

Strategies to Prevent Obesity and Other Chronic Diseases

The CDC Guide to Strategies to Increase the Consumption of Fruits and Vegetables



National Center for Chronic Disease Prevention and Health Promotion
Division of Nutrition, Physical Activity and Obesity



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Suggested Citation

Centers for Disease Control and Prevention. *Strategies to Prevent Obesity and Other Chronic Diseases: The CDC Guide to Strategies to Increase the Consumption of Fruits and Vegetables*. Atlanta: U.S. Department of Health and Human Services; 2010.

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Strategies to Prevent Obesity and Other Chronic Diseases

The CDC Guide to Strategies to Increase the Consumption of Fruits and Vegetables

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION
DIVISION OF NUTRITION, PHYSICAL ACTIVITY AND OBESITY**

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Using This Guide

This document provides guidance for program managers, policy makers, and others on how to select strategies to increase the consumption of fruits and vegetables. It offers the most relevant information on each type of strategy. The discussion of each strategy follows the outline defined here.

Strategy

Describes an environmental change or policy-related activity intended to prevent disease or promote health in a group of people, also referred to in the literature as an *approach*. Criteria for inclusion of a strategy in this document are a rationale supporting the strategy and examples of implemented programs.

Definition

Briefly describes the strategy.

Rationale

Explains why the particular strategy is important to efforts to increase the consumption of fruits and vegetables.

Evidence of Effectiveness

Draws on peer-reviewed literature and current practice to summarize the evidence of the strategy's effectiveness.

Key Considerations

Includes information that may be important to keep in mind during the planning, implementation, or evaluation phases of a strategy.

Action Steps

Identifies specific activities for each strategy that public health professionals can take to implement strategies in specific settings, including communities, schools, child care facilities, work sites, and medical care facilities.

Program Examples

Includes examples of programs that use the strategy as a way to increase the consumption of fruits and vegetables. Program examples were selected from interventions described in other publications, such as peer-reviewed journals or program reports, or identified by key informants and through Internet searches.

Resources

Guides the reader to further materials and information that might be useful in planning, implementing, or evaluating the strategy.



Introduction to Fruits and Vegetables

Eating a diet high in fruits and vegetables is associated with a decreased risk for many chronic diseases, including heart disease,¹ stroke,² high blood pressure,³ diabetes,⁴ and some cancers.⁵ Research also has found that replacing foods of high energy density (high calories per weight of food) with foods of lower energy density, such as fruits and vegetables, can be an important part of a weight-management strategy.^{6,7}

In addition, fruits and vegetables are good sources of many important nutrients, including potassium, vitamin C, folate, fiber, and numerous phytochemicals. The importance of fruits and vegetables as part of healthy diets is illustrated by the *Dietary Guidelines for Americans 2005*, in which two of the four recommended food groups are fruits and vegetables.⁸ The U.S. Department of Agriculture (USDA) MyPyramid Food Guidance System recommends eating 2 to 6½ cups of fruits and vegetables per day depending on age, sex, and activity level.

Awareness of recommendations for fruit and vegetable consumption has increased substantially over the last 20 years. In 1991, about 8% of U.S. adults reported being aware that fruit and vegetable intake should be at least 5 servings a day.⁹ In 2004, that number had increased to 40%.¹⁰ Unfortunately, this heightened awareness has not translated into behavior change. Trends in consumption show that intake of fruit has not changed in the United States since 1988, and intake of vegetables has decreased slightly during this period.¹¹

In a recent analysis of fruit and vegetable intake data that used the MyPyramid

recommendations for different groups according to age, sex, and activity level, fewer than 1 in 10 Americans ate enough fruits and vegetables. Among adults, the primary contributor to total fruit intake was whole fruits; among adolescents, it was fruit juices. The largest single contributor to overall fruit intake among adults and adolescents was orange juice.

Potatoes dominated vegetable consumption, particularly among adolescents, where fried potatoes increased the median intake from 0.72 cups to 1.21 cups per day. Dark green and orange vegetables and legumes accounted for a small portion of vegetable intake, and few people met specific recommendations for these vegetable subgroups.¹²

Strategies to increase access and availability of fruits and vegetables should focus on promoting products that maintain the healthy qualities of these foods. Fruits and vegetables can be fresh, frozen, canned, or dried as long as a certain level of healthfulness is maintained. For example, these foods should be unsweetened, low in sodium, and packed in juice, and fruit juices should be 100% juice.





The 10 strategies described in this guide focus on policy and environmental changes that are designed to increase access to and improve the availability of fruits and vegetables, with the expectation that these changes will lead to increased consumption. Strategies were selected by using the best available evidence, as well as the knowledge and experience of the authors and Centers for Disease Control and Prevention (CDC) partners.

Strategy 1. Promote food policy councils as a way to improve the food environment at state and local levels

Definition

Food policy councils and other types of food councils provide support and advise residents and governments on how to develop policies and programs to improve local food systems. The goal is to increase access to and the availability of affordable, healthy foods such as fruits and vegetables.

Food policy councils include stakeholders from public, private, and nonprofit sectors. Members represent a wide array of interests, including nutrition, health, agriculture, education, policy, community design, and commerce. They can be commissioned by state, tribal, or local governments; developed at the grassroots level; or created through some combination of the other two approaches.

Rationale

A food policy council is created in a community or state to develop policy related to healthy food access, including fruit and vegetable production, availability, and distribution. Food policy councils develop strategies to provide high-quality and affordable healthy food, including fruits and vegetables, to all members of a community.¹³ They achieve their goals through policy and environmental changes.

Food policy councils have supported policy and program initiatives related to healthy food retail, community and school gardens, food insecurity, farmers' markets and the Farmers' Market Nutrition Program, farm-to-institution and farm-to-school programs, promotion of locally grown foods, and nutrition education.^{14,15} These initiatives have the potential to contribute to changes in individual access to fruits and vegetables, which is a necessary step in influencing consumption.

Evidence of Effectiveness


Peer-reviewed research on the effects of food policy councils on increasing consumption of fruits and vegetables was not found. However, food policy councils have inspired food policy change in many areas, including purchase of

local and fresh fruits and vegetables for school lunches,¹⁵ promotion of sustainable agriculture, and improvements in access to food assistance programs and healthy foods for low-income populations.¹⁶ They also have increased outlets for locally produced farm products, created community and school gardens and farm-to-school education programs,^{14,15} and created new forms of insurance for small producers and farm-to-cafeteria and farm-to-school programs.

A case report from Australia described how the work of a steering committee that included multisector stakeholders (similar to a food policy council) led to significant progress in implementing food and nutrition interventions designed to improve fruit and vegetable consumption over a 1-year period.¹⁷

Key Considerations

- Food policy councils operate at state, regional, and local levels. Development of food policy councils should take into account the level of action needed to make food system changes. A state food policy council should be formed to review the state food system, whereas a city or local community food policy council is a better option to address specific food access issues in a specific city or community.

- 
- Food policy councils can be mandated by government or naturally assembled by interested stakeholders and food system experts. Mandated food policy councils often have a steady stream of funding and paid council members. However, the appointed membership may not fully represent the needs of the local food system. Naturally occurring food policy councils often have knowledgeable, invested members, but they may not have a sustainable source of funding.
 - Once a food policy council is formed, a community food assessment can help members understand what policy and environmental changes might be needed, as well as issues related to fruit and vegetable access among disparate populations (e.g., low-income or minority communities). In 2002, the Community Food Security Coalition published *What's Cooking in Your Food System? A Guide to Community Food Assessment* as a guide on how to conduct community food assessments.
 - Food policy councils provide a key forum for collaboration between public health, sustainability, and planning advocates. They also can broaden the discussion of food and agricultural issues to facilitate a more comprehensive examination of food systems. A food policy council can serve

as a networking and educational tool for individuals in different parts of the food system. As a result, stakeholders become more informed about how individual actions affect local and regional food systems.¹⁵

- Food policy councils help to ensure the sustainability of policy support and program development beyond an initial intervention. They are also a way to build capacity within the community.

Program Examples

Hartford Food System

The City of Hartford Advisory Commission on Food Policy evolved into a group with 15 volunteer members called the Hartford Food System. Ten members are professionals from antihunger organizations, and five members are from the general public. This organization is mandated by the City of Hartford. The commission operates on a \$25,000 budget, partially supported by the City of Hartford and private donations. The majority of this funding is allocated for staff support.

A primary accomplishment of the commission was helping to create the L-tower bus route,

Action Steps

1. Sponsor a conference to provide information about the benefits of food policy councils and training to key players in your local food system.
2. Promote the benefits of food policy councils to state legislators, city and local government officials, or your governor's office and offer to help establish state and local food policy councils in your area.
3. Provide materials about policy and environmental interventions designed to increase access to fruits and vegetables to food policy councils in your area.



which connects communities of lower income more directly to food stores, saving participants an average of 45 minutes of commute time.

Source: Hartford Food Systems.

Knoxville-Knox County Food Policy Council

Created in 1982, the Knoxville-Knox County Food Policy Council was the first food policy council in the United States. It was started by graduate students at the University of Tennessee and initially funded through a federal food and nutrition grant to develop community garden and food assistance programs. The council expanded to the county level in 2002, and members are now appointed by the mayor of Knoxville or the county executive of Knox County.

Accomplishments of the group include creating 27 community and school gardens and setting up a consulting partnership with the regional transportation authority to encourage officials to consider food access when determining bus routes.

Source: Knoxville-Knox County Food Policy Council.

Oklahoma Food Policy Council

This statewide collaborative entity of private- and public-sector partners is hosted by the Kerr Center for Sustainable Agriculture. Members represent a variety of interests, including farming and ranching, food processing, retail food, education, and the media, as well as tribal, conservation, religious, and antihunger organizations.

When the council was established in 2001, one of its initial projects was to promote foods grown in Oklahoma through farm-to-school programs. The Oklahoma Food Policy

Council was instrumental in helping to create and pass the Oklahoma Farm to School Program Act. The act formalized the successful pilot program, which highlighted seedless Oklahoma watermelons, and expanded the program to more than 400 schools.

The Oklahoma Department of Agriculture is the primary regulating agency. It designated a program administrator to provide leadership and program development, conduct workshops, and offer technical assistance to farmers, food service directors, food processors, and food distributors.

Source: Kerr Center for Sustainable Agriculture.

Resources

Hartford Food System

Learn more about how this coalition connects communities of lower income to food stores.
<http://www.hartfordfood.org>

Knoxville-Knox County Food Policy Council

Learn more about the first food policy council created in the United States.
<http://www.ci.knoxville.tn.us/boards/food.asp>





Oklahoma Food Policy Council

Learn more about this statewide collaborative that promotes farm-to-school programs.
<http://www.kerrcenter.com/ofpc/index.htm>

North American Food Policy Council

Community Food Security Coalition
How-to guides, a sample budget, and a list of current food policy councils that indicates which are mandated or managed by state or local governments.
<http://www.foodsecurity.org/FPC>

Portland Multnomah Food Policy Council

Examples of successful policies and programs.
<http://www.portlandonline.com/osd/index.cfm?c=42290&>

Washington Environmental Priorities Coalition

Learn about a broad-based environmental coalition that promotes local food systems, the use of electronic benefit transfer technology at farmers' markets, and the use of local food in emergency food programs.
<http://www.environmentalpriorities.org/local-farms>

State Indicator Report on Fruits and Vegetables, 2009

Centers for Disease Control and Prevention
Information about fruit and vegetable consumption and policy and environmental support within each state.
http://www.fruitsandveggiesmatter.gov/health_professionals/statereport.html

Counties and Local Food Systems: Ensuring Healthy Foods, Nurturing Healthy Children

National Association of Counties, Center for Sustainable Communities
Case study of a successful food policy council at the county level.
<http://www.foodsecurity.org/FPC/CountiesandLocalFoodSystems.pdf>

Food Policy—Discussion Paper Series

City of Toronto Food Policy Council
Information about a food systems approach to public health policy is found in papers published by the Toronto Food Policy Council, including “Reducing Urban Hunger and Changing Agricultural Policy.”
http://www.toronto.ca/health/tfpc_discussion_paper.htm

What's Cooking in Your Food System? A Guide to Community Food Assessment

Community Food Security Coalition
Report that highlights approaches to completing a community food assessment.
<http://www.foodsecurity.org/CFAguide-whats-cookin.pdf>

Drake University Agricultural Law Center: Reports and Publications

Resources from the center's state and local food policy projects.
<http://www.statefoodpolicy.org/?pageID=publishations>

Selling to Institutions: An Iowa Farmer's Guide

Drake University Agricultural Law Center
A guide to help farmers understand issues related to institutional purchasing.
<http://www.statefoodpolicy.org/docs/selling.pdf>

Fruits & Veggies—More Matters

Relevant promotional materials and information about licensing the Fruits & Veggies—More Matters brand.
<http://www.fruitsandveggiesmorematters.org>

ENACT

Strategic Alliance
ENACT is an online resource of local policies that provide strategies for healthy eating and active living in seven environments. It includes a hands-on assessment and planning tool.
<http://eatbettermovemore.org/sa/enact/members/index.php>

Strategy 2. Improve access to retail stores that sell high-quality fruits and vegetables or increase the availability of high-quality fruits and vegetables at retail stores in underserved communities

Definition

Food can be sold at a variety of retail stores in a community, including supermarkets, grocery stores, convenience stores, corner stores, and specialty food stores (e.g., fruit and vegetable markets). Improving access to these venues and increasing the availability of high-quality, affordable fruits and vegetables sold there will help increase fruit and vegetable consumption among community members.

These goals can be achieved in a variety of ways, including (1) attracting new food stores to underserved areas through financial incentives, (2) improving public transportation to these stores or influencing business owners to provide transportation for customers, (3) upgrading the facilities at existing stores to enable them to carry all forms of fruits and vegetables, and (4) increasing the supply of and shelf space dedicated to high-quality, affordable fruits and vegetables at existing stores.

Rationale

Neighborhood residents with better access to supermarkets and other retail stores that provide healthful foods tend to have healthier diets, including higher intakes of fruits and vegetables.¹⁸ The research further suggests that residents of rural, minority, and lower-income neighborhoods are more likely to have poor access to supermarkets.¹⁸ Although supermarkets generally offer a wider variety of foods at affordable prices, some have limited shelf space devoted to fresh fruits and vegetables, which limits the food choices of residents. Some neighborhoods do not have supermarkets or other retail stores that sell fruits and vegetables,¹⁹ and some people do not have reliable transportation to travel to areas with these types of stores.^{20,21}

In rural, minority, lower-income neighborhoods, convenience stores and other small grocery or corner stores may be more prevalent than supermarkets.^{22,23} Because these stores generally stock little or no produce because of limited space or equipment and may charge more for what is sold,²⁴ residents of these neighborhoods may have limited access to fruits and vegetables.

