



KNOW, GROW & EAT YOUR VEGETABLES
A nutrition education program operated by
Schenectady ARC
in collaboration with
Cornell Cooperative Extension of Schenectady County
& Schenectady County Public Health Services

Know, Grow, and Eat Your Vegetables

*Increasing Access to Healthier
Foods Among Individuals with
Intellectual and Developmental
Disabilities*



Presenters

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NACCHO

Washington, DC

*Our sincere thanks to **Glynnis Hunt, MS**, Public Health Education Coordinator/Strategic Alliance for Health Project Director, Schenectady County Public Health Services*



Presentation Agenda

- Introduction to Public Health and Local Health Departments
- Introduction to NACCHO's Health and Disability Project
- Overview of Health Disparities Data and National Data Sources
- Overview of Schenectady County
- Know, Grow, and Eat Your Vegetables Program
- Sustainability
- Q&A



What is Public Health?

- Public health is “what we as a society do collectively to assure the conditions in which people can be healthy.” (IOM 1988)
- Prevention, promotion, protection
- Assessment, policy development, assurance
- Protection and improvement of community and populations health
 - ❖ Healthy Choices
 - ❖ Community is the patient
- Centers for Disease Control and Prevention



Public Health
Prevent. Promote. Protect.



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Public Health Accomplishments

- Fluoridation of drinking water
- Control of infectious diseases (e.g. flu, smallpox)
- Lead poisoning prevention
- Smoke-free policies
- Motor-vehicle safety
- Safer workplaces
- Safer and healthier foods/outbreak response
- Emergency preparedness
- Healthier mothers and babies
- Recognition of Tobacco use as a health hazard
- Health Policy
- Health Equity



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What is a Local Health Department?

- Local stewards of public health
- Ensure health and safety
- Evidence-based policies and programs
- Track, investigate, and stop diseases
- Inform the public about health problems
- Prepare for and respond to emergencies and disasters that endanger the public's health
- Mobilize community partners to address local public health challenges
- Enforce laws and regulations that keep people safe



What does a Local Health Department do?

- Injury prevention
- Health screening services
- Teen pregnancy prevention
- Emergency preparedness
- Rodent control
- Exercise programs
- Community planning
- Safe routes to school
- Tobacco cessation
- Convener
- Pre-conception health
- Immunizations
- Food safety inspections
- Epidemiology



About NACCHO

National Association of County and City Health Officials

Vision

Health, equity, and well-being for all people in their communities through public health policies and services

Mission

...to be a leader, partner, catalyst, and voice for local health departments in order to ensure the conditions that promote health and equity, combat disease, and improve the quality and length of all lives

Members

All 2,800 local health departments (LHDs) in the United States



NACCHO's Programs



Topics include chronic disease, HIV/STI, other infectious diseases, injury, adolescent health, reproductive health, immunization, tobacco, primary care, mental health, and health and disability.



Topics include the public health effects of climate change, food safety, environmental health tracking and assessment, and environmental justice.



Topics include accreditation and quality improvement, community health status indicators, public health informatics, performance standards, public health law, and cross-jurisdictional sharing of services.



Topics include local readiness for pandemic influenza, Medical Reserve Corps, Project Public Health Ready, and Strategic National Stockpile.



About the Health and Disability Project

NACCHO, with support from the National Center on Birth Defects and Developmental Disabilities at the Centers for Disease Control and Prevention, promotes the **inclusion** and **engagement** of **people with disabilities** in the planning, implementation, and evaluation of public health programs, products, and services. The goal of NACCHO's Health and Disability Project is to provide local health departments (LHDs) with practical strategies and recommendations, including tools and materials developed by peer LHDs, and relevant information from partner organizations.

