

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
Technical Assistance Manual for
State Nutrition and Physical Activity Programs
to Prevent Obesity and Other Chronic Diseases

TABLE OF CONTENTS

Purpose
Program Requirements – Recipient Activities
Attachment 1 (Background)
Attachment 2 (Breastfeeding Strategy)
Attachment 3 (5 A Day Strategy)
Attachment 4 (Physical Activity Strategy)
Attachment 5 (Television Viewing Reduction Strategy)
Attachment 6 (Dietary Determinants of Energy Imbalance)
Attachment 7 (Social-Ecological Model)
Attachment 8 (Social Marketing)
Attachment 9 (Capacity Building Program Logic Model)
Attachment 10 (Capacity Building Program Evaluation Plan)
Attachment 11 (Suggested Components of the State Plan)
Attachment 12 (Work Plan Format)
Attachment 13 (How State and Local Education and Health Agencies Can Promote School Health Programs)
Attachment 14 (Sample Budget and Budget Justification)

Purpose

The purpose of the program is to prevent and control obesity and other chronic diseases by supporting States in the development and implementation of science-based nutrition and physical activity interventions. Major program areas are: obesity prevention and control including caloric intake and expenditure, improved nutrition including increased breastfeeding and increased consumption of fruits and vegetables, increased physical activity, and reduced television time.

The goals of the program are to:

- Increase the number of communities that implement a nutrition and physical activity plan for the prevention and control of obesity and other chronic diseases.
- Increase the number of interventions for nutrition and physical activity that are implemented and evaluated.
- Increase the number of state or community nutrition and physical activity policies, environmental supports, and/or legislative actions that are planned, initiated or modified for the prevention or control of obesity and other chronic diseases.
- Increase physical activity and better dietary behaviors in communities reached through interventions.
- Decrease levels of obesity or reduce the rate of growth of obesity in communities reached through interventions.

Program development includes a broad approach to planning with state and local government and private partners. This process includes the following actions:

- describe the obesity epidemic and other chronic diseases in the state;
- describe the nutrition and physical activity risk factors associated with obesity and other chronic diseases;
- describe the population subgroups affected by obesity;
- set priorities with and for the subgroups;
- identify the behaviors of the population subgroups which are priorities for intervention;
- use the social-ecological model to guide State planning to address obesity and other chronic diseases in these populations;
- select and implement interventions from proven resources (see Attachments 2-6) so that multiple levels of influence in the social-ecological model (Attachment 7) are addressed. Consider using a social marketing approach in the intervention (Attachment 8).

This program will assist states to transition their capacity building nutrition and physical activity programs to basic implementation nutrition and physical activity programs. (See Attachments 9 and 10, Logic Model and Evaluation Plan for Capacity Building State Nutrition and Physical Activity Programs).

As used in this document, the term “obesity” encompasses both the terms “overweight” and “obesity” among children and adults. The term “primary prevention” pertains to the prevention of obesity through nutrition and physical activity interventions. Efforts at primary prevention will focus both on attempts to influence behaviors and on environmental supports that help people make and sustain health promoting behaviors to improve their diets and physical activity levels. The term “secondary prevention” refers to the treatment and control of obesity through nutrition and physical activity and other medical interventions.

Program Requirements -- Summary Table of State Recipient Activities

Activity	Project Year Capacity Building States	Project Year Basic Implementation States
Staff Hiring – Full time Program Coordinator	Year 1	Year 1
Staff Hiring – Full time physical activity coordinator and full time nutrition coordinator	Year 1	Year 1
Expand staff capacity to implement state plan	Year 1	Year 1 Support and expand the program infrastructure at the local/regional level throughout the state.
<p>Training</p> <ul style="list-style-type: none"> • Participate in training, conferences and frequent communication with national and state collaborators including other funded states. • Determine training and technical assistance topics and provide or make available training and technical assistance to increase the skills of the State health department staff and partners to effectively address the program goals and objectives. 	Years 1-5	Years 1-5
Collaborate and coordinate with state and local government and private partners, including groups within the population	Years 1-5	Years 1-5 Expand partnerships with State Health Department units, other State agencies, local communities, and private partners to maximize impacts of the basic implementation program.

<p>State Plan Development and Implementation</p> <ul style="list-style-type: none"> • identify and describe the obesity epidemic and other chronic diseases in the state related to poor nutrition and physical inactivity; • describe the nutrition and physical activity risk factors associated with obesity and other chronic diseases; • describe the population subgroups affected by obesity; • set priorities with and for the subgroups; • identify the behaviors and influences of the population subgroups which are priorities for intervention; • use the social-ecological theoretical model to guide State planning to address obesity and chronic diseases in these populations; select and implement interventions from list of proven strategies so that multiple levels of influence in the social-ecological model are addressed; • begin to implement components of the comprehensive state plan for nutrition and physical activity by Year 2 	Years 1-2	Completed prior to funding.
Implement the State comprehensive plan for nutrition and physical activity and review and update the plan periodically	Year 2-5	Years 1-5
Identify and assess data sources to further define and monitor the burden of obesity	Years 1-5	Years 1-5
Implement and evaluate an intervention to prevent obesity and other chronic diseases	Years 2-5	
Develop a new or apply an existing intervention and evaluate it to prevent obesity and other chronic diseases		Years 1-5
Evaluate progress and impact of the state plan and intervention projects	Years 1-5	Years 1-5
Develop mini-grants and other mechanisms to support communities to adopt effective interventions		Years 1-5
Collaborate with partners on secondary prevention of obesity		Years 1-5
Develop resources and training materials to		Years 4-5

help other state and local projects to adopt successful programs		
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Program Requirements -- Recipient Activities

The focus of this program is the implementation of nutrition and physical activity strategies for health promotion for the entire population and for the prevention and control of obesity. Major program areas are: obesity prevention and control including caloric intake and expenditure, improved nutrition including increased breastfeeding and increased consumption of fruits and vegetables, increased physical activity, and reduced television time. For all capacity building and basic implementation program recipient activities, efforts to address poor nutrition and physical inactivity should be coordinated with the State Health Agency programs in cardiovascular health, cancer, diabetes, oral health, maternal and child health (including breastfeeding), arthritis, and WISEWOMAN, as well as the State Agriculture Agency, coordinated school health in the State Education Agency (see www.cdc.gov/nccdphp/dash/cshpdef.htm for a description of a coordinated school health program), and other relevant State Agencies.

Recipient Activities for Capacity Building Programs

(1) **Develop a coordinated nutrition and physical activity program infrastructure.** Provide indicators of sound program infrastructure including program staff placed high in the organization to coordinate the program with other related programs, high level administrative commitment to sustain the program, access to resources such as physical space, funding, and training, access to scientific resources such as subject matter specialists and surveillance resources, and broad partnerships to institutionalize nutrition and physical activity. Examples of coordination include shared positions, joint planning, and combined strategy development and implementation. Organizational location of the program is recommended to be in the agency’s chronic disease or health promotion section so that this program is aligned with chronic disease programs, such as cardiovascular health and diabetes, to allow for maximum collaboration.

(a) **Staffing**
 Identify, hire or reassign, and supervise at least three dedicated full-time staff with appropriate competencies to plan and implement the program (major program areas: obesity prevention and control including caloric intake and expenditure, improved nutrition including increased breastfeeding and increased consumption of fruits and vegetables, increased physical activity, and reduced television time). Staff include a full-time high-level program coordinator to coordinate the cross-cutting nutrition and physical activity functions for health department programs and other partners, a full-time physical activity coordinator, and a full-time nutrition coordinator. Part of staff capacity building must be in 5 A Day fruit and vegetable promotion efforts.

Suggested competencies for the program coordinator include: information gathering (the capacity to identify data sources and compile relevant information), data analysis and interpretation (capacity to analyze data, interpret test results and present findings targeted to various audiences), knowledge of evaluation (capacity to evaluate the effectiveness of programs), problem solving, economic and

political decision-making, organizational knowledge, program management, reporting/documentation/record-keeping, and ability to collaborate with various partners and personnel. The program coordinator should be a competent communicator in order to educate the public, colleagues, policy makers, and the media.

The physical activity coordinator should have at least a master's degree with a substantial amount of experience in a discipline related to physical activity and public health (such as exercise science, public health, and physical education), educational credentials and/or expertise in physical activity and public health. The physical activity (PA) coordinator will provide technical assistance and leadership in community-level interventions to promote physical activity and will oversee evaluation of physical activity interventions. The PA coordinator should be in a position to review and advise on all the physical activity initiatives coordinated by the health department, to ensure that they are consistent, based on best available evidence, and coordinated with each other, and to promote the likelihood that these initiatives will be effective. The PA coordinator will take the lead role in developing and implementing the PA community interventions funded as part of this announcement.

The nutrition coordinator should have at least a master's degree in nutrition or public health nutrition and expertise in public health nutrition. The nutrition coordinator will provide technical assistance and leadership in community-level interventions to promote nutrition and will oversee the evaluation of nutrition interventions. The nutrition coordinator should be in a position to review and advise on pertinent nutrition initiatives coordinated by the health department, to ensure that they are consistent, based on best available evidence, and coordinated with each other, and to promote the likelihood that these initiatives will be effective. The nutrition coordinator will take the lead role in developing and implementing the nutrition community interventions funded as part of this announcement.

Staffing patterns, funded by the cooperative agreement, other relevant programs, and in-kind support, are encouraged to include program skills and expertise in the following areas (not listed in priority order):

- Qualitative and quantitative data collection, management and analysis
- Epidemiology and surveillance
- Program evaluation
- Health education
- Communication
- Partnership and coalition building
- Obesity prevention
- Program coordination, management and strategic planning
- Social marketing and behavioral science

(b) Training

Participate in training, conferences and frequent communication with national and state collaborators including other funded states. Determine training and technical assistance topics such as use of data in program planning, assessment of

community assets and needs, obesity and other chronic disease risk factors with emphasis on primary prevention, program collaboration, approaches to population-based interventions, social marketing, health communications, epidemiology, cultural proficiency, community engagement, and evaluation. Provide or make available training and technical assistance to increase the skills of the State health department staff and partners to effectively address the program goals and objectives. States are encouraged to support travel by State and community leaders within and between States for site visits, regional conferences or participation in training sessions. Joint planning for training between relevant state-funded programs is highly encouraged.

(2) Collaborate and coordinate with state and local government and private partners, including members of the population throughout the planning process.

- (a) Develop new linkages and maintain collaborations with State and local partners to coordinate nutrition and physical activity efforts, especially with State Health Agency programs in cardiovascular health, cancer, diabetes, oral health, maternal and child health (including breastfeeding), arthritis, and WISEWOMAN, as well as the State Agriculture Agency, coordinated school health in the State Education Agency, and other relevant State Agencies. State programs should serve as a training and technical assistance resource for local health departments and others to conduct nutrition, physical activity, and obesity prevention programs. Examples of primary prevention partners related to physical activity include state or governor's council on health and fitness, state transportation agency, state education agency, urban planning and development organizations (e.g., metropolitan planning organizations, governor's office of planning and budget, state chapter of the American Planning Association), state division of natural resources, state department of parks and recreation, bicycle and pedestrian organizations, and state health and physical education associations. Examples of primary prevention nutrition partners include state 5 A Day coalitions, state agriculture agency, fruit and vegetable growers, breastfeeding coalitions, Maternal and Child Health (MCH) and Women, Infants and Children (WIC) programs, and state-based Food Stamp nutrition education networks, cooperative extension service, other USDA-sponsored programs, and state education agency. Examples of secondary prevention partners include state medical and health professional associations, Health Resources and Services Administration (HRSA)-sponsored community health centers, rural health agencies, health care facilities, and treatment programs. Collaboration efforts should include participation by members of the population. Form written agreements with key partners. The objectives of the collaboration activities should minimally:
- carry out nutrition and physical activity interventions to prevent and reduce obesity and other chronic diseases;
 - share innovative environmental, policy, community, and social marketing program models and disseminate results of program efforts with program partners and CDC; and
 - sustain mutually relevant goals and actions among all partners.
- (b) Collaborate with Prevention Research Centers, academic partners and other relevant organizations to develop appropriate strategies to identify, segment,

select, and profile populations; identify promising intervention strategies; determine appropriate evaluation methods for the state plan and intervention projects; and participate in implementing and evaluating the interventions.

- (3) **Conduct a planning process that leads to a comprehensive nutrition and physical activity plan to prevent and control obesity and other chronic diseases, and start to implement the plan.** (Complete no later than end of year 2)
- (a) Describe the obesity epidemic and other chronic diseases in the state related to poor nutrition and physical inactivity.
 - (b) Describe the nutrition and physical activity risk factors associated with obesity and other chronic diseases.
 - (c) Describe the population subgroups affected by obesity that will be selected for interventions. Describe the process and background data that will or have been used to determine population subgroups. Both epidemiologic and audience research data are needed to identify population subgroups. Because populations differ by knowledge, motivations, beliefs, access to resources, social norms, developmental stage (for children), media habits, and cultural values, several types of data, including body mass index, co-morbidities, demographic, psychographic, and dietary and physical activity behavioral information, are essential to define and select the population.
 - (d) Conduct inventories of strategies and programs currently used to prevent or control obesity and other chronic diseases in one or more settings, such as worksites, faith based organizations, health care services, or communities. An assessment may include the following components:
 - description of the current services within selected settings (such as worksites, day care centers, home environment, etc.) and community resources available to address the identified risk factors and their capacity to address the needs of the population;
 - descriptions of new strategies and community resources needed to address the gap between the population's need for service and available resources; and
 - identification and analysis of the potential impact of proposed strategies and community resources, the population's ability to respond to the proposed strategies or use the community resources, and potential intermediate indicators of successful changes in behavior and outcome.
 - (e) Set priorities with and for the subgroups; identify the behaviors and influences of the population subgroups which are priorities for intervention.
 - (f) Use the social-ecological theoretical model to guide State planning to address obesity and other chronic diseases in these populations; select and implement interventions from the list of proven strategies and promising strategies (see Attachments 2-6) so that multiple levels of influence in the social-ecological model are addressed. Consider using a social marketing approach in the intervention (Attachment 8).