Improvements in access and availability are necessary steps in creating an environment conducive to adequate fruit and vegetable consumption. Policy and infrastructure supports that help stores sell more healthy foods provide an opportunity to increase access to and availability of fruits and vegetables. Access to fruits and vegetables at retail food stores can be improved by building and attracting new supermarkets or other retail outlets in underserved areas, improving transportation to stores that provide fruits and vegetables, and increasing the availability of affordable fruits and vegetables at existing stores by improving their supply and upgrading their facilities to offer more healthful foods.

Evidence of Effectiveness

Policy initiatives designed to bring supermarkets to underserved areas have been shown to improve food access and availability in communities. For example, the Pennsylvania Fresh Food Financing Initiative (FFFI), a public-private partnership created in 2004 by the state, helps create new supermarkets and refurbish or replace equipment at existing stores.²⁵ Eligible stores must be located in low- to moderate-



income areas that are currently underserved, and they must provide a full selection of fresh foods.

In 4 years, the Pennsylvania FFFI funded more than 83 projects across the state involving major national chains and smaller, independently operated stores. The projects have resulted in the creation or retention of about 5,000 jobs and 1.4 million square feet of retail space. A case study by The Reinvestment Fund, one of the partners in the Pennsylvania FFFI, found that adding a supermarket to an underserved area resulted in improved availability of a variety of healthy foods in the community.²⁶

As part of a retail store intervention in the city of Leeds, England, a major supermarket was built in an area considered to be a “food desert” because access to healthy, affordable food was limited. Evaluation of the Leeds intervention showed no overall effect on fruit and vegetable consumption among community members.²⁷ However, when use of the new store was considered, survey respondents who reported switching to the new store were found to have increased their consumption of fruits and vegetables, while those who did not switch to the new store showed no change in consumption. No similar published evaluations were found on these types of interventions in the United States to assess what effect they might have on people’s fruit and vegetable consumption.

Unpublished evaluations of interventions to improve food retail have shown promising results. For example, evaluation of an intervention to improve fruit and vegetable offerings and promote healthy foods at small ethnic stores (*tiendas* and *bodegas*) found that customers shopping at intervention

stores increased their consumption of fruits and vegetables compared with those shopping at nonintervention stores.²⁸ A New York City initiative to address issues of quantity, quality, display, and distribution at *bodegas* showed improvements in quality, quantity, and sales of fresh fruits and vegetables.²⁹

In addition, evaluation of the Apache Healthy Stores Program, a multicomponent intervention that included stocking healthier food items, found an increase in the purchase of healthy food, including fruits and vegetables, by households located near stores participating in the program.³⁰

No research was found that evaluated the effect of improvements in transportation to retail food outlets on fruit and vegetable consumption. However studies have shown an association between access and proximity to food outlets and diet. One study found that participants in the federal Food Stamp Program who lived closer or had better access to supermarkets ate more fruits.³¹ A separate study found that greater availability of fresh vegetables within 100 meters of residence was associated with higher vegetable intake,³² and a third study found that proximity to food outlets influenced the diet quality of pregnant women.³³






Key Considerations

- After conducting a community food assessment to determine the accessibility, availability, and affordability of healthy food in specific food environments, different solutions can be considered. For example,
 - ◇ If the assessment shows that food stores lack fruits and vegetables, consider policies, programs, and initiatives that work with retailers and local farmers to increase the availability of affordable produce in the community.
 - ◇ If the assessment reveals a lack of food stores, consider community efforts to encourage investment in food stores that provide affordable healthy foods.
 - ◇ In addition to permanent retail food stores, venues such as produce vans, mobile carts, and farmers' markets also should be considered for neighborhoods with limited resources.
- Communities can work to recruit more retail food stores to locations that are centrally located or easily accessible by public transportation.²⁷ Other options

Action Steps

1. Assess the food environments within a community to determine the accessibility, availability, and affordability of healthy food. The USDA's *Community Food Security Assessment Toolkit* and the Michigan Department of Community Health's Nutrition Environment Assessment Tool (NEAT) include assessment instruments.
2. Provide training to small store owners in your area on how to select, store, and maintain fruits and vegetables. This training also can include information about what equipment is needed to stock perishable items.
3. Sponsor a conference with urban and transportation planners and local officials to discuss and plan for transportation routes that offer better access to healthier food.
4. Help small store owners equip their stores to accept coupons from the federal Supplemental Nutrition Assistance Program (SNAP; formerly known as the Food Stamp Program) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).
5. Work with a local or regional food policy council on a fresh food financing initiative for your area. These initiatives can provide grants, low-interest loans, and training and technical assistance to improve or establish stores in underserved areas.
6. Support efforts to inform decision makers about the health benefits of increasing fruit and vegetable accessibility and affordability and about how this goal can be achieved through legislation and state policies that offer retailers incentives to locate in underserved areas. Incentives can include a streamlined development process, tax exemptions and credits, and help with land acquisition. These incentives can be balanced by requirements to devote a certain amount of shelf space to healthy foods.
7. Help existing retail food stores provide transportation options to their customers.
8. Consider healthy food retail when making general community plans and land-use decisions.



include working with transportation officials to plan public transit routes to retail food stores and working with developers to include stores that sell healthy foods in community plans.

- Successful efforts to bring supermarkets to underserved areas have had significant support from community, business, and political leaders. You will need to convene and obtain support from multiple stakeholders, including representatives from local and state departments of health, local and state governments, advocacy groups, trade associations, local universities, community-based organizations and associations, grocery retailers, and other local businesses.
- Zoning codes may present a barrier to bringing new food stores to a neighborhood. Understanding what barriers exist and working with partners to overcome these barriers will help you move forward to improve the retail food environment in your community.

Program Examples

Pennsylvania Fresh Food Financing Initiative (FFFI)

The Food Trust

The purpose of the Pennsylvania FFFI is to improve food access in underserved areas (both urban and rural) by increasing the number of supermarkets in these areas. The second goal of the FFFI is to provide an economic stimulus for communities in need.

After a report that used GIS mapping to show the relationship between supermarket access and health, the Philadelphia City Council directed The Food Trust to convene a task force to identify policy changes that could increase the number of supermarkets in underserved areas

of Philadelphia. Sustained public attention in Philadelphia generated interest from three state legislators, who worked to obtain funding for the FFFI. In 2004, legislation was passed to create an economic infrastructure for the FFFI loan/grant program and to fund building projects. Public-private partnerships established as part of this program have leveraged the initial \$30 million funding to \$120 million. Since the program began, the FFFI has committed \$63.3 million in funding for 83 supermarket projects in underserved rural and urban areas, which has resulted in the creation or retention of 5,000 jobs in those communities.

The Food Trust, The Reinvestment Fund (a community development bank), and the Greater Philadelphia Urban Affairs Coalition (a community-based organization) are responsible for operating the FFFI loan/grant program. The FFFI staff provides technical assistance to supermarket operators and works with the business community, which provides help with workforce development. Applicants to the FFFI program must have a strong business model (as determined by The Food Trust and The Reinvestment Fund staff) and an experienced supermarket operator. The most successful operators are those who work closely with community groups, which help the operator understand residents' needs and overcome obstacles to building new supermarkets.

Sources:

Kettel Khan L, Dawkins N, Leviton LC. The systematic screening and assessment method: finding innovations worth evaluating. *New Directions for Evaluation*. 2010(125).

University of North Carolina Center of Excellence for Training and Research Translation. Available at http://www.center-trt.org/index.cfm?fa=op_interventions.intervention&intervention=fffi&page=intent.



Healthy Corner Store Initiative

This project of The Food Trust of Philadelphia is intended to improve the food environment in low-income Philadelphia communities through an integrated approach of assistance to corner store owners, social marketing, nutrition education, and research. As part of a pilot program in 2008, The Food Trust helped 11 corner store owners store, display, and market fruit, with the intent of making fruit more financially viable. This effort has been replicated in 40 stores throughout North Philadelphia.

The project includes Snackin' Fresh, a youth-led advocacy and social marketing campaign designed to increase the availability of and demand for healthy foods in corner stores. Youth participating in the campaign helped create a film that documented their perspectives about food choices in corner stores. They also advocated for healthy foods in corner stores and planned a citywide Snackin' Fresh Summit.

To reinforce the other components of the initiative, The Food Trust works in local schools to educate students, teachers, staff, and parents about the importance of youth having healthy food options in the neighborhoods near their schools. It also promotes the Snackin' Fresh campaign through taste tests and events at schools.

Source: The Food Trust's Healthy Corner Store Initiative.

Good Neighbor Program

The Literacy for Environmental Justice's Good Neighbor Program provides economic incentives for merchants in San Francisco, California, to engage in practices that promote health among local residents. Owners of participating corner stores agree to increase their stock of fresh fruits and vegetables and reduce advertising for alcohol and tobacco. Incentives include free advertising,

business training, in-store healthy cooking demonstrations, and Good Neighbor branding.

The Good Neighbor Program is promoted through a campaign that is led primarily by local youth, who work to educate the community about the importance of healthy eating. In 2007, it was adopted as a model program as part of the state's Healthy Food Purchase Program. The *Good Neighbor Best Practices Guide*, which provides information on how to replicate the program in other communities, can be ordered online.

Source: Literacy for Environmental Justice, Good Neighbor Program.

Resources

Community Food Security Assessment Toolkit

U.S. Department of Agriculture

A tool kit of standardized measurement tools for assessing various aspects of community food security.

<http://www.ers.usda.gov/publications/efan02013/>

Nutrition Environment Assessment Tool (NEAT)

Michigan Department of Community Health

Use this community food assessment instrument to determine the adequacy of healthy food accessibility, availability, and affordability.

<http://mihealthtools.org/neat/>

Good Neighbor Program

Learn more about this program that provides local merchants with economic incentives to engage in practices that promote health.

<http://www.lejyouth.org/programs/food.html>

Healthy Corner Store Initiative

The Food Trust

Describes steps taken to improve the food environment in low-income Philadelphia communities.

<http://www.thefoodtrust.org/php/programs/corner.store.campaign.php>



Pennsylvania Fresh Food Financing Initiative

The Food Trust

Learn more about this program to improve food access in underserved areas.

<http://www.thefoodtrust.org/php/programs/ffi.php>

Community Development Financial Institutions

Resources for funding the establishment or renovation of food stores.

<http://www.cdfifund.gov/>

ENACT

Strategic Alliance

ENACT is an online resource of local policies that provide strategies for healthy eating and active living in seven environments. The community food strategy focuses on attracting grocery stores to underserved areas through financial and regulatory incentives.

http://www.preventioninstitute.org/sa/enact/neighborhood/supermarkets_underserved.php

Equitable Development Toolkit: Healthy Food Retailing

PolicyLink

An online tool that focuses on increasing access to retail outlets that sell nutritious, affordable food in underserved communities.

http://www.policylink.org/site/c.lkIXLbMNJrE/b.5137405/k.6042/Healthy_Food_Retailing.htm

Nutrition Environments Measures Survey (NEMS)

Emory University

Use this community food assessment instrument to determine the adequacy of healthy food accessibility, availability, and affordability.

<http://www.sph.emory.edu/NEMS>

Stimulating Supermarket Development: A New Day for Philadelphia

The Food Trust

Recommendations for how cities can encourage supermarket development in neighborhoods in order to ensure access to affordable nutritious food.

http://www.thefoodtrust.org/pdf/SupermktReport_F.pdf

Community Design for Healthy Eating: How Land Use and Transportation Solutions Can Help

Robert Wood Johnson Foundation

Report discussing the effect of the built environment on food access.

<http://www.rwjf.org/files/publications/other/communitydesignhealthyeating.pdf>

Homeward Bound: Food-Related Transportation Strategies in Low-Income and Transit-Dependent Communities

Examines 15 examples of programs that provide transportation services to increase access to food sources.

<http://eatbettermovemore.org/sa/pdf/homewardbound.pdf>

Transportation and Food: The Importance of Access

Center for Food and Justice, Urban and Environmental Policy Institute

A policy brief on food and transportation.

http://eatbettermovemore.org/sa/pdf/transportation_and_food.pdf

Supermarket Shuttle Programs

University of California-Davis

Feasibility study for supermarkets located in low-income, transit-dependent urban neighborhoods in California.

<http://eatbettermovemore.org/sa/pdf/ShuttleReport.pdf>

Strategy 3. Start or expand farm-to-institution programs in schools, hospitals, workplaces, and other institutions

Definition

Farm-to-institution programs and policies allow regional farms to sell fruits and vegetables directly to community institutions such as schools, universities, hospitals, faith-based organizations, and government and nongovernment work sites to facilitate convenient and regular access to fresh produce. Program structure primarily consists of institutional purchasing of locally and regionally grown fruits and vegetables for use in cafeterias, restaurants, and catering services and at meetings, conferences, and special events.

Programs and policies can incorporate education about fruits and vegetables, food preparation, or agriculture. Farm-to-school programs also can include activities that provide students with hands-on learning opportunities, such as food preparation and cooking classes, school gardening and composting, and farm visits.

Rationale

Farm-to-institution programs allow people who are studying, recovering, visiting, or working in public and private institutions to have regular and convenient access to affordable, high-quality, and regionally grown fruits and vegetables. By increasing the demand for fresh produce at institutions, these programs may encourage local and regional farmers to produce a variety of fruits and vegetables. In farm-to-school programs, farmers may visit the school, or field trips can be arranged to the farm.

Participants in other farm-to-institution programs have similar experiences. The direct connection with the food and grower enhances the perception of the food and the willingness of the participant to eat local and regional fruits and vegetables.³⁴ Because farm-to-institution programs can often only provide a portion of the produce needs of a given institution, they are considered to be a complement to existing food service programs.

Evidence of Effectiveness

Although farm-to-institution programs increase access to fruits and vegetables, there is limited evaluation research documenting the direct relationship of these strategies to fruit and

vegetable consumption of customers. However, a review of mainly nonpeer-reviewed evaluations that assessed the effect of farm-to-school programs on student dietary behavior found that nearly all programs (10 of 11) reported increased purchase or intake of fruits and vegetables after farm produce was added to school salad bars, meal selections, or class-based education, which was often implemented with nutrition education curricula.^{35,34} In addition, of the five programs that also examined student dietary behavior outside of school, four found increases in the selection or intake of fruits and vegetables.³⁵

Key Considerations

- Locally purchased products can be incorporated into many different venues at different institutions, including cafeterias, salad bars, on-site restaurants, stores or markets, and catering services, and at conferences and special events.
- Program success is aided by policy commitments, including contracts that support local and organic purchasing and identify personnel to coordinate the program, as well as federal and state policies that provide incentives to institutions to buy locally grown agricultural products.