The purpose of this project is to:

- Inform and educate LHDs about health and disability activities and resources
- Provide support to continue and maintain peer assistance network
- Develop and share model practices related to health promotion activities for people with disabilities



Health and Disability Project Accomplishments

- Health and Disability Workgroup
- Funding and Technical Assistance Programs for LHDs
- Health and Disability tools in NACCHO's Toolbox
- Health and Disability electronic newsletter
- Article in Journal of Public Health Management and Practice
- Presentations at NACCHO Annual and partner conferences
- Improvements to NACCHO's Website to increase accessibility
- Integration of people with disabilities into NACCHO Policy Statements
- Learning Community with two modules
 - ❖ Emergency Planning and Preparedness for People with Disabilities
 - ❖ Obesity Prevention and Physical Activity Promotion for People with Disabilities
- Health and Disability Model Practices
- Partner in The Arc's HealthMeet™ program



Model and Promising Practices

- NACCHO's Model Practices Program honors initiatives—including programs, resources and tools—that demonstrate how local health departments and their community partners can effectively collaborate to address local public health concerns.
- The Model Practices Database is an online, searchable collection of innovative best practices across public health areas. Use the database to find proven initiatives, programs, resources, administrative practices and tools that address local public health needs
- Health and Disability Model and Promising Practices
 - ❖ [Model] Know, Grow, and Eat Your Vegetables: Increasing Access to Healthier Foods Among People with Developmental Disabilities
 - ❖ [Promising] Preparing One More
 - ❖ [Promising] Emergency Preparedness for Citizens with Developmental Disabilities Incorporated into their Annual Individual Plan
 - ❖ [Promising] Wellness for Every Body



Health Disparities Data

Tobacco Use

- 30% of people with disabilities are current smokers, as opposed to 21% of people without disabilities (source: Surgeon General)

Obesity and Physical Activity

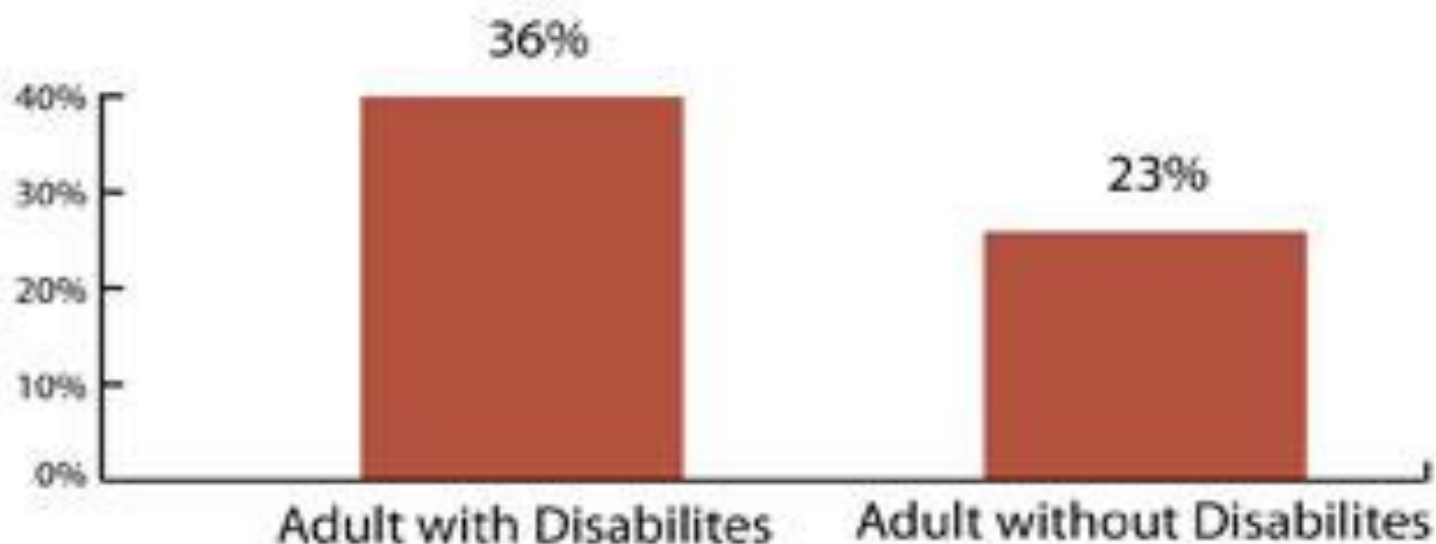
- Adults with disabilities are 58% more likely to be obese than their peers without disabilities (source: CDC/BRFSS)
- Children and adolescents with disabilities are 38% more likely to be obese than children without disabilities (source: CDC/BRFSS)
- Adults with disabilities are less likely to engage in regular physical activity than their peers without disabilities (source: National Center for Health Statistics)

