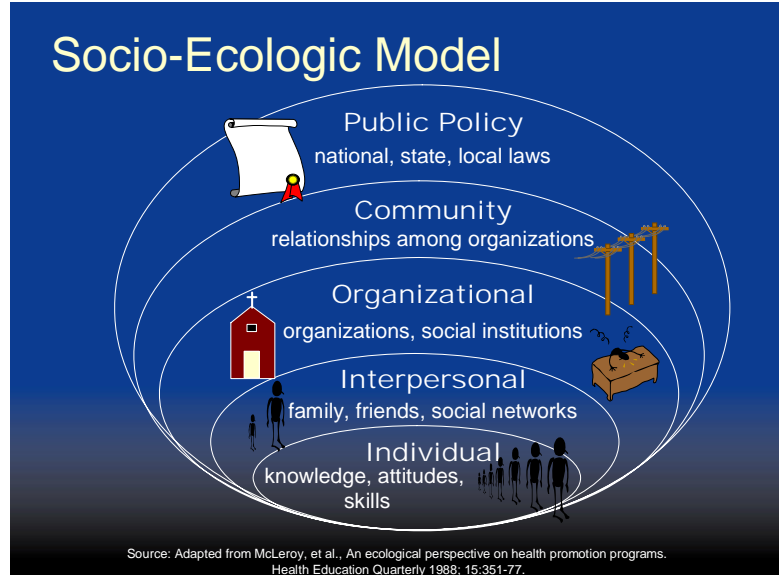


Interventions and Strategies Addressing Physical Activity and Fruits and Vegetables

Design and Implement Strategies and Interventions

Public health practitioners can implement interventions at every level of the Social-Ecological Model (societal, community, organizational, interpersonal, and individual levels). Interventions to prevent and control obesity should include an approach that creates environments, policy and practices that support both the increase in physical activity and improvement in dietary behaviors within the target audience. Interventions that are multi-component (education with skill-building, creating access with campaigns for awareness, etc.) go beyond the audience acquiring new knowledge and toward building skills and practicing the desired behavior. Assessment of the target audience and their needs, barriers and goals will direct the practitioner to the most appropriate intervention to reach the target population's nutrition and physical activity goals.



Target Area: Physical Activity

Overview of Strategies

The Guide to Community Preventive Services (www.thecommunityguide.org) recommends the following nine community-level physical activity intervention strategies. Though they are described separately, these interventions are typically multi-component and can share the same components in practice. For example, community-wide campaigns can simultaneously use social support and point-of-decision prompts to create or enhance access to places for physical activity. For any intervention strategy to be selected, decision-makers should consider these interventions in light of factors such as community resources, needs, priorities, and constraints.

Physical Activity Strategy 1: Community-Wide Campaigns

Community-wide campaigns can successfully integrate multiple strategies in community settings to positively affect levels of physical activity and related outcomes.

The following are general characteristics of community-wide campaigns:

- They are large-scale, intense, and highly visible, with messages directed to large audiences through various media, including television, radio, newspapers, movie theaters, billboards, and mailings.
- They include non-media components such as:
 - partnerships
 - environmental change (e.g., new walking trails)
 - policy change
 - social support (e.g., buddy system, self-help groups)
 - physical activity counseling

Physical Activity Strategy 2: Point-of-Decision Prompts for Stairwell

Point-of-decision prompts are low-cost, easy to implement, and effective ways to increase levels of physical activity by increasing the number of individuals who use stairs instead of elevators or escalators in worksites and elsewhere in the community. Most interventions are multi-component involving physical change of stairwell, promotion of stairwell as a means of daily physical activity and sometimes include a challenge or competition. The following are general characteristics of Point-of-Decision Prompts for Stairwells:

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- Visual cues (e.g., signs or banners posted near elevators, escalators, or moving walkways) designed to encourage individuals to use stairs.
- A variety of messages highlighting the benefits of physical activity, weight loss, and saving time. Examples (6) include: “Your heart needs exercise, use the stairs.” “Improve your waist line, use the stairs.”
- Signs designed to be highly visible (e.g., through placement and size).
- Reminders to people that opportunities to be more physically active are nearby.
- Making stairs a viable and appealing option by ensuring stairwells are accessible, safe, well-lighted, and clean, and by providing music or displaying art.