- (g) With key stakeholders, write the comprehensive state plan for nutrition and physical activity for the state, not just for the state department of public health. A reference document to consider when developing the plan is the “Guidelines for Comprehensive Programs to Promote Healthy Eating and Physical Activity” at <http://www.astphnd.org/>. Documents guiding coordinated school health programs are at <http://www.cdc.gov/nccdphp/dash/>.

Design an outcome-driven plan to address nutrition and physical activity needs of the population including the pediatric population. The state plan should address at a minimum the following major program areas: obesity prevention and control including caloric intake and expenditure, improved nutrition including increased breastfeeding and increased consumption of fruits and vegetables, increased physical activity, and reduced television time. See Attachments 2-5 for descriptions of the major program areas, Attachment 6 for other dietary determinants of energy imbalance to consider, and Attachment 11 for suggested components to include in the plan. Include descriptions of how the state health department will work with the state education agency to address nutrition and physical activity needs of the population through school programs. See Attachment 13 for guidance issued by CDC’s Division of Adolescent and School Health to state agencies on activities to support school nutrition and physical activity programs. Integrate secondary prevention strategies and activities into the state plan. Consider available and committed resources of coalition members when developing objectives and activities, as well as potential for resource generation and sustainability.

- (h) Begin to implement components of the comprehensive state plan for nutrition and physical activity by Year two.

Use the suggested format, provided in Attachment 12, for developing an annual work plan specifying program goals, objectives, and evaluation data.

(4) Identify and assess data sources to define and monitor the burden of obesity.

Strengthen capacity to assess the burden of obesity and the impact of the program to change overweight and obesity related **behaviors**, particularly nutrition and physical activity. Data systems should monitor trends, disseminate data/information, and support evaluation efforts. Monitor at minimum, body mass index (BMI), BMI-for-age, and dietary and physical activity behaviors. Data sources may include established surveillance systems (e.g., the Behavioral Risk Factor Surveillance System [BRFSS], Pediatric Nutrition Surveillance System, Pregnancy Nutrition Surveillance System, and Youth Risk Behavior Surveillance System) or alternative sources (e.g., over-sampling, special surveys, sentinel surveillance systems, qualitative audience research) to address unmet data needs.

Include specific descriptions of relevant data items, the capacity to summarize data for specific population stratifications (e.g., age or racial/ethnic groups) and frequency of reporting data summaries. Include a review process for considering potential changes

needed in current surveillance systems and designate who is responsible for implementing and maintaining the surveillance system.

States should allocate staff time toward surveillance, data management, and evaluation. Collaboration of resources across programs is encouraged. Resources may be used for consultants or other expenses associated with surveillance and evaluation efforts. CDC will work with states to develop standard measures/indicators and states will need to adopt these standardized measures. States are encouraged to retain flexible systems that can be modified as needed.

(5) Implement and evaluate an intervention to prevent obesity and other chronic diseases. (Complete between years 2 to 5)

Address one or more of the major program areas from the state plan in the intervention: obesity prevention and control including caloric intake and expenditure, improved nutrition including increased breastfeeding and increased fruit and vegetable consumption, increased physical activity, and reduced television time. See Attachments 2-5 for example intervention suggestions. Attachment 6 includes other dietary determinants of energy imbalance to consider. Provide a balance between nutrition and physical activity related interventions. Consider using a social marketing approach in the intervention (Attachment 8). Programs are encouraged to approach change at the state, community (towns, cities, counties or regions), organizational (e.g., worksites), and group level (e.g., families).

Using both epidemiologic and audience research data, identify a population for the intervention project based upon the need for prevention and control of obesity and other chronic diseases in the population and the State's capacity to develop, implement, and evaluate interventions to increase physical activity and healthy eating behaviors in that population. Mobilize partnerships most knowledgeable about and effective in reaching the selected population and develop the intervention. Take steps to involve representatives of the population to participate in the development of the intervention.

Proposed interventions should fit with the state's long term outcomes, in that they improve nutrition and physical activity behaviors leading to decreased obesity and chronic diseases among participants in community interventions, and ultimately, the larger population of the state. Interventions should foster behavior change by mobilizing multiple levels of social structure (intrapersonal, interpersonal, organizational, community, and societal) and by striving to achieve overall balance in the individual and environmental approaches used to affect the population's lifestyle. Applicants should go beyond a population's need for knowledge, skills, stronger intention, and greater self-efficacy and address the need for supportive environments that provide opportunities for healthy eating and physical activity. All methods chosen should strive to be culturally and linguistically appropriate to the population selected. The project should specify clear, measurable process and impact objectives, and outcome objectives where feasible, describe the relevant strategies and activities, delineate time frames and roles and responsibilities, describe the criteria by which progress toward the objectives will be measured, and specify the evaluation plan. The project's objectives should be SMART (Specific, Measurable, Achievable, Relevant and Time-framed). The implementation and

evaluation of the intervention should be done in collaboration with community partners, Prevention Research Centers, university affiliates, relevant experts, and CDC as appropriate.

(6) Evaluate progress and impact of the state plan and intervention projects.

Develop an evaluation plan to include baseline data and intermediate outcomes for the state plan's objectives.

CDC has developed a plan for evaluating the *State Nutrition and Physical Activity Programs to Prevent Obesity and Other Chronic Diseases* based on a logic model framework that graphically illustrates the full chain of events, or *if-then* relationships, occurring in the program (see Attachments 9 and 10). This framework shows how inputs of CDC resources and investments are linked with CDC programmatic activities; how CDC's funds and actions are linked with State program inputs; how State inputs of resources and investments are linked with State and community interventions; and how the actions of States are related to short-term outcomes, short-term outcomes to medium-term outcomes, and medium-term outcomes to long-term outcomes or ultimate program goals.

The national evaluation of *State Nutrition and Physical Activity Programs to Prevent Obesity and Other Chronic Diseases* has been designed to focus on three primary areas: CDC training and technical assistance; State Plan development; State interventions. Within each of these primary evaluation areas, the plan identifies specific evaluation questions that have been chosen for study. For each evaluation question, one or more *indicators* or measures have been identified that will be used to answer the question. The plan also provides details of data sources, methods and schedule for collecting the data, persons responsible for data collection and analysis, resources needed to conduct the evaluation, and planned uses for the data collected in the evaluation process.

State evaluation plans should include issues addressed in the national evaluation plan as well as specific state program components. Time lines, data sources, and responsible parties should be identified within the evaluation plan. Guidance on conducting program evaluation is given in the "CDC Framework for Program Evaluation in Public Health" (<http://www.cdc.gov/eval/framework.htm>). The document covers the steps in program evaluation practice and standards for effective program evaluation.

Recipient Activities for Basic Implementation Programs

Basic implementation programs will expand their efforts to fully implement the state plan by:

- enhancing surveillance activities,
- implementing statewide interventions,
- funding communities to implement interventions,
- rigorously evaluating a new or existing intervention, and
- enhancing partnership efforts particularly with coordinated school health programs in the State Education Agency and with secondary prevention partners.

In addition to providing evidence of and enhancing the Recipient Activities for Capacity Building Programs, Activities 1-6, Basic Implementation Programs will address the following activities.

- (1) **Expand the existing coordinated nutrition and physical activity program infrastructure.** (Year 1)
Expand staffing beyond the capacity building program to fully implement the state plan. Support and expand the program infrastructure at the local/regional level throughout the state.
- (2) **Implement the State comprehensive plan for nutrition and physical activity and review and update the plan periodically. Develop mini-grants and other mechanisms to support communities to adopt effective interventions.** (Years 1-5)
Assure that there is a continuing focus on strategic planning to reach objectives agreed upon within the State and to respond to new challenges and events. Review the written state plan annually. Adopt and diffuse effective interventions statewide or in communities and populations based on the state plan. Select and implement interventions from proven
so that multiple levels of influence in the social-ecological model are addressed, as guided by the state plan. Interventions can address the full State or local populations. Implement the *Community Guide to Preventive Services* physical activity recommended interventions in more depth or in more communities. Build community capacity to carry out and sustain an effective nutrition program. Provide intervention mini-grants to communities. Basic implementation programs located in states with CDC-funded coordinated school health programs must include a school-based intervention, working closely with the State Education Agency.
- (3) **Expand partnerships with State Health Department units, the State Education Agency, other State agencies, local communities, and private partners to maximize impacts of the basic implementation program.** (Years 1-5)
 - (a) Leverage resources for nutrition and physical activity by working with the health department director, other health department units, the State Education Agency, other state agencies that share mutual goals, and other partners including local health partners and community groups.
 - (b) Identify environmental and policy issues.
 - (c) Promote optimal standards and practices for nutrition and physical activity programs.
 - (d) Increase capacity through shared resources and expertise.
- (4) **Develop a new or apply an existing intervention and evaluate it to prevent obesity and other chronic diseases.** (Years 1-5).
Rigorously evaluate at least one nutrition and/or physical activity intervention for effectiveness to prevent or control obesity and other chronic diseases every five years. Provide a balance between nutrition and physical activity interventions. Use a theoretical framework to develop the intervention. Basic implementation programs should design the intervention project to detect realistic changes in post-intervention outcome measures when compared with pre-intervention measures. Sample sizes should provide adequate power to detect these changes. Specify clear, measurable evaluation objectives using process, impact, and outcome objectives. Intervention protocol development, project evaluation, and the preparation of publications and presentation of findings should be

done in collaboration with community partners, Prevention Research Centers, university affiliates, relevant experts, and CDC, as appropriate.

- (5) **Collaborate with partners on secondary prevention strategies.** (Years 1-5)
Describe activities supporting secondary prevention related to obesity. Integrate secondary prevention strategies and activities into the state plan, partnerships, policy and environmental changes, and training for health professionals to ensure that recognized national guidelines are followed. Activities should include improving the delivery of secondary prevention practices and collaborating with partners on professional education and policy and practice changes related to the implementation of the guidelines or standards of care for obesity. These funds should not be used to deliver secondary prevention or treatment services, but rather to work on policy and training. Selected national guidelines include:
- National Heart, Lung, and Blood Institute's *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults* (http://www.nhlbi.nih.gov/guidelines/obesity/ob_home.htm)
 - Guidelines for overweight in adolescent preventive services (AJCN 1994;59:307-16)
 - Maternal and Child Health Bureau expert committee recommendations on obesity evaluation and treatment of children. PEDIATRICS Vol. 102 No. 3 September 1998, p. e29 (<http://www.pediatrics.org/cgi/content/full/102/3/e29>)
- (6) **Develop resources and training materials to help other state and local projects adopt successful programs.** (Years 4-5)
Develop one or more training reports on at least one component of a program that works and train staff from other state or local programs. A report may address one of the following: the program's strategic planning, partnership efforts, or methods used to ensure fidelity of the intervention. Work cooperatively with CDC to determine the report topic based upon the program's evaluation over the course of the project. Assist in the dissemination and training of other state and local partners regarding the report findings.
- (7) **Identify, assess, or develop data sources to further define and monitor the burden of obesity.**
See previous description of this activity under Capacity Building Recipient Activity 4.
- (8) **Evaluate progress and impact of the state plan and intervention projects.**
See previous description of this activity under Capacity Building Recipient Activity 6.

Attachment 1

BACKGROUND

Dietz, William H. Statement before Committee on Health, Education, Labor, and Pensions Subcommittee on Public Health, U.S. Senate, May 21, 2002.

Burden of Obesity

The burden placed on our society by obesity and related chronic diseases is enormous. In the last 10 years, obesity rates have increased by more than 60 percent in adults. Since 1980, rates have doubled in children and tripled in adolescents. Twenty five percent of the adult population in the United States is obese, or approximately 45 million adults. Almost 15% of our children and adolescents are overweight, or approximately 8 million youth. Rates of obesity have increased more rapidly among African Americans and Mexican Americans than among Caucasians. Obesity in the United States is truly epidemic.

We have already begun to see the impact of the obesity epidemic on other diseases. For example, type 2 diabetes, a major consequence of obesity, has also increased rapidly over the last 10 years. Although type 2 diabetes was virtually unknown in children and adolescents 10 years ago, it now accounts for almost 50% of new cases of diabetes in some communities. Obesity is also a major contributor to heart disease, arthritis, and some types of cancer. Recent estimates suggest that obesity accounts for 300,000 deaths annually, second only to tobacco related deaths.

The contribution of childhood onset obesity to adult disease is even more worrisome. Although onset of obesity in childhood only accounts for 25% of adult obesity, obese adults who were overweight children have much more severe obesity than adults who became obese in adulthood. Sixty percent of overweight children have at least one additional cardiovascular disease risk factor, and 25 percent have two or more. Hospitalization rates for the complications of obesity in children and adolescents have tripled.

The combination of chronic disease death and disability accounts for roughly seventy-five percent of the \$1.3 trillion spent on health care each year in the United States. Last year, the Surgeon General's Call to Action on Obesity suggested that obesity and its complications were already costing the nation \$117 billion annually. By way of comparison, obesity has roughly the same association with chronic health conditions as does 20 years of aging, and the costs of obesity were recently estimated to exceed the health care costs of smoking and problem drinking. The rapid increases in obesity across the population and the burden of costly diseases that accompany obesity indicate that we can no longer afford to ignore it.

The rapidity with which obesity has increased can only be explained by changes in the environment that have modified calorie intake and energy expenditure. Expenditure on foods prepared outside of the home now accounts for over 40% of a family's budget spent on food. Soft drink consumption supplies the average teenager with over 10% of their daily caloric intake. The variety of foods available have multiplied, and portion size has increased dramatically. Fewer children walk to school, and the lack of central shopping areas in our communities means that we make fewer trips on foot than we did 20 years ago. Hectic work and family schedules allow little time for physical activity. Schools struggling to improve academic achievement are dropping physical education and assigning more homework, which leaves less time for sports and physical activity. Television viewing has increased. Neighborhoods are unsafe for walking, and parks are unsafe for playing. Office buildings have inaccessible and uninviting stairwells that are seldom used, and communities are built without sidewalks or bike trails to support physical activity.