- Collaboration with farmers' cooperatives can reduce program costs because these organizations may have simplified delivery systems, higher product volumes, or shared insurance.³⁶ Cooperatives also may have found ways to reduce other barriers on the farm side of the equation. Centralized locations for food storage and preparation can reduce barriers on the institutions' end.³⁷
- Food service operations are often pressured to produce standardized meals at low cost. Local farmers may have trouble meeting this objective because they have to deal with seasonality, crop yields, and taste differences.
- Farm-to-institution programs should involve interested stakeholders, such as wellness coordinators, school boards, food service directors, chefs, farmers' cooperatives, and food distributors and processors.
- Small businesses that do not provide food services to their employees will require a different type of program, but they should



Farm-to-Where-You-Are Programs

Farm-to-where-you-are programs promote the delivery of regionally grown farm produce to community institutions, farmers' markets, and individuals. Institutions such as schools, hospitals, workplaces, and other community organizations sell and distribute the fresh produce at cafeterias and other on-site dining and meeting facilities.

Farm produce also is sold to the public at community farmers' markets and packaged for direct delivery to individuals and households through community supported agriculture programs.

not be ignored as potential sites for farm-to-institution programs. For example, several small businesses could work together to create a farm-to-institution program at a nearby location where a larger company provides food service.

- In certain settings, such as schools, food service staff may need training on how to prepare and cook fresh whole foods, menus may need to be adjusted, and vendors may need to form new partners and sourcing practices. Farmers that supply produce can be asked to deliver food in a usable form, such as washed, cut up, and ready to serve.
- An overall plan for a farm-to-school program should address the practical changes needed to reduce reliance on commercially processed and prepared foods and equip schools with the necessary resources to prepare meals from scratch with fresh whole foods.



- Food preparation facilities may need new equipment or renovations in order to have the capacity to prepare or store fresh foods.
- Farm-to-workplace programs can be linked to other workplace wellness activities, such as health or weight-control classes or health marketing campaigns. They also can be linked with events that include food, such as conferences, meetings, and parties.
- Farm-to-school programs can be linked to other school nutrition activities, such as school gardens, cooking demonstrations, and nutrition education in the classroom.

Action Steps

1. Start a farm-to-institution program at your own location. The process will give you insight into the many issues that may arise and prepare you to address these issues when promoting farm-to-workplace programs elsewhere.
2. Establish links between farmers and community institutions, vendors, and distributors. Farmers may not be willing to switch from growing commodity crops to growing a variety of fruits and vegetables unless they are assured that a market will exist for their products. Institutions need to know what produce will be available over the year in order to plan their menus. In addition, many food service businesses have only worked with major, multinational food suppliers or distributors, and they may not know how to buy food through different mechanisms.
3. Collaborate with organizations such as Future Farmers of America to support the growth of fruit and vegetable farming as a profession.
4. Promote policies that support farm-to-institution programs. For example, support state and local policies that provide incentives for the purchase of locally grown agricultural products or the creation of institutional food-sourcing guidelines. Share these guidelines with local institutions.
5. Sponsor a conference to share information and provide networking opportunities for community institutions that are interested in a farm-to-institution program. This conference could address general topics, as well as more specific issues relevant to specific institutions, such as schools, hospitals, and government facilities.
6. To promote farm-to-school activities in your state,
 - Create an interagency working group with other state agencies, including the departments of education, health, and agriculture, as a way to tap into different resources and expertise.
 - Develop and disseminate training on how to start a farm-to-school program that includes information on food safety, availability of farm products during different seasons, menu ideas, staffing, storage, and preparation.
 - Promote purchase from local farmers as part of the USDA's Fresh Fruit and Vegetable Snack Program.



Program Examples

Kindergarten Initiative in Pennsylvania

This program uses education, snacks from local farms, parent involvement, and community support to promote healthy eating. Nutrition concepts are integrated into the regular kindergarten classroom curriculum, and healthy fruit and vegetable snacks grown by local farmers are provided to the students.

Source: The Food Trust's Kindergarten Initiative.

Oklahoma Farm to School Program

This program was created by state legislation in 2006 and is supported by a state food policy council initiated by the Kerr Center for Sustainable Agriculture. The legislation funds a full-time farm-to-school program coordinator in the Oklahoma Department of Agriculture who creates, fosters, and manages farm and school connections throughout the state.

Farm-to-school activities include serving locally grown produce in school cafeterias; creating school gardens; taking students to visit farms and farmers' markets; creating a nutritional and educational curriculum; offering cooking and tasting demonstrations; and offering workshops for growers, food service personnel, and teachers.

Source: Oklahoma Farm to School Program.

Yale Sustainable Food Project and the Yale University Dining Services

As part of a collaboration to change the culture of food at Yale, school officials buy local produce from regional farmers and growers, and one college even has its own garden. One dinner per week is produced entirely from sustainably grown local foods, and an entrée and side dish made from sustainably grown local foods are

offered as options at every lunch and dinner.

The Yale Sustainable Food Project has developed purchasing guidelines, seasonal menus, courses on food and agriculture, and other resources, all of which are available online.

Source: Yale Sustainable Food Project.

Resources

Kindergarten Initiative Toolkit

The Food Trust

Includes options for implementing a similar program by tailoring the *Kindergarten Initiative* to address specific needs.

<http://www.thefoodtrust.org/php/programs/kindergarten.initiative.php>

Oklahoma Farm to School Program

Learn about this program and the schools that participate.

<http://www.okfarmtoschool.com/index.htm>

Yale Sustainable Food Project

Learn more about this program and a related educational component for undergraduates.

<http://www.yale.edu/sustainablefood/food.html>

A Guide to Serving Local Food on your Menu

Glynwood Center

How-to approach for institutions and retail establishments.

<http://glynwood.org/assets/PDF's/ReportsandGuides/GuideLocalMenu.pdf>

Bring Fresh Produce to Your Setting

Eat Smart, Move More North Carolina

Practical information on how to develop partnerships with local farmers and produce vendors.

<http://www.eatsmartmovemorenc.com/FreshProduce/FreshProduce.html>



Bringing Local Food to Local Institutions

National Sustainable Agriculture
Information Service

A resource guide with detailed information on
how to initiate and manage these programs.

[http://attra.ncat.org/attra-pub/PDF/
farmtoschool.pdf](http://attra.ncat.org/attra-pub/PDF/farmtoschool.pdf)

Farm-to-Cafeteria Connections: Marketing Opportunities for Small Farms in Washington State

Guides farmers, food service organizations, and
other groups on how to develop farm-to-school
and farm-to-institution programs.

[http://agr.wa.gov/Marketing/SmallFarm/docs/
102-FarmToCafeteriaConnections-Web.pdf](http://agr.wa.gov/Marketing/SmallFarm/docs/102-FarmToCafeteriaConnections-Web.pdf)

Berkeley Unified School District Food Policy

The Alameda County School District Food
Policy requires that food served by the district
be nutritious, locally grown, and when
possible, organic.

[http://eatbettermovemore.org/sa/policies/policy_
detail.php?s_Search=&issue=2&env=&keyword=
&s_State=&jurisdiction=&year=&Search_Policy
Page=3&policyID=37](http://eatbettermovemore.org/sa/policies/policy_detail.php?s_Search=&issue=2&env=&keyword=&s_State=&jurisdiction=&year=&Search_PolicyPage=3&policyID=37)

Eat Smart—Farm Fresh! A Guide to Buying and Serving Locally Grown Produce in School Meals

U.S. Department of Agriculture

Focuses on procurement, types and examples of
farm-to-school distribution models, how to find
local farmers and locally grown food, menu-
planning considerations, and strategies
for success.

[http://www.fns.usda.gov/cnd/Guidance/Farm-
to-School-Guidance_12-19-2005.pdf](http://www.fns.usda.gov/cnd/Guidance/Farm-to-School-Guidance_12-19-2005.pdf)

ENACT

Strategic Alliance

ENACT is an online resource of local policies
that provide strategies for healthy eating and
active living in seven environments. The
school food strategy focuses on farm-to-school
programs that incorporate fresh, local produce
into school meals while teaching children about
local agriculture.

[http://www.preventioninstitute.org/sa/enact/
school/farm_to_school_6b.php](http://www.preventioninstitute.org/sa/enact/school/farm_to_school_6b.php)

Farm to College

Community Food Security Coalition Resources
for farm-to-college programs, including funding
information.

<http://www.farmtocollege.org/>

Farm to School and School Gardens

U.S. Department of Agriculture

Clearinghouse of tools, program examples, and
resources for implementing farm-to-school
programs.

[http://healthymeals.nal.usda.gov/nal_display/
index.php?info_center=14&tax_level=1&tax_
subject=526](http://healthymeals.nal.usda.gov/nal_display/index.php?info_center=14&tax_level=1&tax_subject=526)

Farm to School: Case Studies and Resources for Success

National Farm to School Program

Case studies of 14 successful farm-to-school
programs.

[http://www.foodroutes.org/doclib/243/
FarmtoSchoolSuccess.pdf](http://www.foodroutes.org/doclib/243/FarmtoSchoolSuccess.pdf)



***Farm to School Procurement
Information Package***

Community Food Security Coalition
Background information and tools for
developing farm-to-school procurement
programs.

<http://www.foodsecurity.org/procurement.html>

National Farm to School

How-to guides, information about funding
opportunities, case studies, policies and
legislation, and collaborating organizations.

<http://www.farmtoschool.org/>

National Farm to School Program

Community Food Security Coalition
Tips, tools, technical assistance, funding
opportunities, publications, and farm-to-school
program examples.

http://www.foodsecurity.org/farm_to_school.html

Small Farms/School Meal Initiative

U.S. Department of Agriculture
Step-by-step guide to bring small farms and
local schools together.

<http://www.fns.usda.gov/cnd/Lunch/Downloadable/small.pdf>

***Farmer's Markets and CSAs on
Hospital Grounds***

Health Care Without Harm
Describes the benefits and challenges of
hospital farmers' markets and provides tips for
getting started.

http://www.noharm.org/lib/downloads/food/Farmers_Markets_CSAs_Hosp.pdf

Farm to Hospital

Center for Food Justice, Occidental College
Resources to promote programs that link local
farms with health care facilities.

<http://departments.oxy.edu/uepi/cfj/f2h.htm>



***Healthy Food, Healthy Hospitals, Healthy
Communities: Stories of Health Care Leaders
Bringing Fresher, Healthier Food to their
Patients, Staff, and Communities***

Eight case studies by the Institute for Agriculture
and Trade Policy's Food and Health Program.

<http://www.healthobservatory.org/library.cfm?refid=72927>

***Menu of Change: Healthy Food in Health Care
Health Care Without Harm***

Outlines steps that the health care industry
can take to improve the health of patients,
communities, and the environment by providing
fresh, local, and sustainable food.

http://www.noharm.org/lib/downloads/food/Menu_of_Change.pdf

***Ordering Farm-Fresh Produce for Work Sites
Network for a Healthy California***

Step-by-step instructions on how work sites can
order boxes of fresh fruits and vegetables from
local farmers to provide as healthy snacks for
their employees.

http://www.takeactionca.com/docs/fit-business-kit-tools/BRO-173_FEB_2008FINAL.pdf

Strategy 4. Start or expand farmers' markets in all settings

Definition

A farmers' market is a recurring gathering of farmers selling their food products, including fruits and vegetables, directly to consumers. Farmers' markets can be held on public or private land and in temporary or permanent structures. Farmers' markets can be set up in community locations, health clinics, places of worship, schools, and workplaces. They generally supply produce for purchase by community members, but they also can supply produce to local restaurant owners.

Populations that have previously lacked access to fresh produce may need education on how to use and store these items. Food and nutrition assistance programs such as SNAP, WIC, and the WIC Senior Farmers Market Nutrition Program (SFMNP) can offer nutrition education programs to meet this need.

Rationale

During 1994–2008, the number of farmers' markets in the United States increased from 1,755 to 4,685,³⁸ suggesting increased interest in this method of food marketing. Farmers' markets are relatively easy to implement because they are less costly than supermarkets and can be set up in a variety of locations.³⁹ Farmers' markets provide a direct connection between consumers and the people who grow their food.

An important benefit of farmers' markets is that they support regional fruit and vegetable production, while providing consumers with access to fresh produce at an affordable cost. Residents of low-income neighborhoods, where supermarkets are scarce and the small grocery and convenience stores that do exist sell limited fresh produce,²² may benefit most from the access to fruits and vegetables provided through farmers' markets. Increased access through farmers' markets may be associated with increased consumption of fruits and vegetables.⁴⁰


Food and nutrition assistance programs, such as SNAP, WIC, WIC SFMNP, and the WIC Farmers' Market Nutrition Program (FMNP), have begun to extend benefits to include farmers' market purchases for fruits and vegetables through the use of coupons or electronic benefit

transfer (EBT) debit cards.^{41–43} Farmers' market coupons allow low-income families to overcome the barriers of cost and availability of fresh fruits and vegetables.

Evidence of Effectiveness

Although farmers' markets are a way to increase access to high-quality produce, sparse work has been done to document the direct relationship of farmers' markets to increased fruit and vegetable consumption by customers. Kaiser Permanente surveyed patrons at work-site farmers' markets and found that nearly 3 of 4 shoppers reported eating a few more fruits and vegetables because of the market, and more than half reported eating an increased variety of fruits and vegetables.⁴⁰

Two studies have evaluated the effects of WIC FMNP coupons on the fruit and vegetable consumption of participants.^{44,45} In one study, women who received the coupons increased their fruit and vegetable consumption compared with controls.⁴⁴ The second study evaluated the distribution of farmers' market and supermarket coupons to WIC participants and found that receipt of either coupon increased overall fruit and vegetable intake, and that the increase was sustained 6 months after the end of the intervention.⁴⁵ The increase was primarily in



vegetable consumption.⁴⁵ A mail survey of women participating in WIC found that those who had participated in the FMNP reported a higher daily intake of vegetables, but not fruits, than other WIC participants.⁴⁶

Key Considerations

- Farmers' markets should be centrally located, visible to the community, and easily accessible for both farmers and residents.
- Issues to address when setting up a farmers' market include local policies, zoning and land-use regulations, health

department regulations, insurance needs and costs, and food safety guidelines.

- A successful market requires a dependable, knowledgeable manager, as well as policies and procedures to help it to run smoothly.
- When setting up a market, consider the needs of local consumers.
- Education on the use and storage of fresh produce may be needed for populations that have previously lacked access to these items. You also will need to advertise the existence of new farmers' markets.