Obstacles: lack of education about healthy eating options, inaccessible fitness opportunities, to physical limitations that may limit a person's ability to exercise.

Percentage of Obesity Among Adults by Disability Status

Obesity rates for adults with disabilities are 58% higher than for adults without disabilities.

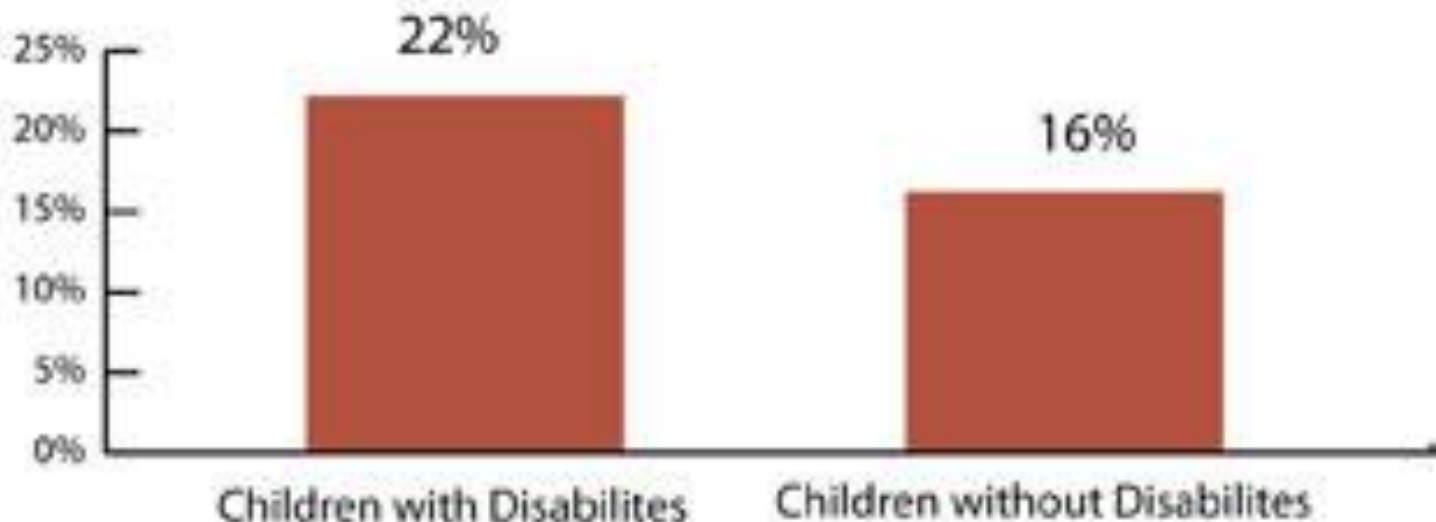
From the 2008 Behavioral Risk Factor Surveillance System.



Percentage of Obesity Among Children Ages 2-17, by Disability Status

Obesity rates for children with disabilities are 38% higher than for children without disabilities.

From the 2008 Behavioral Risk Factor Surveillance System.