Public Health Approach

Given the size of the population that we are trying to reach, we obviously cannot rely solely upon individual interventions that target one person at a time. Instead, the prevention of obesity will require coordinated policy and environmental changes that affect large populations simultaneously.

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Attachment 2

Breastfeeding - Strategy for Reducing Childhood Overweight and Related Chronic Diseases

Rationale

Breastfeeding with its many benefits for mothers and babies is recognized as a way to reduce childhood overweight and related chronic diseases. There is a growing body of evidence, which suggests that breastfeeding offers protection against childhood overweight. Several studies provide evidence that any breastfeeding and breastfeeding for longer durations protect against overweight in childhood, although the mechanism by which this protection occurs is not clearly understood. The protective effect has been observed in young children and adolescents. A number of studies conducted recently show that the prevalence of overweight in childhood is lower among children (3 to 6 years of age) who were breastfed compared to children who were never breastfed. For older children (9 to 14 years of age) the risk of becoming overweight (BMI > 95th percentile) was lower for children who were exclusively or mostly breastfed when compared to children who were fed mostly formula. Older children who were breastfed at least 7 months were also 20 percent less likely to be overweight than children who were breastfed at least 3 months. A similar outcome has been observed in studies involving younger children. Despite the need for a better understanding of the relationship between breastfeeding and childhood overweight, a number of studies conclude that promoting breastfeeding would be a reasonable strategy for reducing childhood overweight.

In addition to providing positive hormonal, physical, and psychological benefits, breastfeeding reduces the risk of ovarian and breast cancer in women. When the relationship between breastfeeding and breast cancer was examined using data from 47 epidemiological studies in 30 countries, researchers found that the risk for breast cancer decreased 4.3 percent for each year a woman breastfed and 7 percent for each birth. These findings are consistent with previously published studies, and when applied to breast cancer rates in developed countries in 1990, suggest that small family size and short duration of breastfeeding as two major reasons for high rates. An estimated 5 to 11 percent of breast cancer could be prevented if women in developed countries breastfed each child an additional 6 to 12 months longer. For babies the list includes resistance to infectious diseases, enhanced immune system, as well as lower rates of chronic diseases such as type 1 and 2 diabetes, childhood cancer and asthma.

The goal is to have at least 75 percent of mothers breastfeeding during the early postpartum period and 50 and 25 percent breastfeeding at 6 months and 1 year, respectively. Despite increased emphasis on breastfeeding the U.S. over the last ten years, only 64 percent of mothers breastfed their infants during the early postpartum period in 1998. For the same time period 29 and 16 percent of mothers breastfed their infants at 6 months and 1 year, respectively; and the rates are lower for African American and low-income women. An increase in the breastfeeding initiation and duration rates is recommended in Healthy People 2010 and the HHS Blueprint for Action on Breastfeeding. As noted in the Blueprint strategies leading to increased breastfeeding rates are needed since the expected breastfeeding rates have not been realized.

Breastfeeding Promotion Strategies

Breastfeeding strategies employed as part of a capacity building or basic implementation Nutrition and Physical Activity Program to Prevent Obesity and Related Chronic Diseases will help prevent childhood overweight, reduce the risk for chronic childhood diseases and reduce the risk of breast cancer. Strategies included as part of a capacity building or basic implementation nutrition and physical activity program should address the broad objective to increase the proportion of mothers who breastfeed their babies in the early postpartum period and at 6 months and 1 year. More specifically, breastfeeding interventions and activities can support any of the strategies below.

- 1) Development of social support resources for breastfeeding women (i.e. peer counselor and mother –to –mother networks).
- 2) Provision of training on breastfeeding to health care professionals who provide maternal and child care.
- 3) Establishment of maternity care practices and policies that promote breastfeeding.
- 4) Establishment of workplace programs and policies that promote breastfeeding.

Capacity building and basic implementation state nutrition and physical activity programs should include evidence-based interventions as part of the state plan. At a minimum capacity building programs should involve and collaborate with internal and external partners (i.e. breastfeeding coordinators, coalitions, etc) to integrate strategies to improve breastfeeding promotion and support efforts into the state plan. The challenge presented by the call for increased breastfeeding rates underscores a need for stronger support and facilitation of breastfeeding centered on education, training, awareness, support and research. Strengthening breastfeeding support and facilitation efforts can take place in the health care system, workplace, and family/community setting.

Evidence-Based Interventions

The state plan and interventions should be evidence-based and may be single or multi-faceted. Evidence based interventions for increasing the proportion of mothers who breastfeed their babies were published in December 2000 on behalf of the National Coordinating Centre for Health Technology Assessment. (See reference) Examples of evidence-based interventions for the healthcare, workplace and family/community setting are listed below.

Healthcare System

- Breastfeeding education programs (group/individual) in hospital.
- Telephone or in-home breastfeeding support (peer counseling)
- Implementation of Ten Steps to Successful Breastfeeding
- Training for Health Care Professionals

Workplace

- Prenatal breastfeeding education for women who work.
- Policies providing information on breastfeeding and services that are available.
- Breastfeeding Mothers' Room on the worksite

Family and Community

- Prenatal breastfeeding education
- Peer Support
- Social Marketing and Media Campaigns

Innovative Interventions

State plan and interventions may include interventions that will be evaluated for effectiveness. The HHS Blueprint recognizes that interventions currently being implemented may generate additional recommendations for effective breastfeeding promotion strategies.

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Attachment 3

5 A Day - Strategy for Reducing Chronic Diseases

Rationale

The Relationship of Vegetable and Fruit Consumption with Cancer and Chronic Disease

The dietary guidelines that recommend that Americans consume 5 to 9 servings of vegetables and fruits daily are based on substantial scientific evidence. Vegetables and fruits are critical sources of nutrients and other substances that are important to good health. Many studies have examined the relationship of vegetable and fruit consumption with the risk of cancer and other chronic diseases. Increased consumption of vegetables and fruits has been clearly associated with decreased risk of cancer (Block et al., 1992; WCRF, 1997), but there is still a lot to be learned about the way vegetables and fruits offer this protection. Diets rich in vegetables and fruit have also been associated with reduced risk of cardiovascular disease and high blood pressure (Bazzano 2002, Law and Morris 1998, Appel 1997). Vegetable and fruit consumption should be incorporated into an overall healthy lifestyle that includes a diet adequate in dietary fiber, low in saturated fat and cholesterol and increased physical activity (NCI, 1986). These recommendations are reflected in the dietary guidelines from the US Departments of Health and Human Services and Agriculture (USDA, USDHHS 2000).

Effectiveness of Strategies to Promote Vegetable and Fruit Consumption

Although the relationship of eating vegetables and fruits and reducing the risk of certain types of cancers and chronic diseases is clear, effective strategies that result in increased vegetable and fruit consumption are not so clear. Strategies have focused predominantly on behavior change prompted by communications to increase knowledge and understanding. While few of these strategies have been vigorously evaluated, particularly for actual behavior change, even less is known about effective strategies to increase accessibility through service delivery, environmental and policy interventions. Statistically significant increases in vegetable and fruit intakes have been reported more frequently for intervention studies based on theory than for those not based on theory (Agency for Healthcare Research and Quality, 2000). Theoretical models that have shown promise for 5 A Day interventions include: Transtheoretical Model/Stages of Change (Prochaska J., et al., 1992; Campbell MK, et al., 1999b); Social Cognitive Theory (Bandura A., 1986); and, PRECEDE-PROCEED (Green LW, et al., 1991).

5 A Day Promotion Strategies

At a minimum, capacity building programs should involve and collaborate with internal and external partners (i.e., 5 A Day coordinator, coalitions, etc.) to integrate strategies into the state plan to improve promotion and support efforts for increasing vegetable and fruit consumption in the general population. Basic implementation programs are expected to include 5 A Day intervention strategies as part of implemented nutrition interventions. Capacity building or basic

implementation programs are requested to use the BRFSS optional vegetable and fruit modules as they become available. Capacity building and basic implementation programs may provide significant support to the 5 A Day program through the nutrition position established under this funding.

Below are examples of strategies based on selected tested interventions, as well as innovative ideas for interventions to be tested, in the following settings: worksites, community, faith-based, and schools and youth. Strategies are listed by approach: service delivery, policy, engineering (including environmental change) and communication.

Example Strategies for Population-Based Efforts to Increase Consumption of Vegetables and Fruit

Selected Examples of Previous Worksite Intervention Strategies:

Service delivery

- Cafeteria and worksite events
- Taste testing
- Cooking demonstrations

Policy

- Guidelines to implement Employee Advisory Boards
- Guidelines for vending machine selections
- Change in catering policy

Engineering (Environmental)

- Increase cafeteria vegetable and fruit availability
- Nutrition information kiosks
- On-site data entry screens to track participation
- Place vegetables and fruit in vending machines
- Point of choice labeling for vegetables and fruit

Communication

- Posters
- Displays
- Table tents
- Newsletters
- Self-help manual
- 5 A Day media materials (posters, fliers, brochures, videos)
- Cancer Information Service hotline
- Discussion series

Worksite Innovative Ideas by Intervention Strategy:

Service delivery

- Mobile farmers market
- On-site nutrition assessment

Policy

- Guidelines to implement salad bars in every cafeteria

Engineering (Environmental)

- Cafeteria structure changes to promote increased vegetable and fruit consumption

Communication

- PSA's or overhead message in the workplace promoting vegetables and fruit

Selected Examples of Previous Community Intervention Strategies:

Service delivery

- Taste testing
- Nutrition sessions led by peers
- Discussion series
- Goal-setting
- Coupons for vegetables and fruit and cash incentive
- Educational sessions

Communication

- Printed materials (photonovella)
- Clue cards (mailed)
- Video
- 5 A Day logo cues (magnets)
- Mail and telephone follow-up

Community Innovative Ideas by Intervention Strategy:

Service delivery

- Expand programs into parks and recreation, day care, or summer camps

Policy

- Require stores to support 5 A Day to qualify as a WIC vendor

Engineering (Environmental)

- Community gardens
- Vegetables and fruit grown near public places such as trails, schools, parks

Communication

- Weekly/monthly vegetable and fruit newspaper or magazine article
- Recommend popular books, magazines and cookbooks

Selected Examples of Previous Faith-Based Intervention Strategies:

Service delivery

- Health fair
- Motivational interviewing
- Cookbook
- Taste testing
- Lay health advisors trained and help others
- Grocery/farmers market (coupons offered)
- Cooperative Extension Service master gardener program for church members

Policy

- Procedures for developing community coalitions
- Guidelines for lay health advisors

Engineering (Environmental)

- Encourage dedicated space for growing victory gardens and fruit trees at the church
- Increase availability of vegetables and fruit at church functions

Communication

- Video
- Newsletter
- 5 A Day logo cues (magnet, pen)
- Phone calls
- Cookbook
- Brochures and Posters
- Tailored bulletins, newsletters
- Educational sessions
- Faith leaders incorporate spiritual themes into tailored messages, sermons, and other communications

Faith-Based Innovative Ideas by Intervention Strategy:

Service delivery

- Farmers market after service
- Nutrient analysis of vegetables and fruit versus frequently-served dishes
- Monthly “Healthy Dinner Club” in members’ homes

Policy

- Institute a health/medical committee or mission to set guidelines
- Guidelines for healthy dishes at group meals

Engineering (Environmental)

- Highlight vegetables and fruit as part of snacks or social hour
- Point of decision prompts on healthy dishes

Communication

- Use passages from text that promote better health and nutrition

Selected Examples of Previous Schools/Youth Intervention Strategies:

Service delivery

- Taste testing
- Food service staff training
- Hand-on food preparation for students
- Workshops
- Monthly produce giveaways

Policy

- Guidelines to offer salad bar or pre-plated salad
- Guidelines to assist food service

Engineering (Environmental)

- Marketing stations
- Increase vegetable and fruit availability in cafeterias
- Parental involvement (home environment)

Communication

- 5 A Day logo items (i.e.: magnets)
- Multi-lesson student curriculum
- Table tents
- PSA's
- Monthly vegetable and fruit promotions
- Calendars
- Brochures, marketing boards, posters

Schools/Youth Innovative Ideas by Intervention Strategy: (Includes community organizations such as Boys and Girls club, 4-H, girl and boy scouts)

Service delivery

- Contract with local co-op for fresh vegetables and fruit
- Inventory competitive foods
- Nutrient analysis of vegetables and fruit versus competitive food options

Policy Innovative Ideas by Intervention Strategy

- Prohibit sale of “foods with minimal nutritional value”
- “Party policies” guidelines for classrooms

Engineering (Environmental)

- School gardens
- Refrigerated vending machines to allow vegetables, fruit and 100% vegetable and fruit juice options

Communication

- Provide nutrient analysis results on vegetables and fruit and competitive foods

Consistency with the National 5 A Day Program

The Centers for Disease Control and Prevention has joined a national partnership of public and private organizations that promote the 5 A Day program. This partnership began with the National Cancer Institute and the Produce for Better Health Foundation, but has expanded to include many other organizations, including the U. S. Department of Agriculture, the American Cancer Society, and State departments of health. Guidelines for State and local program components as well as the use of the logo and other resources provided by all partners may be accessed from the web: CDC (www.cdc.gov/nccdphp/dnpa/5aday/index.htm), National Cancer Institute (www.5aday.gov), and the Produce for Better Health Foundation (www.5aday.com).

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Attachment 4

Physical Activity Strategies for Reducing Overweight and Related Chronic Diseases

Rationale

Millions of Americans suffer from chronic diseases that can be prevented or improved through regular physical activity. For example, regular physical activity substantially reduces the risk of cardiovascular disease, colon cancer, diabetes, obesity, and high blood pressure. Regular physical activity also helps treat a variety of common illness, including arthritis, blood lipid disorders, diabetes, obesity, and cardiovascular disease. Yet, over 60% of Americans do not get the recommended amounts of physical activity.

Physical Activity Promotion Strategies

Capacity building and basic implementation programs should include physical activity intervention strategies as part of the comprehensive state plan. Basic implementation programs are expected to include physical activity intervention strategies as part of implemented interventions.