Action Steps

1. Collaborate with state departments of transportation and agriculture, as well as with urban planners, to educate decision makers in your state about the health benefits that may result from legislation and policies that support farmers' markets. Legislation or policies can address zoning, insurance, and food safety issues that affect the ability of small farmers to produce food for farmers' markets.
2. Help existing and new farmers' markets, especially those serving low-income populations, accept WIC and SNAP benefits. These efforts will include creating a system that allows farmers to accept EBT debit cards.
3. Establish a local food policy council to begin to plan farmers' markets for your area, or partner with other groups interested in implementing farmers' markets. Work with various stakeholders, including representatives from local businesses, governments, institutions, and communities, to ensure support for and success of the market.
4. Establish links between local or state food policy councils and groups that promote fruit and vegetable consumption. Marketing fruits and vegetables through a recognizable "brand" can be used in conjunction with this strategy. Exposing people to a brand, especially when it is connected to positive experiences, will make the brand stronger. Many state health departments are licensed to use the Produce for Better Health Foundation's Fruits & Veggies—More Matters brand.
5. Promoting a farmers' market that is located at a health care facility can be a great way for patients to practice what they learn in counseling sessions. Patients are told to eat more fruits and vegetables, and then they walk into a parking lot where fruits and vegetables are being sold.



Program Examples

Health Bucks

The New York City Department of Public Health developed this program as an incentive for low-income populations to buy more fresh fruits and vegetables at local farmers' markets. The program includes \$2 Health Buck coupons that can be exchanged for fruits and vegetables at participating markets. One Health Buck is given to each customer for every \$5 in SNAP benefits spent at the farmers' market. More than 40% of the 9,000 coupons initially distributed in 1996 were redeemed for fruits and vegetables. The Health Bucks initiative has been expanded in subsequent years to include distribution sites at local schools.

Source: New York City Department of Public Health.

Kaiser Permanente Farmers' Markets

Kaiser Permanente has set up on-site farmers' markets at its regional hospitals and community health centers across five states. This program



is designed to increase access to fruits and vegetables for patients and community members. Surveys of patrons at these farmers' markets have shown that the majority of customers have increased their fruit and vegetable intake and the variety of produce they eat as a result of this initiative.

Source: Kaiser Permanente.

The Food Trust: Farmers' Markets

This nonprofit organization in Philadelphia, Pennsylvania, develops farmers' markets in the Philadelphia area. Since the program began, The Food Trust has set up 30 farmers' markets that provide fresh produce from local farmers and growers. The markets also offer nutrition education, and low-income families with SNAP and FMNP benefits can use EBT debit cards or vouchers to buy fresh produce at the market.

The Food Trust and Greensgrow, an urban agriculture organization in Philadelphia, work with the Farmers Market Alliance in Pennsylvania, which provides political and economic support for the growth of farmers' markets throughout the state. The alliance successfully advocated for the Farmers' Market Development Act, which provides grants to develop or expand farmers' markets in Pennsylvania.

The alliance is a growing coalition of Pennsylvania organizations that work across the food and farm system, including farmers' market advocates, city and state officials, rural and urban farmers, school nutrition program specialists, smart growth advocates, and food industry representatives.

Source: The Food Trust.

Resources

Health Bucks

New York City Department of Public Health

Learn more about this program that works to make farmers' markets affordable.

http://www.nyc.gov/html/doh/html/cdp/cdp_pan_health_bucks.shtml#hb

Farmers Market Alliance

The Food Trust

Learn more about this program that buys produce from local farmers and growers.

<http://www.thefoodtrust.org/php/programs/farmers.market.alliance.php>

Farmers' Markets and Kaiser Permanente Health Food Initiatives

Kaiser Permanente

Learn more about farmers' markets at regional hospitals and community health centers in five states.

http://info.kp.org/communitybenefit/html/our_work/global/our_work_3_d.html

ENACT

Strategic Alliance

ENACT is an online resource of local policies that provide strategies for healthy eating and active living in seven environments. The health care food strategy focuses on setting up farmers' markets and farm stands.

<http://www.preventioninstitute.org/sa/enact/healthcare/farmersmarkets.php>



Farmers' Markets and Local Food Marketing

U.S. Department of Agriculture

Information on private sector and federal farmers' market programs and projects, funding sources, coalitions, statistics, and publications.

<http://www.ams.usda.gov/farmersmarkets/>

Farmers' Markets: Marketing and Business Guide

National Sustainable Agriculture Information Service

Resource for starting a farmers' market.

<http://attra.ncat.org/attra-pub/PDF/farmmarket.pdf>

Farmers' Market Resource Guide

Kaiser Permanente

Discusses ways in which a farmers' market can be established in health care settings, including permit and liability concerns.

http://info.kp.org/communitybenefit/assets/pdf/our_work/global/KP_farmersMarketResourceGuideMay06.pdf



Farmers' Markets Rules Regulations and Opportunities

National Center for Agricultural Law Research and Information, University of Arkansas
Discusses rules, regulations, and opportunities for farmers' markets.
<http://www.law.drake.edu/centers/docs/farmersMarkets.pdf>

Fresh Farm Food

Video that describes Kaiser Permanente's weekly farmers' market in the Watts Neighborhood in Los Angeles.
http://info.kp.org/communitybenefit/html/video_library/video_library.html?id=2

Homegrown: South Carolina's Guide to Starting or Enhancing Your Community's Farmers' Market

Eat Smart, Move More South Carolina
Step-by-step guide to creating, managing, and funding a local farmers' market.
<http://eatsmartmovemoresc.org/pdfs/farmers-market.pdf>

Hot Peppers and Parking Lot Peaches: Evaluating Farmers' Markets in Low-Income Communities

Case study report and guide produced by the Community Food Security Coalition.
<http://www.foodsecurity.org/HotPeppersPeaches.pdf>

Land-Use Protections for Farmers' Markets

National Policy and Legal Analysis Network to Prevent Childhood Obesity
Model land-use policies to help communities create more opportunities for farmers' markets and ensure their long-term viability.
<http://www.nplanonline.org/nplan/products/establishing-land-use-protections-farmers-markets>

Local Harvest

Find farmers' markets, family farms, and other sources of sustainably grown food, as well as information on where to buy fresh produce and grass-fed meats, in your area.
<http://www.localharvest.org/>

Starting and Sustaining Farmers' Markets

PolicyLink
Highlights innovative policies and policy opportunities and addresses entrepreneurial, educational, and organizational aspects of farmers' markets.
<http://www.policylink.org/site/c.lkIXLbMNJrE/b.5137443/apps/s/content.asp?ct=6966231>

WIC Farmers' Market Nutrition Program

U.S. Department of Agriculture
Information on the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) program and farmers' markets.
<http://www.fns.usda.gov/wic/fmnp/FMNPfaqs.htm>



Strategy 5. Start or expand community supported agriculture programs in all settings

Definition

Community supported agriculture (CSA) is a partnership between a farm and individuals in the community in which the individuals pay a membership fee in return for a share of a farmer's harvest. Members usually receive weekly deliveries of high-quality seasonal fruits and vegetables. CSA programs vary in the number of farms involved, membership fee structure and schedule, food delivery methods, and level of participation of the members in the operation of the farm. Some CSA programs are organized by workplaces as wellness programs for their employees, while others offer food preparation classes to members.

Rationale

During 1993–2007, the number of CSA programs in the United States increased from about 400 to more than 12,500.⁴⁷ Although this number is small considering the size of the U.S. population, this growth demonstrates increased interest in this method of fruit and vegetable distribution. CSA programs support regional fruit and vegetable production and distribution as a way to provide consumers with high-quality fresh produce at an affordable cost, therefore encouraging farmers to produce these foods.

Members of a CSA program get access to fresh produce, which in some communities may be the only access individuals have within a reasonable distance. Increased access to fruits and vegetables may lead to increased consumption of fruits and vegetables.


Evidence of Effectiveness

Limited evidence exists to show that participation in CSA programs increases consumption of fruits and vegetables. Although there are no published evaluations of CSA programs in the peer-reviewed literature, one study found a higher intake of fiber, vitamin A, and dark green and yellow fruits and vegetables among members of CSA programs compared with nonmembers.⁴⁸

Furthermore, although not a traditional CSA, the Seattle Senior Farmers' Market Nutrition Program delivers baskets of fresh local produce to homebound seniors. The seniors who received fresh produce reported a greater increase in fruit and vegetable consumption than seniors not participating in the program.⁴⁹ When interviewed, some participants reported that they would not have had access to fresh fruits and vegetables without this program and that delivery of the produce baskets stimulated their interest in healthful eating and improved their quality of life.⁵⁰

Key Considerations

- Produce from CSA programs can be distributed at a variety of locations, including a central community or neighborhood site, workplaces, schools, hospitals, or other institutions. Members also can pick up their produce at the farm.
- Existing zoning regulations can pose barriers to the implementation of CSA programs.
- Before starting a CSA program, you will need to understand the regulations that allow or disallow this activity. You may need to work to change some regulations.
- The economic situation of the population where a CSA program is being implemented is important to keep in mind.



Although these programs typically require full payment for the season in advance, more flexible models have been developed. These models include payment plans, work shares (where a person works on the farm in exchange for produce), and other forms of assistance for low-income persons.⁵¹

Program Examples

City Fresh

This CSA program works to provide fresh fruits and vegetables to low-income populations in urban areas of Cleveland, Ohio. It is a collaborative initiative between the Ohio State University Cooperative Extension and a not-for-profit organization called the New Agrarian Center. Pre-ordered bags of produce (shares) are paid for in weekly installments, and shares are offered at a substantially discounted price to participants who meet WIC family income standards. Consumers also can pay for produce with SNAP benefits. In less than 5 years, City Fresh has expanded its reach from four community distribution sites to more than 12 locations.

Source: City Fresh.

Eat Healthy Rebate Program

The Physicians Plus Insurance Company of Madison, Wisconsin, has partnered with the Madison Area Community Supported Agriculture Coalition (MACSAC) to subsidize the cost of buying local vegetables. Each year, insurance company members receive rebates of up to \$100 per individual or \$200 per family to buy vegetables from MACSAC.

Source: Physicians Plus Insurance Company.

Texas! Bringing Healthy Back

Through the Texas Department of State Health Services' employee wellness program, employees can order a fresh basket of local produce to be delivered weekly to their workplace. As part of this CSA program, state officials created a *Farm to Work Toolkit*, which includes tools, sample documents, and other resources. The tool kit is available online so that other states can use it to set up their own CSA programs in the workplace.

Source: Texas Department of State Health Services.

Action Steps

1. Establish links between existing CSA programs in your state and other areas that have a need or interest in creating these types of partnerships.
2. Study existing zoning regulations that may affect your ability to implement a CSA program and work with other groups to develop new regulations or modify existing ones as needed.
3. Invite operators and farmers who participate in local CSA programs and are looking for new distribution outlets to participate in state and local food policy councils. By participating in regional food planning activities, they can become aware of community needs and opportunities to expand into areas that currently lack access to fresh fruits and vegetables. Connect producers to groups that want CSA programs.
4. Make your workplace a pickup location for an existing CSA program or work with a local farmer to create a new CSA program at your workplace.



The Food Bank Farm of Western Massachusetts

In 1991, The Food Bank Farm in Hadley, Massachusetts, became the first CSA farm in the region with the primary mission of helping feed people in need of food assistance. Today, The Food Bank Farm has 800 CSA shareholders with 500 shares and is one of the largest CSA programs in the country. This program has an innovative approach that incorporates the CSA model into emergency food systems.

Source: The Food Bank Farm of Western Massachusetts.

Resources

City Fresh

Learn about this CSA program in Cleveland, Ohio.
<http://www.cityfresh.org/>

Eat Healthy Rebate Program

Learn about the Physicians Plus Insurance Company's CSA rebate program.
<http://www.macsac.org/rebates.html>

Texas! Bringing Healthy Back Farm to Work Initiative

Texas Department of State Health Services
Learn more about this work-site wellness program that includes a CSA program.
<http://www.dshs.state.tx.us/obesity/nutritionfarmtowork.shtm>

The Food Bank Farm of Western Massachusetts

Learn more about the first CSA program started in the United States, which has a primary mission of helping feed people in need.
<http://www.foodbankwma.org/>

Community Supported Agriculture

U.S. Department of Agriculture
A listing of CSA resources.
<http://www.nal.usda.gov/afsic/pubs/csa/csa.shtml>



CSA Training Manual

A thorough resource guide produced by the Michigan-based CSA Farms that explains how to develop a CSA program.
<http://www.csafarms.org/csafarms0656231.asp>

CSA Farm Locator

Local Harvest
A guide to finding CSA programs in your area.
<http://www.localharvest.org/csa/>

Eat Smart, Move More North Carolina

A multicomponent program with public health strategies intended to improve the nutrition and physical activity levels of North Carolina residents.
<http://www.eatsmartmovemorenc.com>



Farm to Work Toolkit

Texas Department of State Health Services
A guide for implementing a local produce
delivery program at your work site.
[http://www.dshs.state.tx.us/obesity/pdf/
F2WToolkit1008.pdf](http://www.dshs.state.tx.us/obesity/pdf/F2WToolkit1008.pdf)

Soil Association

Tool kits for starting a CSA program, as well as
case examples.
[http://www.soilassociation.org/Whatwedo/
Communitysupportedagriculture/tabid/266/
Default.aspx](http://www.soilassociation.org/Whatwedo/Communitysupportedagriculture/tabid/266/Default.aspx)

Strategy 6. Ensure access to fruits and vegetables in workplace cafeterias and other food service venues

Definition

Workplaces, including medical centers, universities, and other community and business establishments, can implement policies to promote fruits and vegetables at cafeterias and other on-site dining facilities. Policies can encourage or require

- The availability of a variety of appealing, high-quality, and affordable fruits and vegetables.
- Preferential pricing for fruits and vegetables through coupons, discounts, and subsidies.
- Use of point-of-sale icons (including nutrition labels) to highlight healthy fruit and vegetable options.
- A minimum proportion of fruits and vegetables.
- The incorporation of locally grown fruits and vegetables.

Rationale

The social and physical environment of the workplace can influence the health behaviors of individuals.⁵² Many people spend the majority of their time at a workplace, and they eat at least one meal and several snacks while there. About half of workers who responded to a national survey in 2003 indicated that they bought their lunch at work at least twice a week. Among workers who bought a lunch, 43% typically bought it at a fast-food restaurant, and 25% bought their lunch at an on-site cafeteria or sandwich shop.⁵³


The food available at on-site dining facilities influences what these employees buy to eat at work. If the foods available are high in added sugars, fats, and calories and low in nutrients, workers are more likely to eat more unhealthy foods. At some work sites (e.g., medical centers, universities, museums), the dining facilities also are used by the general public, thus influencing their food consumption as well.