Physical Activity Strategy 3: Individually Adapted Health Behavior Change Programs

Individually adapted health behavior change programs can increase physical activity in diverse settings and among diverse populations. The following are general characteristics of individually adapted health behavior change programs:

- Targeting participants in a variety of community settings (through workshops and seminars) or larger populations (through web-based programs, mail, or telephone) which may provide opportunities to reach larger numbers of people at less expense.
- Tailoring to an individual’s specific interests, preferences, and readiness for change.
- Follow-up phone calls or monitoring by a counselor or coach.
- Teaching of behavioral skills such as:
 - setting goals and monitoring progress
 - building social support for new behavioral patterns
 - reinforcing behavior through self-reward and positive self-talk
 - problem solving geared toward maintenance of behavior change
 - preventing relapse into sedentary behaviors

Physical Activity Strategy 4: Enhanced Physical Education (PE) in Schools

School-based PE interventions have been shown to increase the amount of time youth are moderately to vigorously physically active in PE classes. Characteristics of this intervention could also be applied in a variety of youth-oriented settings, such as after-school programs and community and recreation centers. The following are general characteristics of enhanced physical education programs:

- Increase in the amount of time a child is physically active in class.
- Increase in length and frequency of classes.
- Increase in the number of children moving as part of a game/activity.
by modifying game rules (e.g., in softball, having the entire team run the bases)
or changing activities (e.g., replacing softball with soccer, so more students are active).
- High equipment-to-student ratio (e.g., at least every other student has a ball or jump rope).
- Active instruction and class management (e.g., students walk during roll call or engage in an activity while returning equipment).
- Use of limited and appropriate competition (e.g., no individual competition, a reduced emphasis on winning).
- Enthusiastic role models and reinforcement for active students.
- Focus on activities that are enjoyable to the children.
- Classroom instruction and/or behavior change strategies, such as goal setting, decision-making, and self management.
- Health-education activities.

Physical Activity Strategy 5: Social Support in Community Settings

Social support interventions can create, strengthen, and/or maintain new or preexisting social networks that provide supportive relationships for physical activity behavior change and which address barriers to exercise

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and negative perceptions about activity. The following are general characteristics of social support interventions in community settings:

- Buddy systems.
- Making contracts with others to complete specified levels of physical activity
- Walking or other activity groups to provide companionship, friendship, and support while being physically active.
- Monitoring of progress (e.g., through phone calls from other participants or project staff to encourage continued participation).

Physical Activity Strategy 6: Create or Enhance Access to Places for Physical Activity Combined with Informational Outreach Activities

This intervention provides and promotes physical activity opportunities for the target population by creating or improving access, combined with distribution of information. Efforts often involve the efforts of communities, worksites, coalitions, and agencies, and they create or improve access to places and facilities where people can be physically active.

Physical Activity Strategy 7: Street-Scale Urban Design and Land-Use Policies and Practices

Using street-scale urban design and land-use policies and practices can help increase physical activity among target populations. The following are general characteristics of street-scale urban design and land-use policies and practices:

- They are implemented in small geographic areas, generally a few blocks.
- Urban-design elements and practices include:
 - ensuring sidewalk construction or improvements
 - increasing the ease and safety of crossing streets
 - introducing or enhancing traffic-calming and speed-reduction measures (e.g., speed bumps, traffic circles)
 - improving street lighting
 - enhancing aesthetics of the street landscape
 - addressing safety issues (e.g., perception of crime)
- Land-use policies and practices include:
 - environmental changes
 - roadway design standards
 - zoning regulations
 - building codes
 - builders' practices
- A broad array of disciplines and expertise are used, such as public health professionals, urban planners, architects, engineers, and developers.