Programs are encouraged to use strategies that address environmental and policy approaches to promoting and supporting physical activity, rather than strategies only directly promoting individual behavior change. Multiple levels of influence should be addressed. For example, improving facilities or increasing access to physical activity opportunities at school (e.g., restructuring playgrounds, creating and instituting policies related to the provision of equipment, etc.) are strategies that affect high levels of influence in a comprehensive approach. When strategies to directly promote individual behavior change are used, they should be delivered in conjunction with, or as an adjunct to, environmental and policy strategies. Similarly, when strategies designed to achieve short-term outcomes are used, they should be delivered in conjunction with more long-term strategies related to environmental and policy supports, or with a plan for sustaining or expanding the strategy beyond the period of current funding. An example is implementing walk-to-school programs, with a short-term objective of increasing the number of children walking/biking to school by promoting supervised walking and biking (individual behavior change), and a long-term objective of sustaining and facilitating the choice to walk to school by improving permanent physical environment infrastructure and/or by policy changes (e.g., addition or improvement of sidewalks, lighting, crosswalks, provision of crossing guards, regulation of traffic speed, etc).

The selection of intervention strategies should be based on the best evidence available, and the level of rigor and scope of the evaluation of strategies should be based upon the strength of the evidence base. As an example, programs may translate or disseminate strategies, which are “recommended” or “strongly recommended” by the Task Force on Community Preventive Services (see reference).

Programs may also seek to contribute to the evidence base for environmental and policy intervention strategies, by testing promising strategies for which evidence is currently insufficient as to the effectiveness of the strategy for increasing physical activity. In this case: (1) Programs are strongly encouraged to test strategies for which there is some (albeit insufficient) existing data as to effectiveness; and (2) the evaluation approach should be enhanced by data collection designed to determine the effectiveness of the intervention to increase physical activity. Information about the evidence for strategies has been compiled in some recent reviews. For example, *Promoting Active Transport* (see reference) briefly reviews evidence for several strategies to increase non-motorized transit. Also, the Task Force on Community Preventive Services reviews of transportation policy and urban planning approaches are currently pending, but may be published and accessible shortly. Any type of environmental or policy approach may be considered for implementation in an innovative intervention, including the types identified by the Task Force:

- Creation of or enhanced access to places for physical activity combined with information outreach activities.
- Transportation Policy and infrastructure changes to promote non-motorized transit
- Urban planning approaches.

Evaluation of intervention strategies should be guided by the CDC *Framework for Program Evaluation in Public Health* (see reference). This framework has been elaborated specifically for physical activity in the *Physical Activity Evaluation Handbook* (see reference).

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Attachment 5

Reduce Television Time in Children

Rationale

National cross-sectional surveys have shown a positive association between the number of hours children watch television and prevalence of overweight (Andersen, et al., 1998, Crespo et al, 2001; Dowda, et al., 2001). For example, an analysis of the Third National Health and Nutrition Examination Survey of children 8 to 16 years old found that the prevalence of overweight was lowest among children watching 1 hour or less and highest among those watching 4+ hours a day (Crespo, 2001). Longitudinal and experimental studies have suggested a causal relationship between increased television hours and overweight in children (Gortmaker, et al., 1996; Robinson, 1999). In a nationally representative study of children 10-15 years old, Gortmaker and colleagues (1996) showed a dose-response relationship between hours of TV and change in body weight in girls. Two school-based studies using randomized controlled trial designs showed that children who reported a decrease in time watching TV also showed a reduction in overweight (Gortmaker, 1999; Robinson, 1999)

The Healthy People 2010 Objectives include the objective to increase the proportion of adolescents who view television 2 or fewer hours on a school day (objective 22-11). The 2001 Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity recommended that children watch no more than two hours of television a day (<http://www.surgeongeneral.gov/topics/obesity/>).

Television viewing is the most common sedentary activity of children in the U.S. On average, children 2-17 years old spend approximately 4.5 hours a day watching some kind of screen, with 2.5-2.75 hours of that spent watching television (Roberts, et al., 1999; Woodard and Gridina, 2000). Television time varies with age. Children 2-7 years old watch an average 2 hours a day, while those 8-13 watch an average of almost 3.5 hours, and those 14-18 watch approximately 2.75 hours a day (Roberts, 1999). Boys watch more television than girls, children in lower SES families watch more than those in higher SES families, and African American children and adolescents watch more hours of television than do Hispanics, who, in turn watch more than Caucasian children and adolescents (Crespo, 2001, Roberts, 1999; Woodard and Gridina, 2000).

The mechanisms for the relationship between television time and overweight have not been clearly determined. Proposed mechanisms include: television watching may displace physical activity, children may have increased caloric intake while watching TV, children who watch more television may be influenced by advertisements to request, buy or consume more high calorie foods and more snacks, and TV viewing may reduce metabolic rate (Clancy-Hepburn, et al., 1974; Crespo, et al., 2001, Gortmaker, et al. 1996; Robinson, 1999, Robinson 2001).

Studies have linked TV use to factors in the family and the home (Roberts, 1999; Woodard and Gridina, 2000). Children who have a television in their bedroom spend more time watching television. Children who live in a home where the TV is on all the time, and those who spend more than half their TV time watching alone tend to watch more. Parental behavior also is

associated with TV time. Children watch less TV if they have parents who watch less television themselves, monitor TV closely, are more consistent in TV viewing rules, and know more about the media and media effects (Brown, et al., 1990; Gentile and Walsh, 2002; Woodard and Gradina, 2000).

Evidence-based Intervention Strategies

Few interventions to reduce television watching have been reported in the literature. One clinic-based and three school-based interventions have resulted in decreases in reported TV time among children exposed to the interventions.

A pilot intervention in an urban community clinic in Atlanta that counseling alone and counseling along with providing a behavioral intervention and TV time manager, with both groups showing a decrease in reported TV time. (Ford, et al, 2002).

The “Planet Health” intervention in Boston used an interdisciplinary curriculum addressing TV watching, diet, and physical activity for teachers to use in grades 6-7 (Gortmaker, et al., Apr 1999).

The “Eat Well, Keep Moving” program in Baltimore developed materials addressing diet, TV watching, and physical activity to use in classrooms with children in grades 4-5 (Gortmaker, et al., Sep 1999).

A school-based intervention in San Jose, CA incorporated lessons on television, videotape, and video game self-monitoring and reduction into the curriculum for children in grades 3 and 4, distributed newsletters to parents, and provided electronic monitors that controlled power to the television to all households in the study. (Robinson, 1999).

Innovative Ideas for Testing in States

Although more testing of interventions and approaches is needed on this topic, some promising approaches follow.

Healthcare setting

- Counseling by health providers
- Training for health care professionals

School, day care, and after-school settings

- Curriculum-based approaches aligned with state and national educational standards
- Media literacy
- Approaches addressing both children and their parents

Family and Community

- Social marketing campaigns
- Interventions with parents to reduce their own television watching
- Parenting programs addressing parental monitoring and setting of rules (e.g., no television in the child's bedroom, not leaving the TV on all the time, not letting children watch TV alone, not watching TV during meals)
- Providing more safe and engaging activities for children to do instead of watching TV

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Attachment 6

Dietary Determinants of Energy Imbalance

Weight gain occurs when energy intake (caloric intake) exceeds energy expenditure. The 1996 publication *Physical Activity and Health, A Report of the Surgeon General* (<http://www.cdc.gov/nccdphp/sgr/sgr.htm>) provides a summary of energy expenditure determinants related to obesity. This document is comprised of a brief review of the literature related to the dietary determinants of obesity, not recommendations for specific interventions. It is difficult to provide recommendations for obesity prevention and control from the available evidence. As interventions are evaluated rigorously, CDC will provide updates to identify and disseminate effective dietary strategies.

The Determinants of Energy Imbalance workgroup of the Obesity Prevention Network, SIP 7-00, authored this document. Major contributors to this written document are as follows: from the University of California, Berkeley: Gail Woodward-Lopez, Dana Gerstein, and Lorrene Ritchie; Oklahoma University: Allen Knehans; and from the University of New Mexico: Shirley Pareo, Leslie Cunningham-Sabo, and Sally Davis.

Dietary Fat

While Americans have decreased the percent of total energy from dietary fat, on average, they have continued to exceed the recommended $\leq 30\%$ of total energy from fat (Norris 1997, Troiano 2000). A comparison of the 1989 and 1995 Continuing Survey of Food Intakes by Individuals (CSFII) revealed a steady decline in the percent of energy from total fat and saturated fat over the last 30 years, however the amount of fat in the diets (mean total fat in grams) increased from 1989 to 1995 (Males age 19-50 consumed a mean of 93.7 grams of total fat in 1989-91 & 100.9 grams in 1995; Females age 19-50 consumed a mean of 63.2 grams of total fat in 1989-91 & 65.5 grams in 1995) (Kennedy 1999). There is reason to believe that a diet containing even less than the recommended 30% of total energy from fat could be beneficial for energy balance, long-term weight maintenance and a reduction of diet-related chronic disease risk (Astrup 2001, Hill 2000). There is abundant cross-sectional evidence that supports the premise that dietary fat is positively associated with obesity. The primary reason for this is that higher intakes of dietary fat are associated with higher energy intakes. There are several ways in which dietary fat leads to excess energy intake: its low satiety value as compared to other macronutrients (Stubbs 2000; Astrup 2001, Bray 1998, Golay 1997, Stubbs 2001), and its high palatability, high energy density, efficient storage, and lower oxidative rates (Schrauwen 2000, Hill 2000). It should be noted that not all dietary fats have the same oxidation rate; some fatty acids, such as medium-chain triglycerides, have been shown to have higher oxidation rates and these are metabolized differently. In general, unsaturated fatty acids are oxidized more rapidly than saturated fats, which lead to greater energy expenditure (St-Onge 2002, Delany 2000).

In controlled settings, dietary fat independent of caloric intake does not lead to obesity. In other words, if the caloric amount stays the same, a higher percent of calories from fat will not lead to

obesity. However, in a free-living situation with individuals eating ad libitum, it appears that higher fat diets are much more likely to lead to excess caloric intake than lower fat diets (Schrauwen 2000). There is ample evidence that if the percentage of fat in the diet is lowered enough, most individuals could eat ad libitum and not gain weight (Rolls 2000). In other words high fat diets tend to trump the satiety mechanisms which facilitate energy balance (Astrup 2001).

Of course there are exceptions to this rule. Other diets, such as high protein, low carbohydrate diets may be high in fat. The ketosis, which is induced by this type of diet suppresses the appetite and results in low calorie intakes (St. Jeor 2001). But the percent fat in these diets is not the reason these diets can be effective -- it is the high protein and low carbohydrates that are inducing the effect. While the comparative safety and efficiency of weight loss diets are beyond the scope of this review, it is important to establish that this phenomenon does not refute the hypothesis that low fat diets facilitate energy balance, but rather demonstrates there are other types of diets that can have a similar effect, at least temporarily. Low fat diets, however, have been shown repeatedly to be more effective for the prevention of overweight and for long-term weight maintenance (Rolls 2000).

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Dietary Fiber

Few Americans consume the recommended 25 grams of dietary fiber per day. In fact, on average, most Americans consume far less than this recommendation, and the mean daily intake of dietary fiber in the US is estimated to be 15 grams per day (Howarth 2001). Cross-sectional and ecological studies conducted in developed nations have shown that high fiber intake, or fiber intake at least at the recommended level, is associated with less obesity. Soluble dietary fiber aids in preventing overeating and subsequent weight gain and obesity. The physiological explanation for associating dietary fiber with less total caloric consumption can be explained by its low energy density, increased satiety level, bulkiness (which limits spontaneous intake of energy), and its potential to inhibit macronutrient absorption (Howarth 2001).

In almost all studies examining weight loss, individuals who consume a combination of water soluble and water insoluble fiber sources reported greater rates of weight loss as compared to those who follow low-fiber diets regardless of whether energy intake was fixed or ad libitum (Howarth 2001). The changes in body weight when high-fiber diets are consumed are relatively modest for all studies reviewed but are similar in magnitude to those in studies that compare high-fat and low-fat diets consumed ad libitum (Howarth 2001). A diet that provides adequate dietary fiber, at least the recommended 25 grams per day, is ideal for preventing obesity as well as other diet-related diseases and for maintaining body weight (Stubbs 2001).

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Macronutrients and Satiety

Macronutrients have a hierarchical level of satiety – protein providing the greatest amount of satiety followed by carbohydrates and fat (Stubbs 2000). Dietary fat provides significantly less satiety than protein. This hierarchy of satiety helps explain why consuming a diet with more than 30 percentage of its energy from fat can lead to the over-consumption of total energy – dietary fat produces a modest effect of feeling full after its consumption. But, unfortunately, this hierarchy does not seem to be common knowledge among nutrition professionals. This does provide additional evidence to promote the consumption of a low-fat diet for weight maintenance and obesity prevention.

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Energy Density

Energy density is defined as the total metabolized energy from the macronutrients, protein, carbohydrates, fat and alcohol, divided by the total weight of food including water. Nutrition researchers have shown that low energy dense foods play a role in weight loss and energy balance maintenance by providing adequate, or greater, amounts of food while providing less energy (Rolls 2000). Many of these low energy dense foods have also been shown to have higher satiety power indicating that they promote the feeling of fullness or the desire to cease energy intake following the food's consumption (Bell 1998). Water, dietary fat and dietary fiber have all been shown to be predictors of energy density; however, water has been shown to have the greatest influence on energy density because it contributes to the food's weight without the addition of calories (Rolls 1999).

The current US food supply is flooded with highly energy-dense foods. Of these high energy-dense foods, many of them are the newly engineered low-fat foods created in response to the government's message that Americans need to reduce their consumption of fat. While these low-fat food products are in fact lower in fat, they are not necessarily any lower in energy density than their full fat counterparts. Thus, this contributes to Americans' confusion in decisions about healthy food options.