According to an unpublished 2001 California survey, one of the most common reasons that residents gave for not eating fruits and vegetables

was they were hard to find at work.⁵⁴ Focus groups with low- and middle-income female workers in California revealed that the most frequently cited barrier to healthy eating at work was a lack of access to healthy foods such as fruits and vegetables.⁵⁴ These employees felt that the best ways to encourage proper nutrition and physical activity are to surround employees with healthy choices and provide them with opportunities to engage in healthy behaviors.⁵⁴

Employers can make it easier for workers and visitors to make healthy food choices by creating policies to ensure that fruits and vegetables are available in on-site cafeterias and restaurants. Price incentives and point-of-purchase nutrition information may enhance these policies and further increase consumption of fruits and vegetables. In addition, policies that address the foods available at workplaces can create social norms that support healthy eating,⁵⁵ a factor that influences fruit and vegetable intake.⁵⁶

Research suggests that employees are supportive of changes to the workplace food environment, including healthier options at workplace cafeterias, preferential pricing of healthy options, and point-



of-sale icons and nutrition labels.^{54,57} Research also has shown that business leaders support changes to the workplace food environment.^{54,58}

Evidence of Effectiveness

A systematic review of clinical trials that tested the effectiveness of workplace health-promotion programs that included environmental modifications⁵⁹ identified four multicomponent interventions with cafeteria modifications that increased fruit and vegetable intake.^{60–63} These studies suggest that fruit and vegetable consumption can be positively influenced by health-promotion programs in the workplace that include healthful modifications to the cafeteria.

Two additional studies measured fruit and vegetable sales at workplace cafeterias before and after an intervention.^{64,65} One study found that increasing the number and variety of fruits and vegetables offered and reducing prices resulted in increased sales of fruit and salads, especially among women and those trying to manage their weight.⁶⁴ A study of five workplace canteens in Denmark demonstrated that training canteen managers and staff to make fruits and vegetables more accessible and appealing at lunch meals resulted in a significant increase in the quantity of fruits and vegetables served to customers.⁶⁵

Furthermore, a systematic review of the literature on policy and environmental interventions designed to improve cardiovascular health concluded that addressing issues related to the availability of nutritious foods and point of purchase are among the strategies with the strongest evidence for promoting good nutritional behaviors.⁶⁶ The studies reviewed included evidence from workplace, school, and community settings and provided evidence that modifying the food environment can have positive effects on dietary behavior.

Key Considerations

- Creating and implementing policies to improve menu options can take a significant amount of effort and will require the involvement of many stakeholders. Buy-in and input from key stakeholders, including facility managers, food service managers, and employees, should be considered at each step in the formulation and implementation of policies. In health care workplaces, tell stakeholders how important it is for health care facilities to be role models of healthy eating for employees and visitors.
- Work sites may have contracts with large chain restaurants to provide food in their facilities for a specific period. Provide guidance to employers on how to negotiate new contracts for healthier food services before the current contract ends.
- Creative and new menu items can be added to increase consumption of fruits and vegetables. For example, you can add more fruits and vegetables to soups and stews, add fruits and vegetables to sauces and garnishes for pasta and meat dishes, and mix vegetables with rice. Inspiration can be found in traditional dishes from ethnic cuisines, as well as in seasonal dishes that are high in fruits and vegetables.
- Other strategy components to consider include (1) subsidizing healthy menu items to make them more affordable and to encourage their purchase and (2) labeling healthy menu items with point-of-choice signs.⁶⁷ Because management resources are needed to support these efforts, gaining management buy-in is important.



Action Steps

1. Create or expand a healthy cafeteria policy or program in your own workplace. This process will give you insight into the many issues that can arise and prepare you to address these issues when promoting healthy cafeteria policies and programs elsewhere.
2. Help local workplaces establish policies for healthy food environments.
3. Provide resources and training for food service vendors and staff on nutrition guidelines and sources for buying food that fits within these guidelines.

Program Example

Healthy Picks

The Healthy Picks program at the Santa Rosa Medical Center in California is one of several programs implemented by the Kaiser Permanente Comprehensive Food Policy. The program provides healthier food options in the medical center's vending machines and cafeteria. Healthy foods are labeled with Healthy Picks stickers.

Hospital officials used detailed nutritional standards to choose the Healthy Picks food options, which include more vegetables. A team of nutrition and dining service professionals working at Kaiser Permanente implemented the program.

Source: Kaiser Permanente Santa Rosa.

Resources

Healthy Picks

Learn about this point-of-purchase program that designates healthy selections in vending machines at a medical care facility in Santa Rosa, California.
<http://www.kaisersantarosa.org/health/healthypicks>

California Fit Business Kit

California Department of Health

A collection of tools and resources to help employers create a work-site culture and environment that supports healthy eating and physical activity among employees.

<http://ww2.cdph.ca.gov/programs/cpns/Pages/WorksiteFitBusinessKit.aspx>

Healthy Cafeteria Menu Gains Applause

Learn more about the cafeteria program at Kaiser Permanente Santa Rosa.

<http://www.kaisersantarosa.org/cafeteria>





ENACT

Strategic Alliance

ENACT is an online resource of local policies that provide strategies for healthy eating and active living in seven environments. The workplace food strategy focuses on workplace cafeteria meals and vending machines.

http://www.preventioninstitute.org/sa/enact/workplace/nutrition_4a.php

ENACT

Strategic Alliance

ENACT is an online resource of local policies that provide strategies for healthy eating and active living in seven environments. The workplace food and activity strategy focuses on farm-to-institution programs designed to incorporate fresh, local produce into cafeteria meals.

<http://eatbettermovemore.org/sa/enact/workplace/farmtoworkplace.php>

Healthy Food, Healthy Hospitals, Healthy Communities

Institute for Agriculture and Trade Policy

Case studies of eight hospitals that have successfully launched farm-to-hospital initiatives.

<http://www.environmentalobservatory.org/library.cfm?refid=72927>

Healthy Dining Menu Guidelines

California Department of Health

Healthy menu standards for on-site cafeterias and dining facilities.

<http://www.cdph.ca.gov/programs/cpns/Documents/Network-FV-WP-HealthyDiningMenuGuidelines.pdf>

Menu of Change: Healthy Food in Health Care

Health Care Without Harm

Outlines steps that the health care industry can take to improve the health of patients, communities, and the environment by providing fresh, local, and sustainable food.

http://www.noharm.org/lib/downloads/food/Menu_of_Change.pdf

Wellness Forum

Sonoma County Employers' Coalition on Health
Collection of policies and programs that support increasing healthy food options for employees and including employees in the development stages.

http://www.sonoma-county.org/scech/wellness/healthy_food.htm

Strategy 7. Ensure access to fruits and vegetables at workplace meetings and events

Definition

Employers can implement policies to promote fruits and vegetables at meetings, conferences, and other workplace events and gatherings. They also can implement policies that encourage the incorporation of locally grown fruits and vegetables into workplace menus.

Rationale

The social and physical environment of the workplace can influence the health behaviors of individuals.⁶⁸ Many people eat at least one meal and several snacks while at work. One obstacle to maintaining a healthy food intake at work is meetings and events where foods high in added sugars, fats, and calories and low in nutrients are served. Employees recognize the lack of healthy foods such as fruits and vegetables and the abundance of unhealthy foods available in the workplace as barriers to healthy eating. Therefore, employees are supportive of programs that increase healthy food options in the workplace.

Work sites can make it easier for people to make healthy food choices by creating policies to ensure that healthy food options such as fruits and vegetables are provided at work-site gatherings, including meetings, conferences, and other events.

Implementing such policies in the workplace can create social norms that support healthy eating,⁵⁵ a factor that influences fruit and vegetable intake.⁵⁶ Research suggests that employees and business leaders are supportive of changes to the workplace food environment.^{54,57,58}

Evidence of Effectiveness

Published evidence on the effect of implementing healthy food policies for workplace meetings and events on fruit and vegetable consumption is mainly limited to the evaluation of interventions that included this type of policy as part of a comprehensive work-site intervention or program. Clinical trial evaluations of two

large, multicenter work-site interventions that included changes to catering policies found significant increases in fruit and vegetable intake of employees.^{60,61}

These findings suggest that dietary behaviors can be positively influenced by health-promotion programs in the workplace that include changes to catering policies. Furthermore, a systematic review of the literature on policy and environmental interventions designed to improve cardiovascular health concluded that addressing the availability of nutritious foods is among the strategies with the strongest evidence for promoting good nutritional behaviors.⁶⁶ The studies reviewed included evidence from workplace, school, and community settings and provided evidence that modifying the food environment can have positive effects on dietary behavior.

Key Considerations

- Buy-in and input from key stakeholders, including facility managers, food service managers, and employees, should be considered at each step in the formulation and implementation of policies designed to promote fruits and vegetables at meetings, conferences, and other workplace events and gatherings.
- Employers may need to find new food service vendors and caterers who can meet their healthy food policies. Many workplaces have already implemented policies to promote healthy food environments and may be good resources for finding food service or catering companies that are



willing and able to provide food that satisfies these policies.

- A healthy food policy for workplace meetings and events can become part of a larger effort by employers to increase availability of fruits and vegetables in the workplace. Similar guidelines can be applied to the food offered in cafeterias and vending machines.
- Employers can work with local growers or produce distributors to have fruits and vegetables available at snack stations or break rooms. Employees can be encouraged to organize healthy food potlucks and to serve healthy foods at birthdays parties and other celebrations.

Program Example

CDC's Healthier Worksite Initiative

This program was designed to make it easy for CDC employees to make healthy choices in the workplace. In October 2002, CDC launched the Healthier Worksite Initiative to promote physical activity, nutritious eating, preventive health screenings, and other healthy choices. In the program's first 3 years, it included demonstration

projects, new policies, and environmental changes that affected the entire CDC workforce. Activities were guided by an advisory committee made up of representatives from CDC organizational units and different campuses.

In Atlanta, several environmental changes were made, including improvements to the stairwell and cafeteria at CDC's headquarters and creation of a walking trail at another campus. The program conducted walkability audits at nearly every CDC campus outside Atlanta, implemented a discount fitness center membership program for employees, and modified a policy on foods served at CDC-sponsored meetings and events.

Lessons learned from these activities are shared with other federal agencies. This information, as well as examples of new and revised policies that enhance workforce health promotion and step-by-step instructions for implementing similar programs, are available on CDC's Healthier Worksite Initiative Web site.

Source: Centers for Disease Control and Prevention.

Action Steps

1. Develop or expand a policy that promotes healthy food at meetings and events at your own worksite. By doing so, you will learn many important lessons that will help you as you promote the idea with local businesses.
2. Help local workplaces develop healthy food environment policies. By establishing a policy, employers clarify to food providers, meeting planners, and all staff members exactly what issues matter to them.
3. Provide resources and training on how to select healthy options for workplace meetings and events to food service personnel and those who order catering for meetings and events.



Resources

CDC's Healthier Worksite Initiative

Centers for Disease Control and Prevention
Step-by-step instructions, lessons learned, and examples of policies that enhance workforce health promotion.

<http://www.cdc.gov/nccdphp/dnpao/hwi/index.htm>

CDC's LEAN Works!

Centers for Disease Control and Prevention
Tools and evidence-based resources (including an obesity cost calculator) that can be used to design effective obesity prevention and control programs in the workplace.

<http://www.cdc.gov/leanworks/>

California Fit Business Kit

California Department of Health
A collection of tools and resources to help employers create a work-site culture and environment that supports healthy eating and physical activity among employees.

<http://ww2.cdph.ca.gov/programs/cpns/Pages/WorksiteFitBusinessKit.aspx>

Choosing Foods and Beverages for Healthy Meetings, Conferences, and Events

Centers for Disease Control and Prevention
Healthier Worksite Initiative guidelines for selecting healthful foods and beverages for breaks or meals at workplace meetings, conferences, and events.

http://www.cdc.gov/nccdphp/dnpa/pdf/Healthy_Worksite_Food.pdf

ENACT

Strategic Alliance

ENACT is an online resource of local policies that provide strategies for healthy eating and active living in seven environments. The workplace food strategy focuses on workplace cafeteria meals and vending machines.

http://www.preventioninstitute.org/sa/enact/workplace/nutrition_4a.php


ENACT

Strategic Alliance

ENACT is an online resource of local policies that provide strategies for healthy eating and active living in seven environments. The workplace food and activity strategy focuses on healthy food options for employees during the workday and at all meetings.

http://www.preventioninstitute.org/sa/enact/workplace/foodchoice_3a.php





Guidelines for Offering Healthy Foods at Meetings, Seminars, and Catered Events

University of Minnesota's School of Public Health

Rationale for healthful foods at meetings and specific guidelines for foods and snacks.

http://www.ahc.umn.edu/ahc_content/colleges/sph/sph_news/Nutrition.pdf

UC Berkeley Guide to Healthy Meetings and Events: A Tool for Campus Event Planners

University of California at Berkeley

Provides recommendations and resources on how to make meetings more healthful for faculty, staff, and students by including nutritious food and beverage options, using sustainable supplies, and providing activity breaks.

<http://www.uhs.berkeley.edu/facstaff/pdf/healthmatters/healthymeetings.pdf>

Healthy Food Choices for Meetings

Public Health - Seattle & King County
Model policies to encourage nutrition and physical activity at work sites.

<http://www.kingcounty.gov/healthservices/health/nutrition/meetings.aspx>

Meeting Well: A Tool for Planning Healthy Meetings and Events

American Cancer Society

A tool to help companies organize meetings and events with good health in mind.

<http://www.acsworkplacesolutions.com/meetingwell.asp>

Strategy 8. Support and promote community and home gardens

Definition

Community gardens are collaborative projects created by members of a community in which participants share both the maintenance and products of the garden, including fruits and vegetables. Gardens can be located in a park or a community lot, and the land can be divided into individual plots, shared among all members, or allocated through some combination of these approaches.

Community gardens can be managed by neighborhood residents, community-based organizations, government agencies, or coalitions. Some gardening programs also teach participants how to store and prepare food from the garden. Community gardens also can be comprised of a series of plots dedicated to urban agriculture, where produce can be distributed or sold to individuals, retailers, and restaurants in the community.

A home garden is located at an individual's place of residence and also can include fruits and vegetables to be eaten by individuals, as well as by their families, neighbors, and friends. Home production and storage of fruits and vegetables can be important during periods of limited access to these foods.

Gardens also can be incorporated into school curricula as a way to increase student and staff access to fruits and vegetables and to provide students with opportunities to participate in growing and harvesting a variety of these foods.