Physical Activity Strategy 8: Community-Scale Urban Design and Land-Use Policies and Practices

Community-scale urban design and land-use regulations, policies and practices commonly strive to create more livable communities. The following are general characteristics of Community-scale urban design and land-use policies and practices:

- Typically represent large geographic areas, generally several square miles or more and involve a broad array of disciplines and expertise, such as public-health professionals, urban planners, architects, engineers, and developers.
- Design elements and practices, such as:
 - ensuring sidewalk construction or improvements
 - increasing the ease and safety of crossing streets
 - introducing or enhancing traffic-calming and speed-reduction measures (e.g., speed bumps, traffic circles)
 - improving street lighting

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- enhancing aesthetics of the street landscape
- addressing safety issues (e.g., perception of crime)
- considering community design, density, and diversity by planning mixed-development communities; addressing the density and diversity of residential and commercial development; and locating stores, jobs, schools, and recreation areas within walking distance of where people live
- Land-use policies and practices, such as:
 - environmental changes
 - roadway design standards
 - zoning regulations
 - building codes
 - builders' practices

Physical Activity Strategy 9: Safe Routes to School

Safe Routes to School interventions are designed to increase the number of youth walking or bicycling to school. These interventions are referred to in a number of ways (e.g., Active Transportation to School, KidsWalk, Walk to School, Walking School Bus) and are of particular interest to public health because of their potential to increase physical activity and improve health among a large number of youth (1-7). Central to this intervention is the creation of an action plan to identify strategies and their solutions across the four "E's": 1) Education programs that teach motorists, pedestrians and bicyclists about their responsibilities and about traffic rules; 2) Enforcement enlists the help of local law enforcement to focus efforts in problem areas and increase community awareness of school safety issues; 3) Engineering tools include a variety of street design techniques that can reduce traffic volumes, decrease speed, and improve safety; and 4) Encouragement which includes developing awareness and building enthusiasm for walking and biking. Therefore, these interventions include multiple components including those recommended by the Community Guide (i.e., promotional campaigns, urban design and land-use policies and practices at both the street- and community-scale levels.) Specific examples of components in Safe Routes to School programs include:

- Addressing infrastructure
 - ensuring sidewalk construction or improvements (e.g., continuity of sidewalks)
 - increasing the ease and safety of crossing streets
 - introducing or enhancing traffic-calming and speed-reduction measures (e.g., speed bumps, traffic circles)
 - improving street lighting
 - enhancing aesthetics of the street landscape
 - addressing safety concerns and issues (e.g., perception of crime, bullying)
 - providing and securing bicycle facilities
- Changing policy or practices
 - environmental changes
 - roadway design standards
 - zoning regulations
 - building codes
 - builders' practices
- Promoting and/or changing behavior
 - safety campaigns
 - walking and bicycling skill building
 - active transport campaigns
 - penalties for disobeying of traffic or pedestrian laws
- Involvement of partners

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- a broad array of community members, disciplines and expertise, such as students, parents, teachers, school administrators, public-health professionals, urban planners, architects, engineers, and developers.

Target Area: Increased Consumption of Fruits and Vegetables

Fruit and Vegetable Strategy 1: Multi-component Interventions in Schools

Description

Studies of multi-component interventions to increase consumption of fruits and vegetables in schools have shown that these interventions affect fruit and vegetable consumption among children positively (1). The following are general characteristics of multi-component interventions in schools:

- A classroom curriculum that involves interactive learning through skill-building and problem-solving exercises that familiarize students with fruits and vegetables such as school gardens, exercises that teach them how to prepare these foods, and also how to promote them at home.
- Parental involvement, especially for primary-school-aged children.
- Information on recipes, tips on purchasing and preparing fruits and vegetables at home, and short family assignments.
- Training for food service staff on the purchase, preparation, and promotion of fruits and vegetables.
- Training for teachers on nutrition education, fruit and vegetable promotion, and/or how to integrate the intervention goals into existing curriculum.

Fruit and Vegetable Strategy 2: Multi-component Interventions in Childcare Settings

Efforts that may affect fruit and vegetable consumption in childcare settings include:

- Curricula that a) incorporate color, music, and the senses to teach children that healthy food and physical activity are fun and b) hand puppets used to initiate nutrition activities reflecting messages from the food pyramid.
- Parent component including newsletters and homework assignments for parents.
- Parent education with a focus on interactive cooking lessons and recipes that fit the topic of the lesson such as fruits and vegetables and dietary fiber.
- Staff training on the importance of healthy eating and physical activity for young children as well as for staff.
- Self-assessment of the childcare setting's nutrition and physical activity environments.

Because there are few interventions, there are not general characteristics across interventions for this strategy.