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Sweetened Beverages

There is a large amount of literature documenting the secular increase in the consumption of sweetened beverages, a trend that parallels the national increase in adiposity; however, very few

studies to date have examined the relationship between soda/sweetened beverages and adiposity. Annual soft drink production in the US has increased from approximately 100 cans (12 oz) per person in the 1940s and 1950s to nearly 600 cans per person in the 1990s (Jacobson, 2001). During the same time period, per capita soft drink consumption increased from approximately 10 gallons to 200 gallons (Gerrior, 1998). Consumption of sugar-sweetened beverages (soft drinks and fruit drinks) has become particularly high among children and adolescents (Smiciklas-Wright, 2002). Sugar-sweetened beverages are now the principal source of added sugars in the diet of Americans (Morton, 1998; Guthrie, 2000). In terms of mechanism, while there is no clear evidence that sugar per se contributes to weight gain, there is an increasing body of evidence suggesting that liquid sugar may be less well regulated than energy consumed in solid form. This conclusion is based on a review of 40 published studies in humans (Mattes, 1996). Soft drink consumption has been associated with increased energy intake (Harnack, 1999; Chanmugam, 2000). In terms of weight association, Ludwig et al (2001) found that for each additional serving of a sweetened beverage that is consumed daily for a period of one and one half years, the risk of children being overweight increased by 60 percent after controlling for other potentially confounding variables. There are also a few studies among adults that found an association between high consumption of sugar-sweetened beverages and overweight status (Wirfalt, 1997; Keast, 2001).

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Fast food and restaurant use

There has been a dramatic increase in the consumption of food prepared away from home in the US. In 1992, 38 percent of the food dollar was spent on foods eaten away from home, an increase from about 20 percent in the 1970s (Schwenk, 1995). Likewise, the percentage of meals and snacks eaten away from home increased from 16 percent in 1977-78 to 27 percent in 1995 (Harnack, 2000). Frequent consumption of foods away from home has been associated with a diet high in fat and calories, and therefore energy density (Jeffery, 1998; Clemens, 1999; Zoumas-Morse, 2001). Since portion sizes served at restaurants have increased (see discussion of portion sizes below) and people are encouraged to purchase meals that contain more calories through “value” marketing, more calories are more likely to be consumed when eating at fast food and other restaurants than when eating at home. Increased palatability and variety of restaurant food might also increase food intake (McCrorry, 1998, 2000). Further, most (Jeffery, 1998; McCrorry, 1999; Binkley, 2000), but not all (Jeffery, 1998 reported an association for women only; Clemens, 1999 found no association in a study of only women) studies have found a positive association between consumption of food away from home and adiposity. However, there is a lack of prospective studies to evaluate the validity of this association and to help establish causality.

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Dietary patterns

While countless studies have examined the relationship between intake of individual nutrients or foods and the risk of obesity, relatively few studies have systematically evaluated the relationship of overall dietary patterns to this risk. An examination of overall dietary patterns is conceptually appealing in that it mimics the way in which people eat, consuming meals and snacks consisting of a variety of foods, rather than of isolated nutrients (Hu, 2000) and may help to elucidate the illusive relationship between kilocalories, nutrients and weight outcomes. The dietary patterns approach has successfully been applied to the study of cancer (Randall, 1992; Slattery, 1998) and coronary heart disease (Nicklas, 1989; Huifbregts, 1995; Hu, 2000), and has shown that a "Western" type diet (characterized by a relatively high intake of red meat, high-fat dairy and refined grains and a relatively low intake of fruits, vegetables, and whole grains) was associated with health risk. Recently, factor or cluster analysis of food groups consumed to identify predominant dietary patterns has been applied to the study of obesity (Tucker, 1992; Wirfalt, 1997; Slattery, 1998; Maskarinic, 2000; Fung, 2001; Haveman-Nies, 2001; Millen, 2001; Pryer, 2001; Tseng, 2001; Sichieri, 2002). Although distinct dietary patterns have been variously defined and identified by different researchers and based on very different food groupings, with results that have not been completely consistent, in general the findings suggest that a "Western" type diet is associated with overweight. In most cases, significant differences in BMI were found on the basis of the dietary pattern, even after controlling for total energy intake. Outside of the U.S., the transition from more traditional dietary patterns to a "Western" dietary pattern has also been associated with increased overweight, a trend that was observed without a concurrent increase in fat intake (Sichieri, 2002). Unfortunately, most dietary pattern studies have been cross-sectional in design. In the only study to examine dietary patterns longitudinally (at baseline and then again at two 4-year intervals), the prospective relationship between dietary pattern and body fatness was not assessed (Fung, 2001). It is possible that the failure of some studies to detect differences in BMI according to diet pattern, as well as the differences between studies can be attributed to changes in diet adopted by overweight individuals who are attempting to lose weight. In the study by Tseng (2001), for example, no significant difference in BMI was detected between individuals with a "Western" dietary pattern (high meat and starch intake) and a "prudent" dietary pattern (high in vegetable and fruit intake). However, more individuals reported that they attempted weight loss by following the "prudent" pattern rather than the "Western" pattern. Further, none of the studies examined the dietary patterns of children or adolescents; the focus of most studies were older Caucasian adults.

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Portion size

The increase in portion sizes for restaurant and processed foods and beverages has occurred concurrently with increases in the prevalence of obesity. The average fast food burger which weighed approximately 1 oz in 1957 weighs up to 6 oz now; the typical serving of soda which was 8 fl oz in 1957 is now 32 to 64 fl oz; and the average theatre serving of popcorn which was 3 cups in 1957 is now 16 cups (Nicklas 2001). According to a survey by the National Restaurant Association, which collected menus from the same 66 restaurants in 1988 and again in 1993, the number of menus offering more than one portion size, such as “super” sizes, increased by 12 percent (NRA, 1993). Young and Nestle (2002) recently completed an extensive study of portion sizes from datasets produced by manufacturers. Portion sizes began to rise in the 1970’s, increased in the 1980’s, and have continued to grow steadily in size. In terms of mechanism, larger portion sizes could be viewed as equivalent to increased calorie consumption and, unless compensated for by increased energy expenditure, would result in weight gain. Unfortunately, few studies have empirically evaluated the effect of portion size on overall energy intake and those that have been performed have been cross-sectional and short term with conflicting results (Stunkard 1980; Booth 1981; Edelman 1986; Engell 1995; Rolls 2000). Larger portion sizes are positively associated with increases in calories of the specific food item consumed and it is very likely that increasing portion sizes is contributing to excess energy intake (Hill 1998; Goran 2001). Currently, there is little empirical evidence because of limited studies in this area.

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Importance of family/parental involvement in interventions to reduce obesity

Most of the parenting research has focused on determinants of eating behaviors or eating disorders; direct connections with obesity have been few. It has been shown that mothers who were more controlling of their 3- to 5-year-old's food intake had children who showed higher rates of eating, less ability to self-regulate energy intake, and increased adiposity (Johnson, 1994; Drucker, 1999; Fisher, 1999a). Higher levels of maternal restriction predicted higher levels of snacking in girls 3-5 years of age (Fisher, 1999a, 2000) and restricting access to palatable foods has been shown to increase children's attention on and desire for that food (Fisher, 1999b). On the other hand, excessively permissive child-feeding practices may also have deleterious consequences. Children allowed to snack ad libitum had higher caloric intakes than children provided nutritious snacks at designated times (Birch, 1995). Common parenting strategies may induce effects opposite to those intended. Foods (usually less nutritious foods high in fat and/or sugar) used as a reward, tend to increase child preference for that food. In contrast, having children eat a food (usually a more nutritious food) in order to obtain a reward tends to decrease child preference for that food (Birch, 1999).

For intervention research and programs, family and parental involvement is critical and insures a more effective program (Barlow, 1998). Family involvement has been shown to increase student knowledge and positive attitudes toward healthy habits in a dose response manner (Nader, 1996). Numerous school interventions add a parent component; however, programs frequently report low success of getting parents meaningfully involved (Perry, 1998; Story, 2000). Take-home materials alone may not be powerful enough to produce long-term changes (Perry, 1988). Further it has also been recommended that overweight prevention programs include more information to improve general parenting skills (Jain, 2001).

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Calcium and Dairy

Calcium and dairy are grouped together since most of the calcium in the diets of Americans comes from dairy products. In terms of secular trends, there has been a drop in milk and dairy consumption, with the exception of cheese (Putnam, 1999). Although food disappearance data suggest that per capita calcium intake has increased (from an estimated 890 mg/day per person in 1970 to 960 mg in 1994) (Putnam, 1999), among children and adolescents dietary calcium has declined in recent decades (USDA, 1996; Albertson, 1997). Mechanistically, it has been hypothesized that dietary calcium could reduce the size of adipose storage and thus the risk of obesity by suppressing the production of 1,25-(OH)₂vitamin D, a hormone that is thought to be involved in the regulation of lipogenesis and lipolysis (Shi, 2001).

In terms of the association with weight status, inadequate consumption of calcium and dairy products has been associated with overweight. This has been shown in ecological studies (Zemel, 2000); several prospective studies, one of adult women (Lin, 2000) and one of pre-school children (Carruth, 2001); as well as in several intervention studies (Davies, 2000; Zemel, 2000, 2002). The question arises whether the calcium or whether a combination of nutrients found in milk or dairy products is related to this observed effect. There is at least one study that has shown that weight loss is greater when subjects consumed the calcium in the form of dairy products as compared to when calcium is ingested in the form of a supplement (Zemel, 2002).

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Attachment 7

Social-Ecological Model

Changing multiple levels of society to promote health and prevent/control obesity and other chronic diseases requires several approaches. Rather than focusing solely on personal behavioral change interventions with groups or individuals, a blend of individual and environmental strategies are required. Whether the targets of interventions are individual students, employees, community citizens, corporate presidents, or legislators, each is surrounded by interpersonal social networks comprising families, friends, colleagues, and acquaintances. Each layer of social structure (whether individual, interpersonal, organizational, community, or societal) affects the others above and below it, from the inside outward or the outside inward. Change one level and multiple levels may experience change. Each of the five major levels of social structure calls for a blend of intervention strategies and methods. For interventions to be most successful, many levels of social structure must be supportive of the change. And perhaps the most effective and comprehensive interventions occur when individual and environmental strategies are directed at several levels of social structure simultaneously (Abrams 1991; Gottlieb and McLeroy 1994). Increasingly, health promotion professionals are recognizing the dynamic interplay, which exists between individuals and their environments. Although lifestyle choices are ultimately personal decisions, they are made within a complex mix of social and environmental influences which affect health behaviors by making healthier lifestyle options more readily accessible, affordable, comfortable, and safe (Green and McAlister 1984; King 1991; King et al. 1995).

Research has shown that behavior change is more likely to endure when both the individual and the environment undergo change simultaneously (Lasater et al. 1984; Abrams 1991). Together, the two approaches create synergy, having a far greater influence on individuals, organizations, communities, and society as a whole than either individual or environmental strategies could alone. Therefore, interventions, which address not only individual intentions and skills, but also the social and physical environmental context of a desired behavior, considering as well all social networks and organizations that share that environment, have the potential for population-wide impact (Stokals 1996).

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Attachment 8

Social Marketing Overview

Social marketing is “the application of commercial marketing technologies to the analysis, planning, execution, and evaluation of programs designed to influence the voluntary behavior change of target audiences in order to improve their personal welfare and that of their society.” (Andreasen, 1995, p. 7). Research has shown social marketing’s effectiveness in a variety of health arenas including general health, injury prevention, protecting the environment, and community involvement (Kotler, Roberto, and Lee, 2002).

There is a great deal of confusion about what social marketing is, and what it is not. Health promotion campaigns that use approaches from education, communication, and advertising are often mislabeled as social marketing (Andreasen, 1995). While social marketing can incorporate aspects from each of these fields, it is a broader approach. The social marketing planning process can be used to address health issues at all levels of the social ecological model—individual, interpersonal, organizational, community, and societal – addressing, for example, individual knowledge, attitudes, perceptions, and self-efficacy as well as social support, environment, and policies that help or hinder the desired behavior.

Social marketing approaches health problems in several unique ways. Campaigns that use this planning process include the following features:

- *Audience orientation*—In order to create an effective social marketing campaign, planners must thoroughly understand how their audience views the health problem and proposed solutions to it. Qualitative and quantitative research on audience knowledge, attitudes, beliefs, behaviors, needs, and desires will drive the rest of the planning process.
- *Audience segmentation*— The U.S. population is very diverse, which makes identifying and addressing smaller, more homogeneous audience segments essential for a successful intervention. Audiences can be segmented according to a number of variables including current behavior, future intentions, readiness to change, demographics, and where they can be reached, among others.
- *Focus on behavior change*—Social marketing campaigns aim for the end result of behavior change rather than changes only in knowledge, attitudes, beliefs, etc. Social marketing formative research examines what can prevent or help people in the audience segment to adopt a healthier behavior and also looks at the perceived benefits and costs of competing behaviors in developing strategies.
- *Continual feedback and monitoring*— As social marketing focuses on *behavior change*, especially sustainability of that behavior change, continual information is needed on how the audience is responding to the intervention. This information is needed to help develop the campaign (pretesting), and to refine the campaign and make mid-course revisions, rather than waiting to reflect on this feedback until the very end.

The Social Marketing Process

The social marketing process includes four stages: analysis, strategy development, implementation, and evaluation (described below). Social marketing makes its unique contribution in the analysis and strategy development stages. The implementation and evaluation stages are similar to those used in other planning processes.

Analysis

This stage begins with a combination of qualitative and quantitative research on audience behaviors, attitudes, beliefs, and knowledge on the health issue. Also, it can be helpful to review research that has already been done on the audience or topic area. The goal is to understand as much as possible about the audience in relation to the health problem and possible solutions and to develop an intervention that is oriented toward this audience.

In many cases, this is the stage at which a decision is made about what audience segment will be addressed. Further formative research with this audience can then help planners make important decisions such as determining realistic behavioral objectives, the factors that influence behavior, effective information and service delivery channels, and effective intervention strategies (at the individual through the societal levels).