Rationale

Individual and community access to fruits and vegetables can be addressed through the creation of community and home gardens. Because individuals who participate in community or home gardens are exposed to fresh fruits and vegetables, they may be more likely to eat them.⁶⁹ Community gardens can yield high-quality produce at low cost, benefiting community members from both an economic and a health perspective.

Gardeners recognize that participation in a community garden can improve access to fresh fruits and vegetables and their nutrition. They also perceive other benefits, including increased physical activity, improved mental and social health, the enjoyment of nature, and community cohesion.^{70,71}

Evidence of Effectiveness

An evaluation of a large urban gardening project found that gardeners reported a higher consumption of specific vegetables and a lower consumption of milk, citrus, and sweet foods and drinks than nongardeners.⁶⁹ Focus groups conducted with inner-city youth revealed that those involved in garden programs reported more willingness to eat healthy food and try unfamiliar food than those not involved in a program.⁷²

Other studies have found an association between gardening and fruit and vegetable consumption, even when the gardening activity occurred in the past.^{73,74}



Key Considerations

- Local policies and zoning ordinances can pose barriers to community and home gardens. For example, a site that seems suitable for a community garden may be zoned for commercial use only. Some neighborhood associations may prohibit home gardens in front yards.
- Land availability, water supply, insurance coverage, soil conditions (e.g., lead content), and other potential challenges (e.g., vandalism) are important to consider before starting a community garden.
- Some communities may need help with start-up costs. Local community or faith-based organizations or businesses may be willing to pay for start-up costs or donate items such as seeds, tools, and building materials.

Program Examples

City Slicker Farms

This program increases food self-sufficiency by creating and helping to maintain organic, sustainable, high-yield urban farms and vegetable gardens in the backyards of low-income and minority populations in West Oakland, California.

Other services and activities include a weekly farm stand, gardening education workshops, and social activities. City Slicker Farms has formed partnerships with several local organizations, including the Alameda County Food Bank and the People's Grocery. One of its urban gardens produces 2,000 pounds of vegetables each year on 2,000 square feet of land.

Source: City Slicker Farms.

Action Steps

1. Identify communities that need and are interested in starting a community garden. Establish relationships between these communities and existing community programs or local businesses that can support these efforts through funding or other resources.
2. Study existing zoning regulations that are relevant to community and home gardening. Develop new regulations or modify existing ones as necessary.
3. Provide resources and training for community and home gardeners or set up a program in which state extension agents, master gardeners, or other knowledgeable gardeners will train community and home gardeners.
4. Invite operators of local community gardens to participate in state and local food policy councils.
5. Start a community garden at your local or state health department to promote and experience firsthand the benefits and challenges encountered in gardening efforts.



Common Ground Garden Program

Initiated in 1978 by the Los Angeles County Cooperative Extension, the Common Ground Garden Program focuses on lower-income and underserved families. The goals of the program are to improve nutrition; increase access to fresh, low-cost produce; offer gardening education; build bridges between neighbors and communities; help create employment opportunities; and encourage a cleaner, greener Los Angeles.

Families learn how to garden, grow their own food, and prepare this food in a healthful manner. In addition, the program trains community volunteers and master gardeners, who in turn, volunteer their time to community and school gardens.

Source: University of California Cooperative Extension, Los Angeles County.

P-Patch Community Gardening Program

Initiated in 1973 by the Seattle Department of Neighborhoods, the P-Patch Community Gardening Program focuses on low-income and immigrant populations. More than 6,000 urban gardeners currently participate in the program, using 2,500 garden plots that cover 23 acres of urban area.

Source: Seattle Department of Neighborhoods.

Resources

City Slicker Farms

Learn more about these organic, sustainable, high-yield urban farms and backyard gardens.
<http://www.cityslickerfarms.org/>

Common Ground Garden Program

Los Angeles County Cooperative Extension
Learn more about this program that increases access to fresh fruits and vegetables for lower-income and traditionally underrepresented families.

http://celosangeles.ucdavis.edu/Common_Ground_Garden_Program/

P-Patch Community Gardening Program

City of Seattle, Washington's Department of Neighborhoods Program

Tips and resources for community gardening, market gardening, youth gardening, and community food security.

<http://www.seattle.gov/neighborhoods/ppatch/>





A Guide to Community Food Projects

Community Food Security Coalition
Examples of successful community garden projects funded by the Community Food Projects Program.
http://www.foodsecurity.org/cfsc_case_studies.pdf

American Community Gardening Association

Information, tools, links, and resources for starting a community garden and a locator tool for finding your nearest community garden.
<http://communitygarden.org/>

Community Garden Start-Up Guide

Helps neighborhood groups and organizations start and sustain a community garden.
http://celosangeles.ucdavis.edu/garden/articles/pdf/startup_guide.pdf

ENACT

Strategic Alliance
ENACT is an online resource of local policies that provide strategies for healthy eating and active living in seven environments. The community food strategy focuses on promoting and establishing community gardens and agricultural initiatives.
http://www.preventioninstitute.org/sa/enact/neighborhood/community_garden.php

Got Dirt? A Gardening Initiative

Wisconsin Department of Health Services
Learn more about this program that helps plant gardens in communities and at schools and child care facilities.
http://www.dhfs.state.wi.us/Health/physical_activity/gotdirt.htm

Got Dirt? Garden Toolkit

Wisconsin Department of Health Services
Tips from garden experts on how to start a garden, as well as garden success stories from across the state.
http://dhs.wisconsin.gov/health/physicalactivity/pdf_files/GotDirt_09.pdf

Land-Use Protections for Farmers' Markets

National Policy and Legal Analysis Network to Prevent Childhood Obesity
Model land-use policies to help communities create more opportunities for farmers' markets and ensure their long-term viability.
<http://www.nplanonline.org/nplan/products/establishing-land-use-protections-farmers-markets>

National Gardening Association

How-to videos, gardening articles, and a food garden guide.
<http://www.garden.org/home>

Strategy 9. Establish policies to incorporate fruit and vegetable activities into schools

Definition

To reinforce health messages, schools can establish policies to incorporate activities that involve fruits and vegetables into their curricula. Such activities include gardening, agricultural education (e.g., visits to farms), lessons on fruit and vegetable preparation, and tasting demonstrations. School policies also can encourage integrated approaches to these activities, where the produce from school gardens is used as part of classroom activities, as well as in food service venues and at events and fundraisers held at the school.

These curriculum-based activities provide students with hands-on experiences with fruits and vegetables and support policy and environmental changes in the school setting. These activities also can be part of a farm-to-school program, or they can be designed to encourage the school to adopt such a program. Examples of policy and environmental changes include applying for the USDA's Free Fruit and Vegetable Snack Program, adding a salad bar to the school cafeteria, or creating standards for competitive foods that require fruit and vegetable options.

In school gardening programs, students participate in growing and harvesting a variety of fruits and vegetables. Gardening activities provide hands-on study of nutrition and science concepts, as well as ecology, math, history, social science, and the visual arts.

Agricultural education provides students a chance to learn about fruit and vegetable production at school, in the community, and elsewhere. Classroom activities that involve fruits and vegetables can teach students how to select and prepare fruits and vegetables and encourage them to taste and handle both familiar and unfamiliar varieties. Food preparation classes can support experiential learning about nutrition, health, science, and ecology.

Rationale

With most U.S. children aged 6–18 years attending school daily, schools are in a unique position to influence and promote fruit and vegetable intake in this population. The low percentage of youth aged 12–18 years who meet national recommendations for fruit and vegetable consumption highlights the need for strategies to increase consumption among this age group. Policies that require school-based nutrition education are one strategy that can help students eat a more healthy diet.

Research suggests that diet and nutrition education for children in elementary school should focus on concrete experiences with food.⁷⁶ School gardens, agricultural education, fruit and vegetable preparation, and tasting activities are concrete, hands-on experiences that can help students

develop a personal connection to their food and a lasting relationship to healthy eating. By providing students access to fruits and vegetables, these activities increase students' exposure to and familiarity with these foods, which influences the development of food preferences.^{77,78}

Access and preference have been identified as important factors affecting food consumption.⁷⁹ Using the school setting also can be beneficial because peer influence and social support are additional factors related to consumption,^{78,80} and teachers can model healthy behaviors to reinforce nutrition and health messages. School-based hands-on experiences with fruits and vegetables also may empower children to prepare these foods at home with their families and influence the quality of the food their families buy and prepare.^{81,82}



Some teachers perceive school gardens to be effective in enhancing healthful eating habits among students⁸³ and addressing aspects of healthy eating such as nutrition education, exposure to vegetables, and school support of healthy eating.⁸⁴

Additional benefits associated with the use of school gardens include improvements in students' attitude toward school; promotion of teamwork; outreach to the community; opportunities to learn about environmental stewardship, math, and science; and opportunities for physical activity.^{85,86}

Evidence of Effectiveness

Research conducted on school gardening programs has focused on primary schools and has found that school gardening, especially when used to enhance nutrition education programs, is associated with increased intake of fruits and vegetables among students.^{87,88} Participation in school gardening, often combined with education, has also been associated with factors that influence consumption of fruits and vegetables, including

- Increased ability to identify fruits and vegetables.^{72,89}
- Willingness to taste vegetables grown in the garden.⁹⁰
- Willingness to try vegetables in the school lunch.⁹¹
- Increased knowledge of and attitudes towards preferences for fruits and vegetables.^{90,92,93}

Food preparation and tasting activities are generally part of multicomponent classroom curricula. Thus, little direct evidence exists of the effectiveness of these specific components. One study of curricula that included cooking with new, plant-based foods found that students who participated in the curricula ate significantly

more of these foods when they were offered in the school lunch program than did students who did not participate.⁸²

Furthermore, parents of participating students stated that their children were “agents of change in their families,” asking them to buy new, healthy foods. Another study found that a food preparation program for elementary students had positive effects on preferences for and knowledge of healthy foods (including vegetables) and intentions to eat these foods, decreased plate waste of healthy foods, and improved self-efficacy towards cooking.⁹⁴

Key Considerations


- Many schools do not have adequate facilities, equipment, or partnerships to develop experiential lessons on fruit and vegetable production, preparation, and storage. A combined effort to create a school food environment that includes a garden, materials on how to prepare and store fruits and vegetables, and partnerships with local farms may be more likely to foster support and momentum for policies that call for the integration of experiential lessons at the school.
- Consider existing school and district policies that could pose barriers. For example, the garden's harvest may be plentiful enough for food service staff to use in cafeteria meals, but policies might prevent its use. Consultation with the school's district on how to eliminate or reduce these barriers may be necessary.
- School gardens, fruit and vegetable preparation and tasting curricula, and an existing farm-to-school program can be integrated. For example, foods from school gardens or local farms can be used in food-preparation and food-tasting activities.



- Farm tours or visits from farmers can reinforce lessons learned from school garden curricula.
- Teachers and other staff may need training in gardening and food preparation before teaching these lessons to students. Consider partnerships with local farmers, chefs, and university cooperative extension services to support such trainings.
- To sustain a school garden, schools must have broad support from the school community. Help schools obtain buy-in from key stakeholders, including district and school administrators, staff, parents, and students. Developing partnerships with other schools, community volunteers, civic groups, and local businesses also can increase the chances of long-term success. Help schools secure support to maintain school gardens during the summer when schools are out of session.
- Have a plan to address environmental challenges. For example, an urban school with almost no land could create a container garden on its roof or in a classroom with many windows. Schools in northern climates may need to start their gardens in a greenhouse.
- Extra produce from a school garden can be sold at markets, fundraisers, and school events or through school food service program. Any revenue generated must go

Action Steps

1. Plan a meeting with school officials to discuss the integration of experiential curricula that promote fruits and vegetables into school wellness policies.
2. Identify experts who can work with students and staff on experiential classes, including school food service staff, local chefs, culinary instructors, local farmers, dietitians, master gardeners, community garden groups, and members of university cooperative extension services.
3. Identify and form relationships between schools that want to start gardening programs and schools that have existing programs.
4. Encourage links between schools and community garden programs or local businesses that can support and partner with school garden programs. Establish links between schools and local farms to support agricultural education for students.
5. Identify resources for school gardens. Funding or supplies can come from state grants, nonprofit organizations, community organizations, local businesses, or local garden retailers.
6. Create training classes for appropriate school staff. Gardening skills to teach include how to start and maintain a garden and how and when to pick fruits and vegetables. Food preparation skills to teach include cooking techniques and how to use fruits and vegetables in snacks and meals, as well as lessons in food safety and general kitchen safety related to the use of knives, stoves, and other equipment. Classes also can provide information about how food preferences are developed.
7. Consider using the Institute of Medicine's *Nutrition Standards for Foods in Schools: Leading the Way Toward Healthier Youth* for guidance.⁹⁵



back into the nonprofit school food service account and can be used to sustain the school garden. Extra produce also can be donated to emergency food programs as long as the donations comply with state and local health and safety regulations.

Program Examples

Cooking with Kids

This program engages elementary school children in hands-on learning that uses fresh, affordable foods from diverse cultures. In 2007, the U.S. Department of Health and Human Services gave Cooking with Kids the national nonprofit Innovation in Prevention Award. The program was initially developed and implemented in public schools in Santa Fe, California, where more than 70% of the students are Latino, and many are from low-income households.

Students are encouraged to use all of their senses to explore many varieties of foods, to have fun, and to exercise choice. The curriculum is aligned with the New Mexico Department of Education's academic standards in math, science, social studies, language arts, and wellness, as well as with the National Health Education Standards.

An evaluation of the program showed that the majority of children have shown a greater interest in eating healthy foods, including fruits and vegetables, at home.

Source: Action for Healthy Kids.

Food Sense CHANGE: Cultivating Health And Nutrition through Gardening Education

This program developed by King County Extension of Washington State University integrates nutrition education through gardening

in reading, writing, math and science studies classes for King County students in grades K–5. The curriculum offers hands-on learning in cooking and gardening and can be downloaded for free from the Food Sense CHANGE Web site.

The program has been implemented in several schools where 50% of the students are enrolled in a free or reduced lunch program. Food Sense educators deliver 10 hours of classroom nutrition education and 3 hours of teacher training as a component of the program. Teachers then agree to devote 19 additional hours of classroom time to nutrition concepts in their daily curriculum.

Source: King County Extension of Washington State University.

Growing with Children Garden

The California Head Start Association joined with the California School Garden Network to launch this statewide garden project. During the 2007-2008 school year, 14 Head Start programs in California were awarded a garden grant that included basic materials, funds, and a garden start-up guide titled *Growing, Eating, Living: A Garden Guide for Head Start*. The goal of the program is to promote the message of nutrition, parent involvement, and active living through gardens at Head Start sites.

Source: California Head Start Association and California School Garden Network.