Fruit and Vegetable Strategy 3: Multi-component Interventions in Worksites

The following are general characteristics of multi-component interventions in worksites:

- Nutrition-education strategies focusing on individuals include nutrition lectures and workshops as well as educational materials such as self-help manuals, personalized feedback, Web-based learning, and newsletters.
- Interpersonal approaches include combining education with social activities such as peer support and family-related activities.
- Environmental supports include nutrition displays, cafeteria point-of-purchase information, healthful food preparation or choices, and exposure to 5 a Day events.
- Environmental strategies to increase access to fruits and vegetables may include increasing healthful offerings in cafeterias, vending machines, and at meetings. Other environmental changes may include providing breakroom facilities for food preparation and storage (refrigerators).
- Policies include setting standards for food at meetings and in cafeterias.
- Creation of worker-staffed advisory boards to plan and implement interventions.

Fruit and Vegetable Strategy 4: Multi-component Interventions in Faith-Based Organizations

Efforts that may affect fruit and vegetable consumption in faith-based settings include:

- Use of peer education, lay advisors, lectures, workshops, and speakers

State Nutrition, Physical Activity and Obesity (NPAO) Program Technical Assistance Manual. January 2008. Centers for 5 Disease Control and Prevention Division of Nutrition, Physical Activity And Obesity.

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- Motivational interview phone calls that provide personal counseling and education
- Printed materials such as cookbooks and videos on fruits and vegetables that use spiritual messages
- Nutrition displays and promotions in the cafeteria as well as healthy choices in the cafeteria
- Pastor support and community involvement

Because there are few interventions, there are not general characteristics across interventions for this strategy.

Fruit and Vegetable Strategy 5: Multi-component Interventions in Health Care Settings

The following are general characteristics of multi-component interventions in healthcare:

- Individual approaches that may consist of dietary assessment followed by tailored counseling, computer-tailored messages, personalized letters, role-playing, teaching self-monitoring, training to overcome barriers to selecting healthful foods, goal-setting, and guidance in food shopping and preparation.
- Interpersonal approaches that often include social support via cooking workshops, food demonstrations, lectures, discussion groups, and field trips to grocery stores or farmers' markets.

Fruit and Vegetable Strategy 6: Increasing Access to Fruits and Vegetables

Practical strategies that may increase the access to fruits and vegetables include:

- Local Food Policy Committees that represent a wide range of organizations with a stake in the local food system that develop policies to improve access to fruits and vegetables and support local agriculture.
- Economic and urban planning land-use policies that include establishing new grocery stores, improving convenience stores, and promoting community gardens and farmers' markets.
- Federal and local transportation policies that support walking, bicycling, and public transit to grocery stores and to farmer's markets.
- Direct marketing of farm-to-plate policies and programs, such as community-supported agriculture, farm-to-work and farm-to-school programs, and farmers' markets.

Because there are few interventions, there are not general characteristics across interventions for this strategy.

Fruit and Vegetable Strategy 7: Increasing Availability of Fruits and Vegetables

Practical strategies that may increase the availability to fruits and vegetables include:

- Marketing of food products such as bagged, prewashed spinach and salad or "snack-pack" baby carrots and celery sticks, which provide consumers with convenient preparation and take-out options.
- Modifications of school food service menu options to improve the variety and quality of fruits and vegetables including salad bars and a la carte options.
- Modifications of worksite cafeteria menu options and vending machine policies to increase the availability of fruits and vegetables.
- Modification of menu options by restaurants and other food establishments to include more fruits and vegetables in mixed dishes, salad bars, and broth-based soups; and adding more green salads as appetizers and a variety of fruit as dessert options to provide people with healthier choices.
- Promoting more variety of fruits and vegetables in grocery stores including increased placement and shelf space with or without labeling and signage strategies.
- Increasing fruit and vegetable offerings in other retail food markets such as farmers markets.

Because there are few interventions, there are not general characteristics across interventions for this strategy.

Fruit and Vegetable Strategy 8: Economic Incentives

Practical economic incentive strategies that may affect fruit and vegetable consumption include:

- Price reductions of fruits and vegetables in a worksite cafeteria.
- Price reductions of fresh fruits and vegetables in a school cafeteria.
- Food Stamp pilot bonus program providing participants with additional financial bonuses for every \$1 of food stamps spent on fresh produce.
- WIC and supplemental food program vouchers redeemable for fruit and vegetable purchases at grocery stores and farmers' markets.

Because there are few interventions, there are not general characteristics across interventions for this strategy.