Strategy Development

Once the planner has a thorough knowledge of the health problem, the behavior, the audience, and the context, he or she needs to make decisions about what strategies will be most likely to lead to behavior change, considering relevant factors at all levels of the social ecological model. Social marketers develop strategies in terms of the product they will offer, the perceived price of this product, where they will offer the product, and how they will promote it. These “4 P’s” are described in more detail below:

- Product refers to what the intervention is offering the audience or what they are encouraged to do. It can be a behavior, service, idea, or tangible item.
- Price is the cost of adopting the behavior, service, idea, or item (e.g., money, time, pleasure, loss of self-esteem, embarrassment, etc.).
- Place refers to distribution channels for any communication messages, but also takes into consideration environmental and policy factors associated with the behavior.
- Promotion is the communication or education component of the intervention.

Implementation and Evaluation

These stages in social marketing interventions are similar to those in other planning processes. Implementation considers implications of promotion, place, and policy issues. Process and impact evaluation are used to assess the effectiveness of social marketing interventions. We want to know how well the campaign is being implemented, and to what extent it is producing desired effects – in social marketing, the endpoint will be behavior change.

Resources

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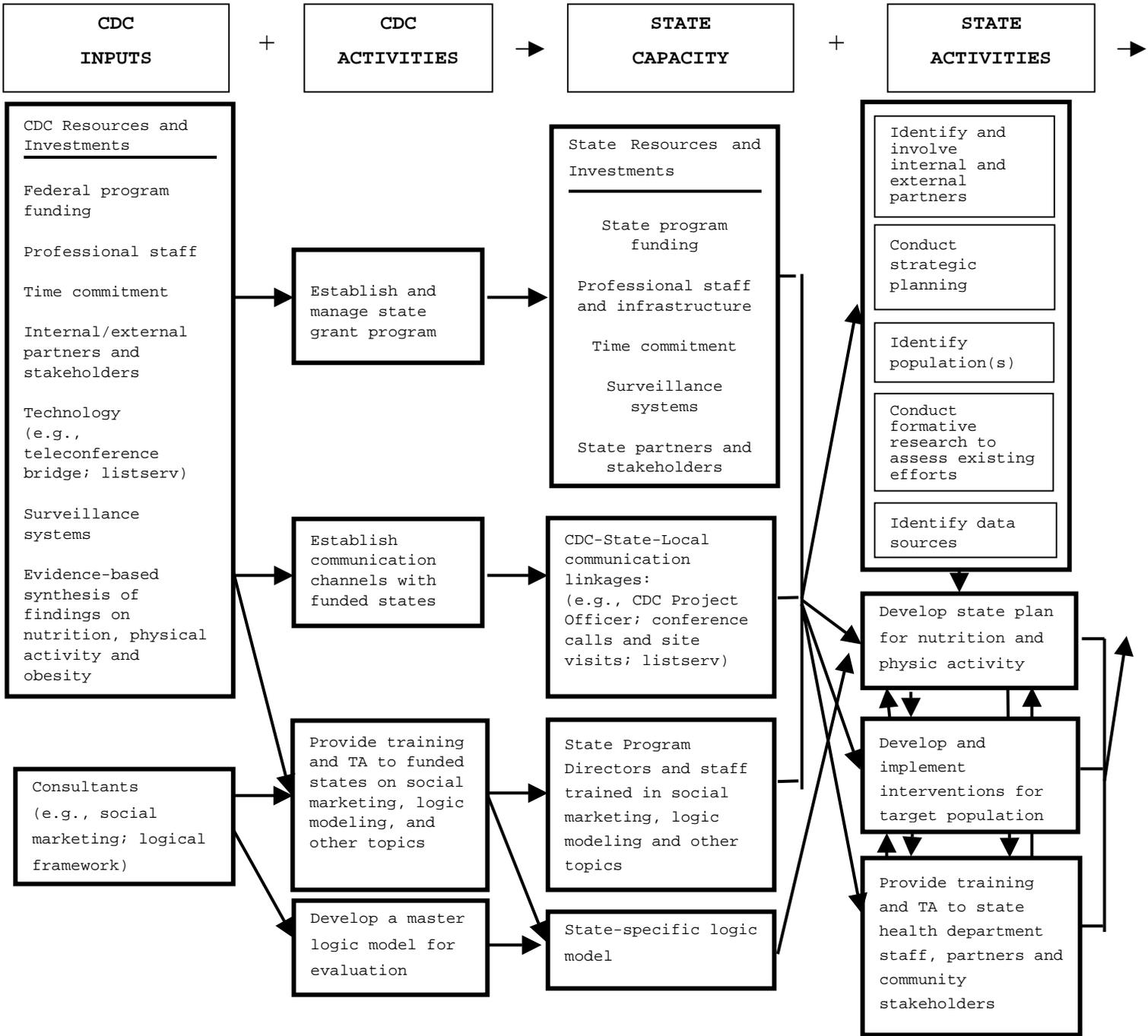
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The Robert Wood Johnson Foundation's National Turning Point Initiative Web site has information and resources on social marketing.
www.turningpointprogram.org/Pages/socialmkt.html

**Attachment 9 - Master Logic Model Framework for
State Nutrition and Physical Activity Programs to
Prevent Obesity and Other Chronic Diseases - page 1**

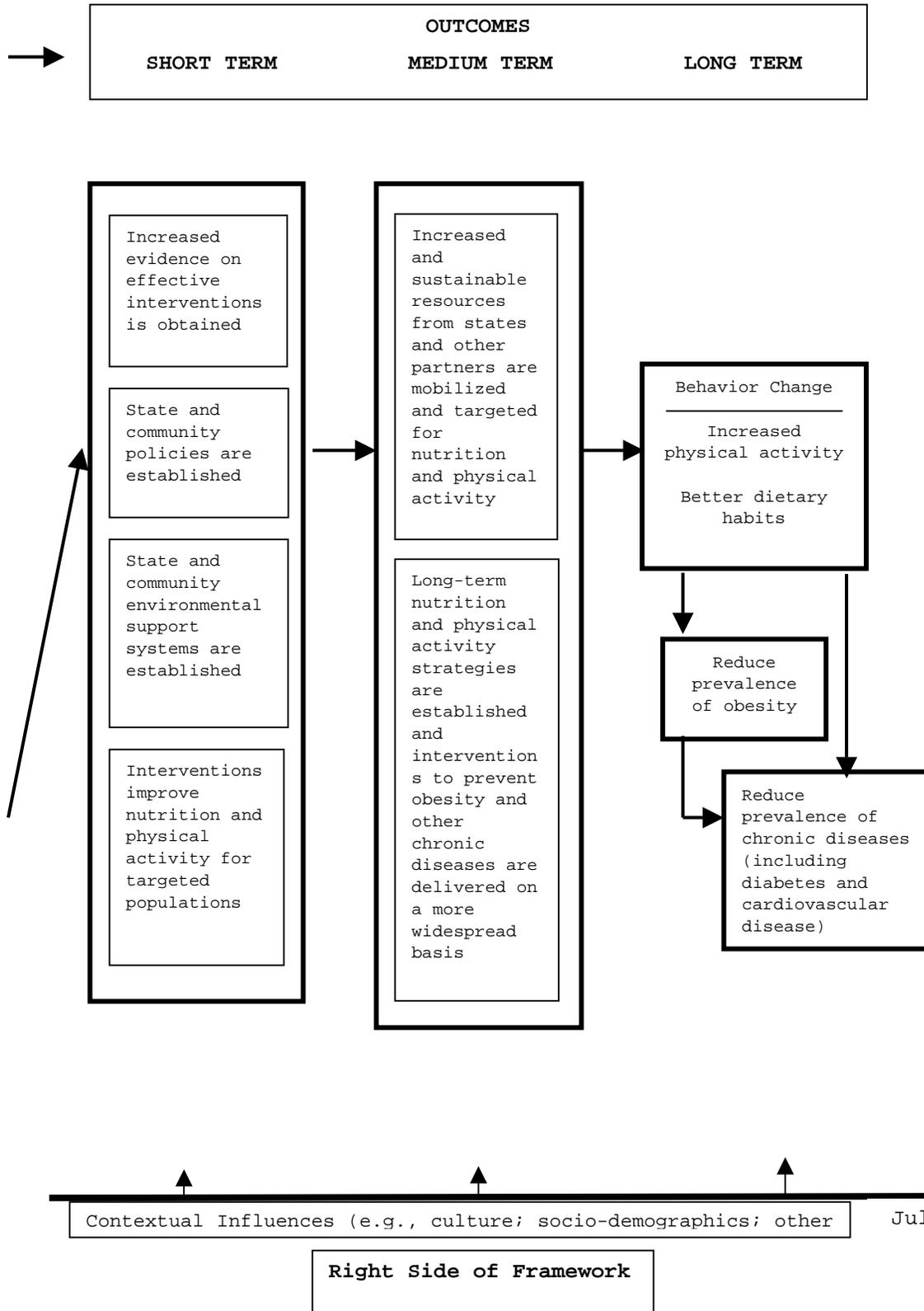


Contextual Influences (e.g., culture; socio-demographics; other)

July 16, 2002

Left Side of Framework

**Attachment 9 - Master Logic Model Framework for
State Nutrition and Physical Activity Programs to
Prevent Obesity and Other Chronic Diseases - page 2**



July 16, 2002

Appendix 10

Capacity Building Program Evaluation Plan

EVALUATION QUESTIONS	INDICATORS
STATE PLAN DEVELOPMENT	
2.1 To what extent did states conduct strategic planning activities to develop a state plan to prevent and control obesity and other chronic diseases through nutrition and physical activity interventions?	
2.1.1 What criteria did states use to identify one or more populations for intervention projects based on need for prevention and control of obesity and other chronic diseases?	<ul style="list-style-type: none"> ▪ Description of criteria and data sources used to identify populations for intervention projects ▪ Description of characteristics of this population
2.1.2 What actions did states take to assess (a) existing efforts in obesity and other chronic disease prevention and control, (b) gaps in current efforts, (c) opportunities for increased service, and (d) barriers to service for the population?	<ul style="list-style-type: none"> ▪ Description of actions taken by states to assess a, b, c and d
2.1.3 What data sources are states using to monitor the burden of obesity and other chronic diseases as well as to monitor trends in nutrition and physical activity as it relates to obesity and chronic diseases?	<ul style="list-style-type: none"> ▪ Description of surveillance systems states are currently using to monitor the burden of obesity and other chronic diseases. ▪ Description of how these data sources are being used as well as any reports generated from these analyses.

<p>2.1.4 With what internal and external partners did states collaborate and coordinate in developing the state plan?</p>	<ul style="list-style-type: none"> ▪ Number and types of partners: <ul style="list-style-type: none"> ○ Pre-existing internal partners (e.g., 5 A Day) ○ New internal organizational partners ○ Pre-existing external partnering organizations ○ New external partnering organizations ▪ Examples of successful collaborations with internal and external partners in the development of the state plan ▪ Description of problems that were encountered working with these partners and how these problems were addressed.
<p>2.1.5 What activities did states conduct to include and involve citizens of the population(s) in developing the state plan?</p>	<ul style="list-style-type: none"> ▪ Description of activities that took place involving citizens of the population(s)
<p>2.1.6 What activities to collaborate with Prevention Research Centers (PRCs) and other academic partners did states undertake to develop the state plan?</p>	<ul style="list-style-type: none"> ▪ Number and description of activities with which PRCs were involved ▪ List of other academic partners and description of activities in which these partners were involved

<p>2.2 What is the quality of the state plans developed as a result of the strategic planning process?</p>	
<p>2.2.1 How well does the state plan incorporate evidence-based information on interventions?</p>	<ul style="list-style-type: none"> ▪ Components of CDC Community Guides included in the plan ▪ Other evidence-based information on interventions and sources included in the plan ▪ Rating on quality indicators for incorporation of evidence-based information on interventions into the state plan

<p>2.2.2 How well does the state plan for nutrition and physical activity programs to prevent obesity and other chronic diseases relate to other state health department goals and activities?</p>	<ul style="list-style-type: none"> ▪ Description of how plan activities support other health department activities ▪ Description of how other health department activities support the plan for nutrition and physical activity programs to prevent obesity and other chronic diseases ▪ Rating on quality indicators for effectiveness and appropriateness of integration of state plan with other state health department goals and activities
<p>2.2.3 How well were measurable objectives and outcomes to prevent and control obesity and other chronic diseases through nutrition and physical activity interventions included in the state plan?</p>	<ul style="list-style-type: none"> ▪ Rating on quality indicators for effectiveness and appropriateness of measurable objectives and outcomes
<p>2.2.4 How well did the state plan reflect established methods and procedures for implementing the state plan to achieve the measurable objectives and outcomes?</p>	<ul style="list-style-type: none"> ▪ Rating on quality indicators for effectiveness and appropriateness of methods and procedures for implementing the state plan
<p>2.3 To what extent did states implement the state plan?</p>	
<p>2.3.1 What state or community policies and/or legislations were initiated, modified or planned as a result of the state planning process?</p>	<ul style="list-style-type: none"> ▪ Type and description of policies and/or legislations that were modified or initiated ▪ Type and description of policies and/or legislations that were planned but not initiated ▪ Descriptions of the reasons why specific policies and legislations were blocked or not implemented

<p>2.3.2 What state or community environmental changes were initiated, modified or planned as a result of the state planning process?</p>	<ul style="list-style-type: none"> ▪ Type and description of community environmental supports that were modified or initiated ▪ Type and description of community environmental supports that were planned but not initiated ▪ Description of the reasons why specific environment supports were blocked or not implemented
<p>2.3.3 In how many communities did states implement the state plan for nutrition and physical activity?</p>	<ul style="list-style-type: none"> ▪ Number of communities where state plan was implemented and description of community activities related to the state plan for nutrition and physical activity
<p>2.3.4 To what extent did states undertake data collection, analysis and reporting to evaluate the impact of the state plan on (a) obesity and other chronic diseases, (b) nutrition as it relates to obesity and other chronic diseases, and (c) physical activity as it relates to obesity and other chronic diseases by the end of the CDC funding period?</p>	<ul style="list-style-type: none"> ▪ Number and description of data sources being used to monitor trends in a, b, and c. ▪ Description of how these data sources are being used to evaluate the impact of the state plan on a, b, and c, including any reports generated from analysis of these data.
<p>2.4 To what degree did states commit resources to continue their efforts towards sustaining physical activity and nutrition activities throughout the state?</p>	<ul style="list-style-type: none"> ▪ Amount and sources of funding appropriated for or reallocated to sustain physical activity and nutrition activities throughout the state ▪ Number of FTEs and types of new positions or program components authorized and dedicated to sustain physical activity and nutrition activities throughout the state ▪ Number of FTEs and types of reallocated positions dedicated to sustain physical activity and nutrition activities throughout the state
<p>Interventions</p>	
<p>To what extent did states develop interventions for the targeted population(s)?</p>	

<p>3.1.1 What steps did states take to develop an intervention for the target population(s)?</p>	<ul style="list-style-type: none"> ▪ Description of steps undertaken to develop the intervention, including a description of the audience selected and the methods for selecting this audience. ▪ Description of how these data sources are being used to monitor the intervention, including any generated reports from analysis of these data. ▪ Description of any new data sources developed to monitor the impact of the intervention
<p>3.1.2 To what extent did representatives of the target population(s) participate in the development, implementation and evaluation of the intervention?</p>	<ul style="list-style-type: none"> ▪ Description of steps taken to involve representatives of the target population(s) to participate in the development, implementation and evaluation of the intervention
<p>3.1.3 What were the components or details of the intervention developed by the state?</p>	<ul style="list-style-type: none"> ▪ Description of how the intervention will address benefits and barriers to suggested behavior change, including any competition that may discourage behavior change. ▪ Description of the strategies the intervention is using to change the behavior.
<p>3.1.4 What evidence-based information on interventions was incorporated into the interventions?</p>	<ul style="list-style-type: none"> ▪ Components of CDC Community Guides included in the interventions ▪ Other evidence-based information on interventions and sources included in the interventions
<p>3.1.5 To what extent did states implement social marketing strategies identified in the state plan?</p>	<ul style="list-style-type: none"> ▪ Description of selected behavior and how it was chosen. ▪ Description of any pretesting of intervention strategies or messages with selected audience (s). ▪ Description of how the intervention will address benefits and barriers to suggested behavior change, including any competition that may discourage behavior change.