The Edible Schoolyard

This nonprofit cooking and gardening program was spearheaded by chef Alice Waters of the restaurant Chez Panisse and is located on the campus of Martin Luther King Junior Middle



School in Berkeley, California. The garden was established in 1995 and has gradually become more integrated into the curriculum and activities of the school. Biology and science classes are conducted in the garden, and cooking and food appreciation classes are held in the adjacent kitchen.

The Edible Schoolyard in Berkeley has inspired the development of school gardening programs throughout the Berkeley public school system, and it has developed an affiliate network of similar programs in other parts of the country. The first affiliate garden was created in New Orleans, Louisiana, at the Samuel J. Green Charter School. One goal of building a network of Edible Schoolyard gardens is to monitor best practices through cross-site research and to develop policy recommendations for local, state, and national levels.

Source: Edible Schoolyard.

Resources

Cooking with Kids

Educational materials and curricula that have been applied in schools throughout Mexico, the United States, and Canada.
<http://cookingwithkids.net/>

Food Sense CHANGE: Cultivating Health And Nutrition through Gardening Education

King County Extension,
Washington State University
How-to guide, curriculum, and
success stories.
<http://www.king.wsu.edu/nutrition/change.htm>

Head Start Garden Project

California Head Start Association
Learn more about this collaborative program that promotes the message of nutrition, parent involvement, and active living.
<http://caheadstart.org/GardenProgram.html>

The Edible Schoolyard

Detailed explanation of the original program in Berkeley, California, as well as downloadable lessons and recipes.
<http://www.edibleschoolyard.org/>

The Edible Schoolyard New Orleans

Learn more about this program created in 2006, which is based on the original program in Berkeley, California. The program provides students with engaging hands-on learning experiences through weekly gardening and cooking classes and school-based seasonal events.
<http://www.esynola.org/>





Agriculture in the Classroom

U.S. Department of Agriculture
Lesson plans related to food, agriculture, and health that help students gain a greater awareness of the role of agriculture in the economy and society.
<http://www.agclassroom.org/teacher/index.htm>

ENACT

Strategic Alliance
ENACT is an online resource of local policies that provide strategies for healthy eating and active living in seven environments. The school food strategy focuses on establishing school gardens.
<http://www.preventioninstitute.org/sa/enact/school/schoolgardens.php>

Farm-to-School and Educational Garden Programs: A Resource Guide for Georgia Educators, Administrators, and Parents

Georgia Organics
Instructions, lesson plans, and recipes.
http://www.georgiaorganics.org/about_us/Georgia%20Organic%20Farm%20to%20School%20Guide.pdf

Farm to School and School Gardens Resource Library

U.S. Department of Agriculture
Tools, program examples, and resources for creating school gardens.
http://healthymeals.nal.usda.gov/nal_display/index.php?info_center=14&tax_level=2&tax_subject=526&level3_id=0&level4_id=0&level5_id=0&topic_id=2314&&placement_default=0

Food is Elementary Research Summaries

The Food Studies Institute
Summary of results obtained from research-based projects that have introduced the Food is Elementary curriculum into schools.
<http://www.foodstudies.org/Results/ResearchSummaries.htm>

Kidsgardening.org

National Gardening Association
Classroom projects, professional development, funding, video tips, and a search tool that allows users to connect with other school gardens.
<http://www.kidsgardening.com/>

School Garden Wizard

Step-by-step guidance to create and implement a school garden.
<http://www.schoolgardenwizard.org/>

California School Garden Network

Downloadable curricula, a gardening guide, information on securing financial support for a garden, and helpful information about farm-to-school and agricultural literacy.
<http://www.csgn.org/>

Strategy 10. Include fruits and vegetables in emergency food programs

Definition

Emergency food programs provide hunger relief to individuals and families and include food banks, food rescue programs, emergency food organizations, emergency kitchens, food pantries, and homeless shelters. These programs can improve client access to fruits and vegetables by

- Requesting donations of fresh, frozen, canned, and dried fruits and vegetables.
- Partnering with local grocery retailers; farmers' markets; CSA programs; and community, school, and home gardens to supply these foods.
- Getting donations of or buying unsold and surplus fruits and vegetables from individual farmers.

Rationale

In 2007, about 11% of U.S. households were food insecure, which is defined as not having access to enough safe and nutritious food, at least sometime during the year.⁹⁶ Many of these individuals and families depend on food assistance, and nearly 7 million adults and 4 million children got food from food pantries in 2007.⁹⁷ Unfortunately, emergency food programs can have inadequate supplies of fruits and vegetables.^{98,99} Programs that offer food assistance can best encourage fruit and vegetable consumption by increasing their stock of these foods and providing them directly to the people they serve.

Evidence of Effectiveness

No research was found that evaluated the effectiveness of this strategy to increase consumption of fruits and vegetables.

Key Considerations

- Emergency food facilities can consider increasing their supply of all forms of fruits and vegetables (e.g., fresh, frozen, canned, and dried) and of 100% juice.
- The capacity for cold storage to safely stock fresh and frozen fruits and vegetables

at these facilities may be a limiting factor to receipt of these forms of produce.

- Efforts to increase the supply and use of fruits and vegetables at emergency food distribution centers should be accompanied by education and training for program staff and recipients on proper transport, storage, handling, and preparation of these foods.
- Emergency food programs also can initiate or partner with community gardens, which are an economical source of fresh fruits and vegetables.

Program Examples

Community Food Resource Center

This center is part of the Community Food Bank in Tucson, Arizona. Its vision is to improve community food security for residents of Pima County, Arizona, by promoting, demonstrating, advocating for, and collaboratively building an equitable and regional food system that supports food production and strengthens communities. This goal is achieved in part through community gardens and faith-based programs.

Source: Community Food Bank (Arizona).



Emergency Foodshelf Network: Minnesota's Free Food Bank

The mission of this network is to provide high-quality food and essential support services to hunger-relief programs in the community. The Lost Harvest program was developed to prevent the overabundance of fresh produce that comes into the United States from Mexico from going to waste. Instead of going into landfills because it cannot be sold quickly enough, this produce is distributed to needy U.S. families.

Source: Emergency Foodshelf Network.

Food Bank Farm

This affiliate of The Food Bank of Western Massachusetts donates half of its annual produce to food bank partners and to individuals who are food insecure in Western Massachusetts. This donation amounts to an average of 200,000 pounds of organic produce per year. The Food Bank Farm is supported in part by individuals

and families who buy a share of produce at the beginning of each season as part of a CSA program.

Source: The Food Bank of Western Massachusetts.

Michigan Agricultural Surplus System (MASS)

MASS is an innovative partnership between Michigan food banks, the agricultural community, and food processors. It has been funded by a grant from the Michigan Department of Agriculture since 1990. MASS seeks to reduce food waste by encouraging redistribution of surplus food to people in need. To achieve this goal, MASS buys unmarketable, yet nutritious, agricultural surplus and distributes it to Michigan food banks. MASS also ensures that growers, packers, and processors are reimbursed for the costs incurred during the donation process.

Source: Food Bank Council of Michigan.

Action Steps

1. Identify partners who can assess the existing fruit and vegetable supply within emergency food programs and identify areas that need enhancement.
2. Study existing policies and regulations relevant to the acquisition of fruits and vegetables by emergency food programs. Develop new regulations or modify existing ones as needed.
3. Invite operators of emergency food programs to participate in state and local food policy councils.
4. Encourage partnerships between emergency food programs and local grocers; farmers' markets; CSA programs; community, home, and school gardens; and individual farmers as a way to buy or get donations of unsold and surplus fruits and vegetables.
5. Create programs to train staff on proper transport, storage, handling, and preparation of fruits and vegetables.
6. Incorporate hands-on nutrition education into emergency food programs so that recipients of these services can become familiar with the benefits of fruits and vegetables and how to safely prepare them.



Resources

Community Food Resource Center

Community Food Bank
Learn more about this Arizona program to support food production and strengthen communities.
<http://communityfoodbank.com/community-food-security-center/>

Emergency Foodshelf Network: Minnesota's Free Food Bank

Learn more about this hunger-relief program.
<http://www.emergencyfoodshelf.org/Index.aspx>

Food Bank Farm

Learn more about this farm, which donates half of its annual produce to food banks and individuals.
<http://www.foodbankwma.org/farm/>

Michigan Agricultural Surplus System

Learn more about this innovative partnership to procure unmarketable, yet nutritious, agricultural surplus for Michigan food banks.
http://www.fbcmich.org/site/PageServer?pagename=programs_foodprograms_mass_index

Building the Bridge: Linking Food Banking and Community Food Security

Community Food Security Coalition
Case studies on creative community food bank programs, such as farm-to-institution and garden programs.
<http://www.foodsecurity.org/BuildingBridges.pdf>



Garden Writers Association: Plant a Row for the Hungry

Learn more about this public service program of the Garden Writers Association and the Garden Writers Association Foundation.
<http://www.gardenwriters.org/gwa.php?p=par/index.html>

Second Harvest Heartland

Guidance on starting a similar program and a list of potential partners from the Upper Midwest's largest hunger-relief organization.
http://www.2harvest.org/site/PageServer?pagename=progserv_plant_a_row



References

1. Hu FB. Plant-based foods and prevention of cardiovascular disease: an overview. *Am J Clin Nutr.* 2003;78(3 Suppl):S544-551.
2. He FJ, Nowson CA, MacGregor GA. Fruit and vegetable consumption and stroke: meta-analysis of cohort studies. *Lancet.* 2006;367(9507):320-326.
3. Fung T, Chiuve S, McCullough M, Rexrode K, Logroscino G, Hu F. Adherence to a DASH-style diet and risk of coronary heart disease and stroke in women. *Arch Intern Med.* 2008;168(7):713-720.
4. Montonen J, Knekt P, Jarvinen R, Reunanen A. Dietary antioxidant intake and risk of type 2 diabetes. *Diabetes Care.* 2004;27(2):362-366.
5. World Cancer Research Fund, American Institute for Cancer Research. Food, nutrition, physical activity, and the prevention of cancer: a global perspective. Washington (DC): American Institute for Cancer Research; 2007.
6. Tohill BC, Seymour J, Serdula M, Kettel-Khan L, Rolls BJ. What epidemiologic studies tell us about the relationship between fruit and vegetable consumption and body weight. *Nutr Rev.* 2004;62:365-374.
7. Rolls BJ, Ello-Martin JA, Tohill BC. What can intervention studies tell us about the relationship between fruit and vegetable consumption and weight management? *Nutr Rev.* 2004;62(1):1-17.
8. U.S. Department of Health and Human Services, U.S. Department of Agriculture. Dietary guidelines for Americans 2005. 6th ed. Washington (DC): Government Printing Office; 2005.
9. Stables GJ, Subar AF, Patterson BH, et al. Changes in vegetable and fruit consumption and awareness among US adults: results of the 1991 and 1997 5 A Day for Better Health Program surveys. *J Am Diet Assoc.* 2002;102(6):809-817.
10. National Cancer Institute. NCI 5 A Day attitude and behavioral tracking: national omnibus survey results, November 2003. Bethesda (MD): National Cancer Institute; 2003.
11. Casagrande, Stark S, Wang Y, Anderson C, Gary TL. Have Americans increased their fruit and vegetable intake? The trends between 1988 and 2002. *Am J Prev Med.* 2007;32(4):257-263.
12. Kimmons J, Gillespie C, Seymour J, Serdula M, Blanck HM. Fruit and vegetable intake among adolescents and adults in the United States: percentage meeting individualized recommendations. *Medscape J Med.* 2009;11(1):26.
13. Biehler D, Fisher A, Siedenburg K, Winne M, Zachary J. Getting food on the table: an action guide to local food policy. Venice (CA): Community Food Security Coalition and California Sustainable Agriculture Working Group (SAWG); 1999. Available at <http://www.ssawg.org/cfs-resources.html>. Accessed July 2, 2010.
14. McCullum C, Desjardins E, Kraak VI, Ladipo P, Costello H. Evidence-based strategies to build community food security. *J Am Diet Assoc.* 2005;105(2):278-283.
15. Southern Sustainable Agriculture Working Group. Food security begins at home: creating community food coalitions in the south. Southern Sustainable Agriculture Working Group; 2005. Available at http://www.ssawg.org/cfs-handbook.html#Food_Security_Begins_at_Home. Accessed July 2, 2010.
16. Dillon C. Counties and local food systems: ensuring healthy foods, nurturing healthy children. National Association of Counties Center for Sustainable Communities; 2007. Available at http://www.farmtoschool.org/files/publications_133.pdf. Accessed July 2, 2010.

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17. Pollard CM, Lewis JM, Binns CW. Selecting interventions to promote fruit and vegetable consumption: from policy to action, a planning framework case study in Western Australia. *Aust New Zealand Health Policy*. 2008;5(1):27.
 18. Larson N, Story M, Nelson M. Neighborhood environments: disparities in access to healthy foods in the U.S. *Am J Prev Med*. 2009;36(1):74-81.e10.
 19. Morland K, Filomena S. Disparities in the availability of fruits and vegetables between racially segregated urban neighborhoods. *Public Health Nutr*. 2007;10(12):1481-1489.
 20. McCann B. Community design for healthy eating: how land use and transportation solutions can help. Princeton (NJ): Robert Wood Johnson Foundation; 2006.
 21. Pierce M, Sheehan N, Ferris A. Nutrition concerns of low-income elderly women and related social support. *J Nutr Elder*. 2002;21(3):37-54.
 22. Morland K, Wing S, Diez Roux A, Poole C. Neighborhood characteristics associated with the location of food stores and food service places. *Am J Prev Med*. 2002;22(1):23-29.
 23. Powell L, Slater S, Mirtcheva D, Bao Y, Chaloupka F. Food store availability and neighborhood characteristics in the United States. *Prev Med*. 2007;44(3):189-195.
 24. Kaufman P, MacDonald J, Lutz S, Smallwood D. Do the poor pay more for food? Item selection and price differences affect low-income household food costs. Washington (DC): U.S. Department of Agriculture: Economic Research Center; 1997.
 25. Lang B, Manon M. Stimulating supermarket development: a new day for New York. The Food Trust; 2009. Available at <http://www.thefoodtrust.org/pdf/0509nycommission.pdf>. Accessed July 2, 2010.
 26. Goldstein I, Loethen L, Kako E, Califano C. Community Development Financial Institution financing of supermarkets in underserved communities: a case study. The Reinvestment Fund; 2008. Available at http://www.trfund.com/resource/downloads/policypubs/TRF_CDFI_SupermarketStudy.pdf. Accessed June 20, 2010.
 27. Wrigley N, Warm D, Margetts B. Deprivation, diet, and food-retail access: findings from the Leeds 'food deserts' study. *Environ Plan A*. 2003;35:151-188.
 28. Ayala GX, Baquero B, Linnan L, Laraia BA, Bloom P. Working with tiendas to promote healthy eating. 2009. In: *The Public Health Effects of Food Deserts: Workshop Summary*. Washington (DC): National Academies Press; 2009. Available at <http://www.nap.edu/catalog/12623.html>. Accessed July 2, 2010.
 29. Nonas C. New York City: Healthy Food Access. 2009. In: *The Public Health Effects of Food Deserts: Workshop Summary*. Washington (DC): National Academies Press; 2009. Available at <http://www.nap.edu/catalog/12623.html>. Accessed July 2, 2010.
 30. Ethelbah B, Gittelsohn J. Apache Healthy Stores: results of the main trial and future directions. National Research Initiative of the USDA CSREES. Johns Hopkins University; 2005.
 31. Rose D, Richards R. Food store access and household fruit and vegetable use among participants in the U.S. Food Stamp Program. *Public Health Nutr*. 2004;7(8):1081-1088.
 32. Bodor JN, Rose D, Farley TA, Swalm C, Scott SK. Neighbourhood fruit and vegetable availability and consumption: the role of small food stores in an urban environment. *Public Health Nutr*. 2008;11(4):413-420.