Health Disparities Data

Oral Health:

- People with disabilities have limited access to oral health care and are less likely to receive dental care (source: Surgeon General)
- Children and adolescents with disabilities are almost twice as likely to have unmet oral health care needs as their peers without disabilities (source: Surgeon General)

Obstacles: Physical barriers, inaccessible and unreliable transportation, and limited insurance coverage.



Health Disparities Data

Women's Health:

- Women with disabilities are more likely to be affected by depression, obesity, and diabetes, are less able to use screening equipment, and are less likely to receive preventative care than women without disabilities.
- Fewer women with disabilities have mammograms as recommended than women without a disability.
- Adolescents with disabilities are just as likely as their peers to be sexually active, but are less likely to use contraception.
- 56% of teachers in technical education programs reported that they were teaching at least one teen with a disability who was pregnant or parenting at least one child.

Various sources. Contact disability@naccho.org for more information.



Health Data Sources

www.cdc.gov

Disability and Health Data System (BRFSS data)

www.factfinder2.census.gov

American Community Survey

www.healthypeople.gov

Healthy People 2020

www.surgeongeneral.gov

U.S. Surgeon General Reports

www.disabilityandhealthjnl.com

Disability and Health Journal (AAHD)

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Disability and Health Data System

Health Topics :: Health Risks & Behaviors :: Body Mass Index :: Obese :: Disability :: 2010

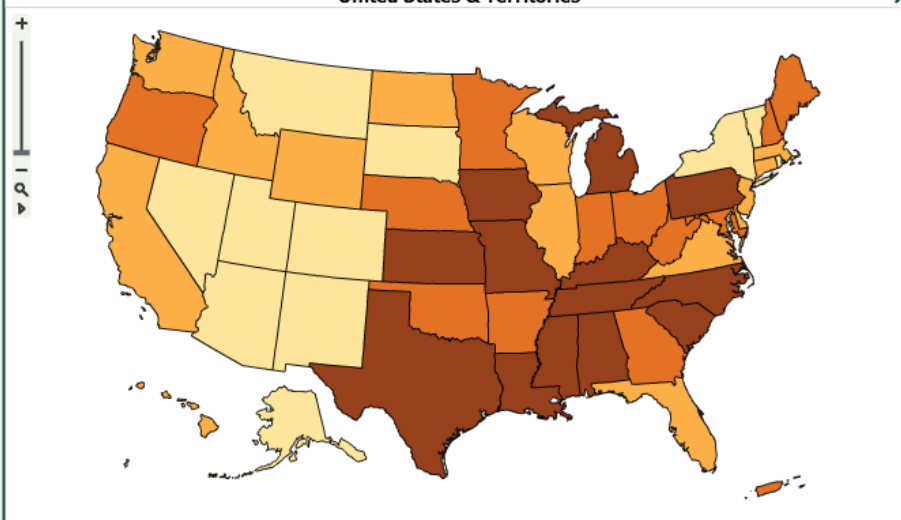
Choose Data

Select Census Area

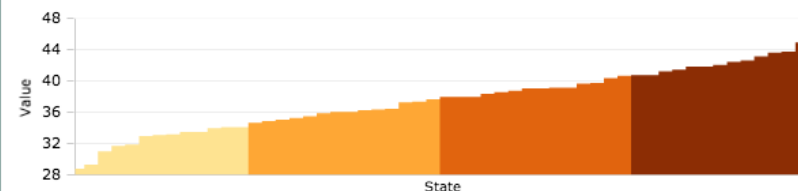
Save as an Image

Print

United States & Territories



Bar Chart



Trend Line or Bar Chart

State or Census Area Table

States & Territories Table

		Area	Value	95% CI	No.	Weighted No.
		Alabama	40.7	4.2	1,025	394,212
		Alaska	31.6	7.2	180	34,268
		Arizona	30.9	5.5	605	364,978
		Arkansas	40.6	6.5	515	213,508
		California	36.0	2.8	1,515	1,902,087
		Colorado	31.8	3.6	895	248,617
		Connecticut	34.8	4.9	541	159,649
		Delaware	36.0	5.4	466	58,608
		District of Columbia	34.0	5.9	300	31,238
		Florida	36.3	3.1	4,349	1,324,527
		Georgia	40.3	5.0	617	608,403
		Guam	33.4	13.1	33	3,977
		Hawaii	36.2	6.4	438	56,936
		Idaho	37.3	4.3	772	100,365
		Illinois	35.4	5.1	506	711,436
		Indiana	39.7	3.7	1,254	450,586

