexistent.” Increasing staff capacity to do this work on issues related to improving the built environment to make communities more walkable and bikable is an important area for public health departments to sustain and increase their work in changing physical activity environments. In particular, improving staff capacity related to physical activity and urban transportation and planning seems to be of great interest to public health departments. Although 70 percent of public health departments reported participating in city/county planning commissions/committees focused on the built environment, 69 percent of respondents stated that their health department needs staff capacity or expertise in urban transportation and planning. Opportunities for increasing staff capacity for improving nutrition and physical activity environments include professional development through public health professional organizations such as the National Association of County and City Health Officials and the California Conference of Local Health Officers and increased emphasis in schools of public health on preparing public health practitioners to address obesity prevention through environmental and policy approaches.

Health departments as leaders and role models have a role to play in informing and shaping local and state level policy. We found that health departments are not currently engaged in testifying before government agencies on environmental change strategies (37%) or changing clinical practice for obesity prevention (46%). Health departments can use their data and expertise to inform city councils, county boards of supervisors, or state legislative bodies in shaping obesity prevention policies. Our findings also indicated that health departments that received foundation funding were *much* more likely to be engaged in these policy and advocacy activities. Increasing staff capacity and increasing funding specific to certain advocacy and policy strategies will have a positive impact on health departments’

ability to participate in changing nutrition and physical activity environments for obesity prevention

● **Limitations**

In general, there was a strong response to the survey which provided a rich collection of data. However, several limitations to the data must be kept in mind.

First, each public health department was represented by only a few people (typically two respondents per public health department). It is possible that the respondents’ knowledge about the public health department was faulty or incomplete.

Second, and not surprisingly, those who responded to the survey were more likely to be in nutrition services than those who did not. In fact, 72 percent of all individuals in nutrition services responded to the survey, in comparison to 57 percent of all individuals in all other positions. Thus, all analyses at the overall public health department level have some bias toward the responses of individuals in nutrition services.

Third, interpretation of the survey questions may not have been uniform. Respondents may have understood the terms “changing nutrition and physical activity environments for obesity prevention” differently.

Finally, data were not weighted to account for the potential bias of larger health department overrepresentation.

● **Conclusions**

The results of this research offer valuable information about the role public health departments play in changing nutrition and physical activity environments for obesity prevention. Public health departments are taking action to prevent obesity by supporting school wellness policies, improving workplace nutrition environments, and participating in changes to the built environment.

Increasing access to healthy foods and physical activity opportunities in our communities can only be achieved through the concerted effort of governmental agencies, community-based organizations, policy makers and others. Public health departments are important partners in this effort.

Flexible and sustained public funding streams, leadership from public health professional organizations and state departments of health, and sharing of lessons learned among health departments are needed to ensure that public health departments develop the infrastructure and staff capacity to shape environments in which people can be healthy.

Future research should examine the degree to which departures from conventional public health obesity and chronic disease prevention practices have occurred.

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● Appendix

Web sites for Select Funding Sources Listed in Table 3

Funding source	Web site
WIC (women, infants, and children)	http://www.fns.usda.gov/wic/
California Nutrition Network/5-A-Day	http://www.cdph.ca.gov/programs/CPNS/Pages/AboutUs.aspx
California Project LEAN	http://www.californiaprojectlean.org/
CX ³ pilot site	http://www.ca5aday.com/cx3/
Center for Physical Activity	http://www.caphysicalactivity.org/
Steps to a Healthier US	http://www.healthierus.gov/STEPS/
Healthy Eating, Active Communities (TCE)	http://www.healthyeatingactivecommunities.org/index.php
Central California Regional Obesity Prevention Program (TCE)	http://www.csufresno.edu/ccchhs/institutes_programs/CCROPP/index.shtml
Healthy Eating Active Living (Kaiser Permanente)	http://www.cbocenter.org/docs/policyday/HEALBrochure(4-07).pdf
Active Living by Design (Robert Wood Johnson Foundation)	http://www.activelivingresearch.org/

Abbreviation: TCE, The California Endowment.