3.2 What were the outcomes/impacts of the interventions?	<ul style="list-style-type: none"> ▪ Measured outcomes and results of statistical analyses
3.3 What barriers were encountered in implementing the intervention, and how successful were the solutions to overcome these barriers?	<ul style="list-style-type: none"> ▪ List of barriers, solutions undertaken and results
3.4 To what extent did states disseminate the results of the intervention?	<ul style="list-style-type: none"> ▪ Number, type and description of dissemination activities

Attachment 11

Suggested Format for State Plan

Please include separate sections in the state plan that address, but are not limited to, the following components:

- description of the burden of obesity and other chronic diseases related to poor nutrition and physical inactivity;
- description of the population subgroups affected by obesity that will be selected for interventions; criteria used to select the subgroups, and the quantitative and qualitative data which support the selection of the subgroups;
- description of the known or hypothesized behavioral, social, environmental, and economic factors contributing to excessive energy consumption, poor dietary intake, and inadequate physical activity in the populations;
- an assessment of existing intervention activities and available community resources relevant to the populations;
- short and long term goals and objectives to prevent and control obesity and related chronic diseases through nutrition and physical activity interventions in the populations, and evaluation measures to assess progress in meeting the goals and objectives; the state plan should address at a minimum the following major program areas: obesity prevention and control including caloric intake and expenditure, improved nutrition including increased consumption of fruits and vegetables, increased physical activity, reduced television time, and increased breastfeeding;
- description of the state's organizational framework to prevent obesity and other chronic diseases through nutrition and physical activity interventions;
- description of resources needed to implement the plan and how they will be obtained;
- training and technical assistance plans for relevant health department staff and partners;
- description of how the nutrition and physical activities from this program will be coordinated with, at minimum, state programs for WISEWOMAN, WIC, cardiovascular disease, diabetes, cancer, health promotion, and coordinated school health programs so that efforts will be strengthened across programs to attain desired goals;
- epidemiologic, market research, and other data sources that will be needed to develop, carry out, and evaluate the state plan, and descriptions of what will be done to enhance existing surveillance activities or develop new ones;
- plans for involving state and local government and private partners, including representatives from the groups for intervention, in planning and interventions;
- summary descriptions of one or more intervention projects to be evaluated in the selected populations, the theoretical basis for the intervention, an overview of how each intervention project will be evaluated, how unintended effects will be monitored and assessed; and
- identification and analysis of the potential impact of proposed strategies and community resources, the population's ability to respond to the proposed strategies or use the community resources, and potential intermediate indicators of successful changes in behavior and outcome.

Attachment 12

**Suggested Format for Annual Work Plan
to Operationalize the State Plan**

Program Goal:

Annual Objective: (Qualities of objective should be SMART-Specific, Measurable, Achievable, Relevant, and Time-framed)

Key Strategies and Activities	Target Group	Lead Role	Time Line				Evaluation Indicator(s)
			Q1	Q2	Q3	Q4	
<p>What will be done?</p> <p>e.g. Assessment, information dissemination, education and training, mobilization, coordination, communication, policy analysis, policy development, evaluation</p>	<p>Who or what is the target of change?</p>	<p>What organization or committee is responsible?</p>					<p>How will you know you have reached your objective?</p>

Attachment 13
How State and Local Education and Health Agencies
Can Promote School Health Programs:
CDC's Division of Adolescent and School Health

State efforts to promote school-based policies and programs to promote physical activity and healthy eating and prevent obesity among young people should be based on four key concepts; focus on eight priority activities; and be designed to help schools and school districts implement nine strategies.

FOUR KEY CONCEPTS

- 1) **Focus on implementation of CDC's School Health Guidelines.**¹⁻³ These guidelines offer specific recommendations to help States, districts, and schools implement school health programs and policies that have been found to be most effective in promoting healthy behaviors among youth. These guidelines are based on rigorous reviews of the scientific literature and expert opinion, and they include many recommendations for action. A number of tools have been developed that can help schools implement these recommendations for action.⁴⁻⁶ States can disseminate these materials to school districts and schools, provide guidance in using them, and support for planned improvements.

- 2) **Coordinate multiple components and use multiple strategies.** States can use a school health model that coordinates traditional school health systems, reduces fragmentation and duplication of health promotion and disease prevention efforts, promotes efficient use of limited public health and education resources, and provides a comprehensive set of services and resources to meet the chronic disease prevention and health promotion needs of school-aged youth. One coordinated school health program model, adopted by many States and CDC, identifies eight interactive components that correspond to existing functions (and in many cases, professionally trained personnel) dedicated to improving the health and academic achievement of young people in schools: health education; physical education; nutrition services; healthy school environment; health services; counseling, psychological, and social services; community and family involvement; and staff health promotion.

A coordinated school health program provides a framework for school districts and schools to organize and manage school health initiatives. It also provides an organizational framework for State agencies to plan and coordinate school health initiatives, synchronize comparable public health and school health programs, and maximize use of multiple funding sources to improve the health and education of youth.

CDC's school health guidelines emphasize multiple strategies to prevent tobacco use, promote physical activity and healthy eating behaviors among youth, and reduce childhood obesity. Recommendations address policy development, curriculum development and selection, instructional strategies, environmental changes, direct interventions, professional development, family and community involvement, evaluation, and linkages between components of a CSHP.

- 3) **Coordinate activities of education and other agencies and organizations, and families in improving the health of youth.** Education agencies have the mandate to improve educational outcomes, the authority to establish education policies, and the organizational capacity to implement school health programs. However, they are not alone in desiring to improve the health and academic achievement of youth, and they must work with others to plan and implement effective school health programs. Collaborators should include: public health agencies, social service agencies, the business community, juvenile justice programs, civic organizations, parks and recreation programs, non-governmental health organizations, and the community, including parents and students. Further, managed care, employers, and employer networks that purchase health plans can support the health of school staff by providing access to health care and opportunities for health promoting activities that often carry-over into the classroom and the school environment.
- 4) **Use a program planning process to achieve health promotion goals.** Every organizational group that is part of a school health program should use a planning process to assure continuous improvement. This process should involve all stakeholders, define priorities based on health and program status, analyze resources, develop a strategic plan based on realistic goals and measurable objectives, evaluate efforts, and establish processes for monitoring and managing continuous improvement.

EIGHT PRIORITY ACTIVITIES FOR STATE AGENCIES

1. Monitor critical health behaviors and outcomes and school policies and programs to promote health enhancing behaviors and outcomes.
2. Establish and maintain dedicated program management and administrative support systems at the State level.
3. Build effective partnerships among State-level government and non-government agencies and organizations.
4. Implement State-level and school district policies to support effective implementation of School Health Guidelines and CSHP at the local level.
5. Implement a technical assistance and resource plan that will provide State-level government and local school districts and schools with the help they need to effectively implement school health guidelines.
6. Implement health communications strategies to inform decision makers and the public about the role of school health programs in achieving health and academic success.
7. Implement a plan for professional development to improve delivery of CSHP and implementation of school health guidelines.
8. Establish a system for evaluating and continuously improving State and local school health policies and programs.

NINE STRATEGIES FOR SCHOOLS

To help make the CDC School Health Guidelines recommendations more manageable, CDC has identified nine key strategies, derived from the guidelines, for schools to adopt in promoting physical activity and healthy eating. Following is a description of those strategies, along with

sample action steps that schools can implement in support of the nine strategies.

1. Self-Assessment: Assess the school's health programs and plan for improvement.

- Assemble a team of staff, students, parents, and community members to conduct an annual assessment of the school's health programs, using the CDC's School Health Index or a similar tool.
- Identify the strengths and weaknesses of the school's health policies and programs.
- Develop an action plan for improving school health policies and programs that involves staff, students, parents, and the community in implementing the plan.
- Communicate results to the school community and monitor implementation of the action plan.
- Reassess policies and programs once a year.

2. Policy Review: Review and improve the school's health policies.

- Assemble a team of staff, students, parents, and community members to examine the school's health policies, using *Fit, Healthy, and Ready to Learn: A School Health Policy Guide* as a reference.
- Identify the strengths and weaknesses of the physical activity and nutrition school policies.
- As needed, select certain policy areas to target for improvement and with input from all key school constituencies, develop new or improved policies.
- Communicate the importance of the new policies to the entire school community and orient staff to policies that relate to their job responsibilities.
- Create and implement a plan for monitoring and enforcing compliance.
- Re-examine policies, using *Fit, Healthy, and Ready to Learn: A School Health Policy Guide* annually.

3. Health Education: Use evidence-based health education curricula.

- Hire certified health education teachers to teach all health education classes.
- Require all who teach health education to participate in professional development/continuing education in health education at least once a year.
- Provide an adequate amount of instructional time for health education.
- Whenever possible, consult lists published by credible organizations and review evaluations of curricula being considered for adoption; examine whether the curricula have credible evidence of effectiveness in improving health behaviors especially in the areas of physical activity and nutrition.
- Use a sequential health education curriculum that is consistent with state and/or national standards for health education.
- When choosing or developing a curriculum, assess the extent to which it includes characteristics of curricula that have been identified as critical for improving health behaviors such as those that teach the skills needed to adopt healthy behaviors and gives students ample opportunities to practice these skills, identifies societal pressures that influence behavior and ways to resist, and features culturally appropriate examples and

activities that are inclusive of the community's ethnic cultures.

- 4. School Health Coordinator and Council:** Designate a School Health Coordinator and establish an active School Health Council.
 - Ensure that the council oversees the school's health policies and programs and are involved in assessing, developing, and improving the policies and programs.
 - Ensure that the council contains a wide variety of representatives including representatives of all components of the Coordinated School Health Program, teachers, administrators, other school staff, students, parents, and community members.
 - Ensure that the council has an effective relationship and regular communication with the school's parent/teacher organization, school administration, and school board.

- 5. Staff Wellness Program:** Implement a quality wellness program for school staff.
 - Provide staff access to a physical health screening at least once a year as well as physical activity/fitness and healthy eating/weight management programs that are accessible and free or low-cost.
 - Offer or refer staff to accessible tobacco-use cessation services at the school or in the community.
 - Promote and encourage staff participation in school wellness program activities
 - Appoint a full- or part-time staff wellness coordinator/advisor.

- 6. Physical Education:** Implement a quality physical education program.
 - Hire certified physical education teachers to teach all physical education classes.
 - Require all who teach physical education to participate in professional development/continuing education in physical education at least once a year.
 - Provide adequate amount of time for physical education classes (at least 150 minutes per week for elementary school students and at least 225 minutes per week for middle and high school students for the entire school year).
 - Ensure that physical education classes have a teacher/student ratio comparable to that of other classes.
 - Use a sequential physical education curriculum that is consistent with state and/or national standards for physical education with a focus on students' development of motor skills, movement forms, and health-related fitness.
 - Conduct physical education classes so that all students are moderately to vigorously active at least 50% of the time.
 - Ensure that all students, including those who are not athletically gifted, are engaged in meaningful and enjoyable physical activity.
 - Prohibit the use of physical activity and withholding of physical education class as punishment or as time to complete classroom assignments.

- 7. Opportunities for Physical Activity:** Increase opportunities for physical activity in addition to physical education and interscholastic sports.
 - Provide daily recess periods of at least 20 minutes for all elementary school students.
 - Provide daily physical activity breaks in the classroom setting.

- Offer after-school intramural programs and/or physical activity clubs that meet the needs and interests of all students, including those who are not athletically gifted and those with special health care needs.
- Encourage community access and use of the school's physical activity facilities outside of school hours.
- Encourage parents and community members to institute a walk-to-school program, using CDC's Kids Walk-to-School manual or other similar tools.
- Encourage after-school child care programs to provide developmentally-appropriate physical activity for participating children and to limit the time spent watching television or videos and using computers.