View Indicator Notes

Title & Notes

Body mass index among adults ≥ 18 years of age by disability status

Values are expressed as percentages.

Source: [BRFSS](#)

For analysis details see: [Methods](#)

Map/Legend Settings

Legend

- 28.7 - 34.5
- 34.6 - 37.8
- 37.9 - 40.6
- 40.7 - 44.9
- U.S. Census Regions
- U.S. Census Divisions

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention



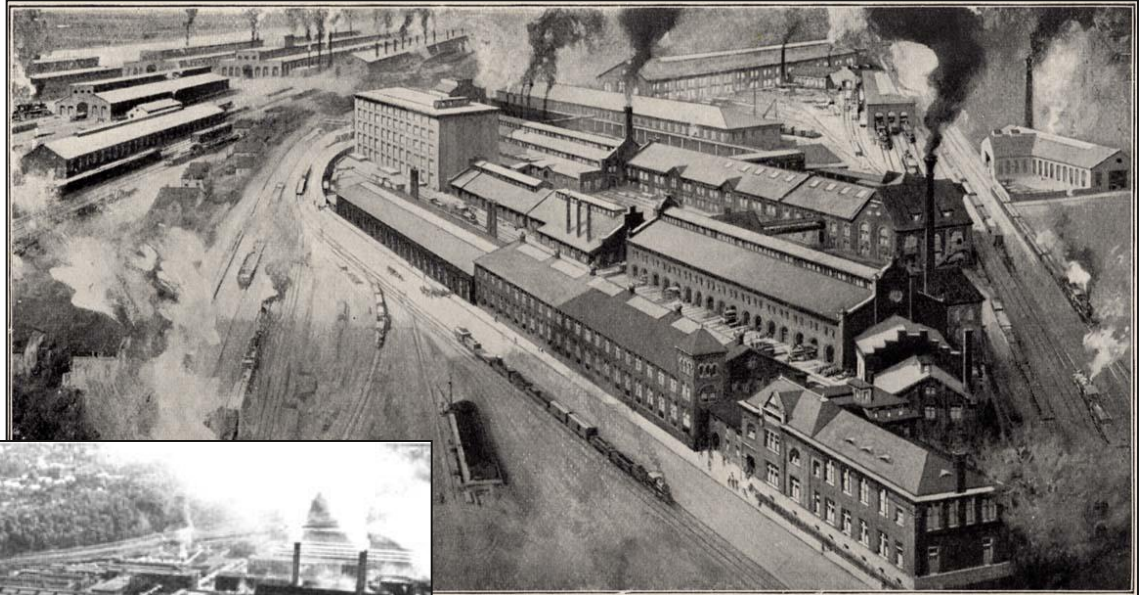
Schenectady County, New York



- Located in Capital District of New York State
- Population of over 152,000
- 206 square miles
- Seven suburbs
- One city - Schenectady