33. Laraia BA, Siega-Riz AM, Kaufman JS, Jones SJ. Proximity of supermarkets is positively associated with diet quality index for pregnancy. *Prev Med.* 2004;39(5):869-875.
34. Joshi A, Azuma A. Bearing fruit: Farm to School program evaluation resources and recommendations. National Farm to School Program, Center for Food & Justice Urban & Environmental Policy Institute Occidental College; 2008.
35. Joshi A, Azuma A, Feenstra G. Do farm-to-school programs make a difference? Findings and future research needs. *J Hunger Environ Nutr.* 2008;3:229-246.
36. Murray SC. A survey of farm-to-college programs: history, characteristics and student involvement [thesis]. Seattle: University of Washington; 2005.
37. Markley K. National Farm to College Research Report. Community Food Security Coalition; 2002.
38. U.S. Department of Agriculture, Agricultural Marketing Service. Farmers market growth: 1994–2009. U.S. Department of Agriculture; 2009. Available at <http://www.ams.usda.gov/AMSV1.0/FARMERSMARKETS>. Accessed July 2, 2010.
39. Elias J, Austin J. Supermarkets in inner cities. Boston (MA): Harvard Business School; 1996.
40. Kaiser Permanente's farmers' market patron survey summary of cross-site results. Kaiser Permanente; 2005. Available at <http://www.kaiserpermanente.net/homepage/kaiser/pdf/46367.pdf>. Accessed July 2, 2010.
41. U.S. Department of Agriculture, Food & Nutrition Service. WIC Farmers' Market Nutrition Program. U.S. Department of Agriculture; 2009. Available at <http://www.fns.usda.gov/WIC/FMNP/FMNPfaqs.htm>. Accessed July 2, 2010.
42. U.S. Department of Agriculture, Food & Nutrition Service. Senior Farmers' Market Nutrition Program. U.S. Department of Agriculture; 2009. Available at <http://www.fns.usda.gov/wic/SeniorFMNP/SFMNPmenu.htm>. Accessed July 2, 2010.
43. U.S. Department of Agriculture, Food & Nutrition Service. Supplemental Nutrition Assistance Program. Available at <http://www.fns.usda.gov/snap/>. Accessed July 2, 2010.
44. Anderson JV, Bybee DI, Brown RM, et al. 5 a day fruit and vegetable intervention improves consumption in a low income population. *J Am Diet Assoc.* 2001;101(2):195-202.
45. Herman DR, Harrison GG, Afifi AA, Jenks E. Effect of a targeted subsidy on intake of fruits and vegetables among low-income women in the Special Supplemental Nutrition Program for Women, Infants, and Children. *Am J Public Health.* 2008;98(1):98-105.
46. Kropf ML, Holben DH, Holcomb JP Jr, Anderson H. Food Security Status and Produce Intake and Behaviors of Special Supplemental Nutrition Program for Women, Infants, and Children and Farmers' Market Nutrition Program Participants. *J Am Diet Assoc.* 2007;107(11):1903-1908.
47. U.S. Department of Agriculture, National Agricultural Library. Community supported agriculture. Available at <http://www.nal.usda.gov/afsic/pubs/csa/csa.shtml>. Accessed July 2, 2010.
48. Cohen N, Cooley J, Hall R, Stoddard A. Community supported agriculture: a study of members' dietary patterns and food practices. In: Lockeretz W, editor. *Agricultural production and nutrition*. Medford (MA): School of Nutrition Science and Policy, Tufts University; 1997. p. 195-204.



49. Johnson DB, Beaudoin S, Smith LT, Beresford SA, LoGerfo JP. Increasing fruit and vegetable intake in homebound elders: the Seattle Senior Farmers' Market Nutrition Pilot Program. *Prev Chronic Dis.* 2004;1(1):A03.
50. Smith LT, Johnson DB, Beaudoin S, Monsen ER, LoGerfo JP. Qualitative assessment of participant utilization and satisfaction with the Seattle Senior Farmers' Market Nutrition Pilot Program. *Prev Chronic Dis.* 2004;1(1):A06.
51. Forbes CB, Harmon AH. Buying into community supported agriculture: strategies for overcoming Income barriers. *J Hunger Environ Nutr.* 2007;2(2):65-79.
52. Stokols D, Pelletier KR, Fielding JE. The ecology of work and health: research and policy directions for the promotion of employee health. *Health Educ Q.* 1996;23(2):137-158.
53. Blanck HM, Yaroch AL, Atienza AA, Yi SL, Zhang J, Masse LC. Factors influencing lunchtime food choices among working Americans. *Health Educ Behav.* 2009;36(2):289-301.
54. Backman D, Carman J, Aldana S. Fruits and vegetables and physical activity at the worksite: business leaders and working women speak out on access and environment. California Department of Health Services; 2004.
55. Sorensen G, Linnan L, Hunt MK. Worksite-based research and initiatives to increase fruit and vegetable consumption. *Prev.Med.* 2004;39(Suppl 2):S94-100.
56. Emmons KM, Barbeau EM, Gutheil C, Stryker JE, Stoddard AM. Social influences, social context, and health behaviors among working-class, multi-ethnic adults. *Health Educ Behav.* 2007;34(2):315-334.
57. Devine CM, Nelson JA, Chin N, Dozier A, Fernandez ID. Pizza is cheaper than salad: assessing workers' views for an environmental food intervention. *Obesity.* 2007;15(Suppl 1):S57-68.
58. Wilson MG, Goetzel RZ, Ozminkowski RJ, et al. Using formative research to develop environmental and ecological interventions to address overweight and obesity. *Obesity.* 2007;15(Suppl 1):S37-47.
59. Engbers L, van Poppel M, Chin A Paw M, van Mechelen W. Worksite health promotion programs with environmental changes: a systematic review. *Am J Prev Med.* 2005;29(1):61-70.
60. Sorensen G, Stoddard A, Hunt MK, et al. The effects of a health promotion-health protection intervention on behavior change: the WellWorks Study. *Am J Public Health.* 1998;88(11):1685-1690.
61. Sorensen G, Thompson B, Glanz K, et al. Work site-based cancer prevention: primary results from the Working Well Trial. *Am J Public Health.* 1996;86(7):939-947.
62. Beresford SAA, Thompson B, Feng Z, Christianson A, McLerran D, Patrick DL. Seattle 5 a Day worksite program to increase fruit and vegetable consumption. *Prev Med.* 2001;32(3):230-238.
63. Emmons KM, Macario E, Sorensen G, Kay Hunt M, Rudd RE. Nutrition education for cancer prevention among low-income populations: an extension of the EFNEP model. *J Nutr Educ.* 1999;31(1):47-53.
64. Jeffrey R, French S, Raether C, Baxter J. An environmental intervention to increase fruit and salad purchases in a cafeteria. *Prev Med.* 1994;23:788-788.



65. Lassen A, Thorsen AV, Trolle E, Elsig M, Ovesen L. Successful strategies to increase the consumption of fruits and vegetables: results from the Danish '6 a day' Work-site Canteen Model Study. *Public Health Nutr.* 2004;7(2):263-270.
66. Matson-Koffman DM, Brownstein JN, Neiner JA, Greaney ML. A site-specific literature review of policy and environmental interventions that promote physical activity and nutrition for cardiovascular health: what works? *Am J Health Promot.* 2005;19(3):167-193.
67. Story M, Kaphingst KM, Robinson-O'Brien R, Glanz K. Creating healthy food and eating environments: policy and environmental approaches. *Annu Rev Public Health.* 2008;29(1):253-272.
68. Stokols D. Translating social ecological theory into guidelines for community health promotion. *Am J Health Promot.* 1996;10(4):282-298.
69. Blair D, Giesecke CC, Sherman S. A dietary, social and economic evaluation of the Philadelphia urban gardening project. *J Nutr Educ.* 1991;23(4):161-167.
70. Wakefield S, Yuedall F, Taron C, Reynolds J, Skinner A. Growing urban-health: community gardening in South-East Toronto. *Health Promot Int.* 2007;22(2):92-101.
71. Armstrong D. A survey of community gardens in upstate New York: implications for health promotion and community development. *Health Place.* 2000;6(4):319-327.
72. Lautenschlager L, Smith C. Beliefs, knowledge, and values held by inner-city youth about gardening, nutrition, and cooking. *Agric Human Values.* 2007;24(2):245-258.
73. Alaimo K, Packnett E, Miles R, Kruger D. Fruit and vegetable intake among urban community gardeners. *J Nutr Educ Behav.* 2008;40(2):94-101.
74. Devine CM, Wolfe WS, Frongillo EA Jr, Bisogni CA. Life-course events and experiences: association with fruit and vegetable consumption in 3 ethnic groups. *J Am Diet Assoc.* 1999;99(3):309-314.
75. Tauber M, Fisher A. A guide to Community Food Projects: Community Food Security Coalition. Community Food Security Coalition; 2002. Available at http://www.foodsecurity.org/cfsc_case_studies.pdf. Accessed July 2, 2010.
76. Contento I. Children's thinking about food and eating—a Piagetian-based study. *J Nutr Educ.* 1981;13(Suppl 1):S86-90.
77. Burchett H. Increasing fruit and vegetable consumption among British primary schoolchildren: a review. *Health Educ.* 2003;103(2):99-109.
78. Birch LL. Development of food preferences. *Annu Rev Nutr.* 1999;19:41-62.
79. Blanchette L, Brug J. Determinants of fruit and vegetable consumption among 6–12-year-old children and effective interventions to increase consumption. *J Hum Nutr Diet.* 2005;18(6):431-443.
80. Brug J, Tak NI, te Velde SJ, Bere E, de Bourdeaudhuij I. Taste preferences, liking and other factors related to fruit and vegetable intakes among schoolchildren: results from observational studies. *Br J Nutr.* 2008;99(Suppl 1):S7-14.
81. Heim S, Stang J, Ireland M. A garden pilot project enhances fruit and vegetable consumption among children. *J Am Diet Assoc.* 2009;109(7):1220-1226.



82. Demas A. Low-fat school lunch programs: achieving acceptance. *Am J Cardiol.* 1998;82(10B):80T-82T.
83. Graham H, Zidenberg-Cherr S. California teachers perceive school gardens as an effective nutritional tool to promote healthful eating habits. *J Am Diet Assoc.* 2005;105(11):1797-1800.
84. Somerset S, Ball R, Flett M, Geissman R. School-based community gardens: re-establishing healthy relationships with food. *Journals of the HEIA.* 2005;12(2):25-33.
85. Blair D. The child in the garden: an evaluative review of the benefits of school gardening. *J Environ Educ.* 2009;40(2):15-38.
86. Ozer EJ. The effects of school gardens on students and schools: conceptualization and considerations for maximizing healthy development. *Health Educ Behav.* 2007;34(6):846-863.
87. Hermann JR, Parker SP, Brown BJ, Siewe YJ, Denney BA, Walker SJ. After-school gardening improves children's reported vegetable intake and physical activity. *J Nutr Educ Behav.* 2006;38:201-202.
88. McAleese JD, Rankin LL. Garden-based nutrition education affects fruit and vegetable consumption in sixth-grade adolescents. *J Am Diet Assoc.* 2007;107(4):662-665.
89. Somerset S, Markwell K. Impact of a school-based food garden on attitudes and identification skills regarding vegetables and fruit: a 12-month intervention trial. *Public Health Nutr.* 2009;12(2):214-221.
90. Morris J, Neustadter A, Zidenberg-Cherr S. First-grade gardeners more likely to taste vegetables. *Cal Ag.* 2001;55(1):43-46.
91. Parmer S, Salisbury-Glennon J, Shannon D, Struempfer B. School gardens: an experiential learning approach for a nutrition education program to increase fruit and vegetable knowledge, preference, and consumption among second-grade students. *J Nutr Educ Behav.* 2009;41(3):212-217.
92. Morris JL, Zidenberg-Cherr S. Garden-enhanced nutrition curriculum improves fourth-grade school children's knowledge of nutrition and preferences for some vegetables. *J Am Diet Assoc.* 2002;102(1):91-93.
93. Lineberger SE, Zajicek JM. School gardens: can a hands-on teaching tool affect students' attitudes and behaviors regarding fruit and vegetables? *HortTechnology.* 2000;10(3):593-596.
94. Liquori T, Koch P, Contento I, Castle J. The Cookshop Program: outcome evaluation of a nutrition education program linking lunchroom food experiences with classroom cooking experiences. *J Nutr Educ.* 1998;30(5):302-313.
95. Institute of Medicine. Nutrition standards for schools for foods in schools: leading the way toward healthier youth. Washington (DC): National Academies Press; 2007.
96. U.S. Department of Agriculture, Economic Research Service. Food security in the United States. Available at <http://www.ers.usda.gov/Briefing/FoodSecurity/>. Accessed July 2, 2010.
97. U.S. Department of Agriculture, Economic Research Service. Use of Federal and community food and nutrition assistance programs. Available at <http://www.ers.usda.gov/publications/err66/err66d.pdf>. Accessed July 2, 2010.



98. Akobundu UO, Cohen NL, Laus MJ, Schulte MJ, Soussloff MN. Vitamins A and C, calcium, fruit, and dairy products are limited in food pantries. *J Am Diet Assoc.* 2004;104(5):811-813.
99. Dillinger T, Jett S, Macri M, Grivetti L. Feast or famine? Supplemental food programs and their impacts on two American Indian Communities in California. *Int J Food Sci Nutr.* 1999;50(3):173-187.