8. School Meals: Implement a quality school meals program.

- Hire a school food service manager who has a nutrition-related baccalaureate or graduate degree and certification/credentialing in food service from either the state or the American School Food Service Association.
- Offer nutritious breakfast and lunch meals that meet the U.S. Department of Agriculture's School Meal Nutrition Standards and are appealing and fully accessible to all students.
- Promote and advertise cafeteria selections low in fat, sodium, and added sugars.
- Provide free and reduced-price breakfast and lunch for qualified students.
- Meet the nutritional needs of students with special health care needs.
- Provide students with at least 10 minutes to eat breakfast and at least 20 minutes to eat lunch, counting from the time they are seated.
- Maintain a safe, clean, and pleasant cafeteria.
- Require the food service manager to participate in professional development/continuing education on meeting the Dietary Guidelines for Americans and/or on nutrition education to promote healthy eating choices at least once a year.

9. Nutrition Environment: Establish a healthy school nutrition environment (i.e., healthier food choices outside of school meals).

- Make appealing foods available that are low in fat, sodium, and added sugars (e.g., low-fat fruits, vegetables, grains, and dairy products) wherever food is served inside and outside of the cafeteria.
- Prohibit the sale and distribution of foods of minimal nutritional value and other foods of low nutritive value throughout the school grounds until after the end of the last lunch period.
- If the school offers a la carte items in the food service area, include at least one appealing, low-fat choice from each of the following food groups: fruits, vegetables, grains, and dairy products.
- Engage in fund-raising efforts that support healthy eating through the sale of non-food items or foods that are low in fat, sodium, and added sugars instead of foods that are high in fat, sodium, and added sugars.
- Prohibit giving students low nutritive food as a reward and withholding food as punishment.

Citations

1. *Guidelines for School Health Programs to Prevent Tobacco Use and Addiction.* CDC. MMWR. 43(RR-2), 1994.
2. *Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People.* CDC. MMWR. 46(RR-6), 1997.
3. *Guidelines for School Health Programs to Promote Lifelong Healthy Eating.* CDC. MMWR. 45(RR-9), 1996.
4. *School Health Index for Physical Activity and Healthy Eating: A Self-Assessment and Planning Guide.* Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2000. (Online at <http://www.cdc.gov/healthyyouth/dash/shi>).
5. *Fit, Healthy, and Ready to Learn: A School Health Policy Guide.* National Association of State Boards of Education. Washington, DC: NASBE, 1999. (Available at www.nasbe.org/HealthySchools/nasbepubs.mgi).
6. *Changing the Scene, Improving the School Nutrition Environment: A Guide to Local Action.* US Dept. of Agriculture, Food and Nutrition Service. Sept. 2000. (Available at www.fns.usda.gov/tn/Healthy/changing.html).

Attachment 14
Sample Budget and Budget Justification

A. PERSONNEL

Provide the name of the person in each position (if known), the amount each position is paid per year, the percent of time position contributes to this cooperative agreement, the number of months the employee is paid each year, and the total amount of salary to be paid. If positions are supported through matching funds, indicate the amount, whether direct or in-kind, and the source.

State if any positions are vacant at the time. Provide a justification and description of **each position** (including vacant positions). Relate each position specifically to program objectives.

SAMPLE BUDGET

Personnel				Total \$
	<u>Yearly Salary</u>	<u>Percent of Time</u>	<u>Number of Months</u>	<u>\$Amount</u>
<u>Position Title</u> <u>And Name</u>				
Program Manager Sue Purvisa	\$45,000	100%	12 months	\$45,000
Data Analyst (Vacant)	\$35,000	50%	12 months	\$17,500
Secretary Rita Manuel	\$21,000	100%	12 months	\$21,000

SAMPLE JUSTIFICATION

Program Manager (Sue Purvisa)

This position directs the overall operation of the program. Is responsible for overseeing program planning, implementation, and evaluation; is responsible for coordination with relevant state coalitions, planning and provision of training, conducting meetings and coordinating with other state and national agencies involved with nutrition and physical activity interventions to prevent obesity and related chronic diseases. Oversees the gathering, tabulation and interpretation of required data, is responsible for overall program evaluation and for staff performance evaluation. This position relates to all program objectives and is the responsible authority for ensuring necessary reports/documentation are submitted to CDC.

B. FRINGE BENEFITS

Fringe benefits are usually applicable to direct salaries and wages. Provide the fringe benefit rate used and a clear description of how the computation of fringe benefits was done. If a fringe benefit rate is not used, show how the fringe benefits were computed for each position. The budget justification should be reflected in the budget description.

SAMPLE BUDGET

Fringe Benefits **Total \$** _____

25% of _____ = Fringe Benefits
salary amt.

If fringe benefits are not computed by using a percent of salaries, provide a breakdown of how the computation is done.

Program Manager - Salary	\$45,000
Retirement 5% of \$45,000	\$ 2,250
FICA 7.65 of \$45,000	\$ 3,443
Insurance	\$ 2,000
Workman's Compensation, etc	\$ _____
 Total	

C. TRAVEL

Instate Travel - Provide a narrative justification describing the travel staff will perform. List where travel will be performed, number of trips planned, who will be making the trip, and approximate dates. If mileage is to be paid, provide number of miles and the cost per mile. If travel is by air, show cost of airfare. If per diem/lodging is to be paid, indicate number of days and the amount for each day's per diem and the number of nights and the amount for each night's lodging. Include any ground transportation when

applicable. Total each trip planned.

Out of State Travel - Provide a narrative justification describing the same information as above. (Include national meeting, conferences, workshops etc.) Follow above format.

NOTE: Dollars requested in the travel category should be for **staff travel only**. Travel for consultants should be shown in the consultant category along with the consultant's fee. Travel for training participants, advisory committees, review panels and etc. should be itemized the same way as indicated above and placed in the "Other" category.

Indicate if any of the travel is supported through matching funds. If so, indicate if direct or in-kind and the source(s) of support.

SAMPLE BUDGET

Travel	Total \$ _____
Instate Travel:	
3 trips x 2 people x 500 miles r/t x .27/mile	\$ 810
6 days per diem x \$37/day x 2 people	\$ 444
3 nights lodging x \$67/night x 2 people	\$ 402
3 trips x 1 person x 300 miles r/t x .27/mile	<u>\$ 243</u>
TOTAL	\$1,899

SAMPLE JUSTIFICATION

The Nutrition Coordinator and Physical Activity Coordinator will travel to the three regional public health professional meetings to provide training on community-based nutrition and physical activity strategies to prevent and control obesity.

The Program Manager will make 3 trips to participate in coalition meetings for the development of the state plan.

SAMPLE BUDGET

Out-of-State Travel:

2 trips x 3 persons at \$800 each airfare	\$4,800
2 trips x 3 days per diem x \$45/day x 3 people	\$ 810
2 trips x 3 nights lodging x \$88/night x 3 people	\$1,584
2 trips x ground transportation for 3 people	<u>\$ 180</u>
TOTAL	\$7,374

SAMPLE JUSTIFICATION

The Program Manager, Physical Activity Coordinator, and the Nutrition Coordinator will travel to Atlanta to participate in a program management meeting with CDC and travel to the National Conference on Chronic Disease Prevention and Control, as required by the Program Announcement.

D. EQUIPMENT

Provide justification for the use of each item and relate them to specific program objectives. **Note:** For grantees subject to 45 CFR 92 (State and Local Governments) equipment is defined as an article of tangible, nonexpendable, personal property having a useful life of more than 1 year and an acquisition cost of \$5,000 or more per unit. (See PHS Policy Statement, page 2-1, 2-2.) Maintenance fees for equipment should be shown in the "Other" category.

Indicate if equipment is provided as recipient financial participation. If so, indicate the amount of direct and/or in-kind funds, and the source(s).

SAMPLE BUDGET

Equipment		Total \$ _____
Item	\$5,378	
TOTAL	\$5,378	

SAMPLE JUSTIFICATION

Provide an objective-related justification for all equipment items after the detailed budget. The source for determining the budget price for each unit of equipment should be included in the justification. Funds for computers should be requested only for FTEs proposed, or to upgrade equipment to meet the requirements specified in this announcement, and should be included in the Supplies category if the requested amount is less than \$5,000 per unit.

E. SUPPLIES

List by each supply item. Show the unit cost of each item, number needed and total amount. Provide a justification for the supply items and relate them to specific program objectives.

It is recommended when training materials are kept on hand as a supply item, it be included in the "Supplies" category. When training materials (pamphlets, notebooks, videos, and other various handouts) are ordered for specific training activities, these items should be itemized and shown in the "Other" category. If appropriate, General Office Supplies may be shown by an estimated amount per month, times number of

months in budget period.

Indicate if supplies are provided as matching funds. If so, indicate the amount, whether cash or in-kind, and the source(s) of support.

SAMPLE BUDGET

Supplies

Total \$ _____

General Office Supplies (pens, pencils, paper, etc.) 12 months x \$100/month	\$1,200
200 NHLBI Clinical Guidelines x \$6.80 ea.	\$1,360
200 NHLBI Practical Guides x \$4.40 ea.	\$ 880
500 Fruit and Vegetable placards	In-kind match (Value of match is \$1,000)

SAMPLE JUSTIFICATION

General office supplies will be used by staff to carry out daily activities of the program. Supplies relate to all objectives.

NHLBI's *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults* and *Practical Guide: Identification, Evaluation, and Treatment of Overweight and Obesity in Adults* will be kept in stock and distributed at the statewide obesity training program for health care professionals. (Describe how the guidelines relate to objectives.)

Fruit and vegetable placards are provided as in-kind match (valued at \$1,000) by the ABC Producers as part of the nutrition intervention program.

F. CONTRACTUAL

Cooperative Agreement recipients must obtain written approval from CDC prior to establishing a third party contract to perform program activities. Approval to initiate program activities through the services of a contractor requires:

1. **Name of Contractor:** Who is the contractor? Include the name of the qualified contractor and indicate whether the contract is with an institution or organization. Identify the principle supervisor of the contract.
2. **Method of Selection:** How was the contractor selected? If an institution is the sole source for the contract, include an explanation as to why this institution is the only one able to perform contract services. If the contract is with an institution or organization, include the contract supervisor's qualifications.
3. **Period of Performance:** How long is the contract period? Include the complete

length of contract. If the contract involves a number of tasks, include the performance period for each task.

4. **Scope of Work:** What will the contractor do? List and describe the specific tasks the contractor is to perform.
5. **Criteria for Measuring Contractor Accountability:** How will contractor document successful performance? Provide an itemized budget with line item breakdown as well as total contract amount. If applicable, include how indirect costs will be reimbursed, including the indirect costs rate used.

Each of these elements should be reflected in the program budget. A separate justification is not necessary, as necessary justification information will be reflected in 1-4. More detailed information is described in the PHS Grants Policy Statement (POSTAWARD ADMINISTRATION, Contracts for Substantive Programmatic Work, pg 8-16 to 8-18 [Revised 4/1/94]).

Indicate if contractual services are provided as matching funds. If so, indicate the amount, whether cash or in-kind and the source(s).

SAMPLE BUDGET

Contractual	Total \$ _____
1. Name of Organization	
2. Method of Selection (Competitive or sole source - if sole source provide justification.)	
3. Period of Performance	
4. Description of Activities	
5. Method for Maintaining Performance Accountability	
6. Itemized Budget (Include categories used in program budget)	
List a sub-total for each contract in this category.	

G. CONSULTANT

This category is appropriate when hiring an individual to give professional advice or services (e.g. training, writing policy, etc.) for a fee, but is not an employee of the State health department. Cooperative Agreement recipients must obtain written approval from CDC prior to establishing a written agreement for consultant services. The budget should include necessary information about the consultant to be hired for advice or service, as well as a basis for payment.

SAMPLE BUDGET

Consultant	Total \$ _____
1. Name of Consultant	

2. Organizational Affiliation (if applicable)
3. Nature of Services to be Rendered
4. Relevance of Service to the Project
5. The Number of days of Consultation (basis for fee)
6. The Expected Rate of Compensation (separate by Travel, Per Diem, and Other Related Expenses)
 - List a sub-total for each consultant in this category.

H. OTHER

This category contains items not included in the previous categories. Give justification for all the items in the "Other" category (e.g. separate justification for Printing, Telephone, Postage, Rent, etc.). All costs associated with training activities should be placed in the Other category except costs for consultant and/or contractual.

Indicate any items, which are provided through matching funds. If so indicate the amount, whether cash or in-kind, and the source(s).

SAMPLE BUDGET

Other	Total \$ _____
Examples	
Printing \$[amount] per x [number] documents	\$(Subtotal)
Telephone \$[amount]per month x[number] Months	\$(Subtotal)
Postage \$[amount] per month x[number] Months)	\$(Subtotal)
Rent (\$[amount] per month x [number] months	\$(Subtotal)
Training costs for <u>(Name of Training)</u>	
List all expenses anticipated for the training activity in the format above. Include rental space for training (if required), training materials, speaker fees, substitute teacher fees and any other applicable expenses related to the training.	
Etc. (Charges \$ _____ per _____ x Item)	\$(Subtotal)

I. TOTAL DIRECT CHARGES

Show total direct costs by listing totals of each category.

SAMPLE BUDGET

Total Direct Costs		Total \$ _____
A. Personnel	\$	
B. Fringe	\$	
C. Travel	\$	
D. Equipment	\$	
E. Supplies	\$	
F. Contractual	\$	
G. Consultant	\$	
H. Other	\$	

Total Direct Costs	\$	

J. INDIRECT CHARGES

Calculate the indirect costs using the most current indirect cost rate agreement established by your agency. Enclose a copy of the most recent indirect cost rate agreement with the itemized budget. The itemized budget should provide information describing how the indirect cost was calculated, including the rate, base, and an itemized list of direct cost items (and amounts) used to determine total indirect costs.

SAMPLE BUDGET

The most recent indirect cost rate agreement is dated _____. The rate is _____% and is computed on the following direct cost base \$ _____. (This information is described in Section I - Rate(s) and Base(s), on page 1 of the Indirect Cost Rate Agreement.)

Personnel	\$
Fringe	\$
Travel	\$
Supplies	\$
Other	\$

Total	\$
Times Indirect Cost Rate	xx%

Total Indirect Cost	\$

Total Direct and Indirect Costs

Total \$ _____

Personnel	\$
Fringe	\$
Travel	\$
Equipment	\$
Supplies	\$
Contractual	\$
Consultant	\$
Other	\$
Indirect Cost	\$
Total	\$ _____