Schenectady: The City That Lights and Hauls the World



Schenectady Today



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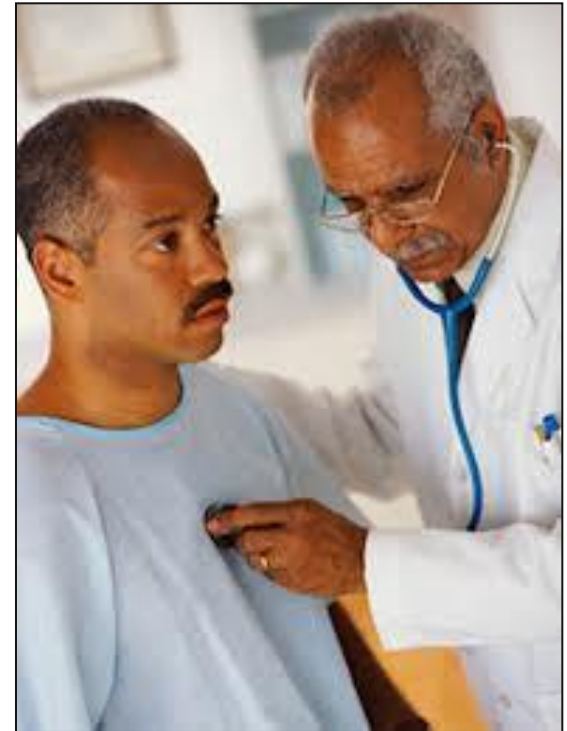
Compelling Statistics

- Population - 61,560
- Unemployment rate – 7%
- Overall poverty rate – 21.5%
- Childhood poverty rate – 34%
- Family poverty rate – 14.8%
- High school graduation rate – 55%



Schenectady County Health Statistics

- Heart disease is a leading cause of death
- Much higher admission rate for hypertension
- Obesity rate of 64.8%
- Rate of obese rate in children in WIC programs is 15.4%
- “Umatter” neighborhood survey results:
 - 2,229 participants
 - 55% obese or severely obese
 - Of 1,091 respondents who smoke, 53% do so daily



Schenectady County Public Health Services



- Designated as a full-service health department by NYS Department of Health
- Clinic and Prevention Services
- Maternal and Child Health Programs
- Environmental Health
- Children with Special Needs



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Schenectady County Public Health Services *Strategic Alliance for Health*



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About the Strategic Alliance for Health



Creating
a Culture of
Healthy Living

- Broad-based coalition of schools, healthcare agencies, businesses and community/faith-based organizations.
- Works to improve the health of Schenectady citizens, particularly in low-income, underserved neighborhoods
- Funded by the Centers for Disease Control and Prevention's Healthy Communities Program, 2008-2012
- Purpose: Create healthier communities through the implementation of sustainable, innovative, and evidence-based chronic disease prevention strategies.
- Sub-awards program

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Overall Strategic Alliance for Health Goals

1. Increase access to fresh fruits and vegetables.
2. Increase opportunities for residents to be physically active.
3. Decrease tobacco use and exposure to secondhand smoke.



Compelling Data – Individuals with I/DD

“Individuals with special needs are more likely to develop co-morbid disorders such as obesity or endocrine disorders that require nutrition interventions.” (American Dietetic Association).

People with I/DD and “special health care needs frequently have nutrition concerns” including obesity (American Dietetic Association)

Children with physical and cognitive disabilities have higher prevalence of being overweight compared to non-disabled peers (Society of Adolescent Health)

9% (137) of Schenectady ARC’s 1,200 participants were diagnosed with cardiovascular disease, obesity and/or diabetes.



Model Solutions

Participation in a garden-based nutrition education program led to increased awareness and consumption of fruits and vegetables among children¹

Adolescents who participated in a garden-based nutrition intervention increased their servings of fruits and vegetables compared to those who did not.²

Interventions focusing on diet and the nutritional intake of people with developmental disabilities were successful in improving quality of life and dietary patterns as well as reducing the rate of serious secondary medical conditions.³

Improving access to and consumption of healthier foods could help lower the risks for developing chronic diseases and obesity.⁴

Additional literature revealed the positive benefits of using a nutrition education program for persons with developmental disabilities living in group homes.

¹A Garden Pilot Project Enhances Fruit and Vegetable Consumption Among Children, 2009

²Cornell Garden-Based Learning, McGregor, 2009

³“Improving the Nutrition and Health of People with Developmental Disabilities via On-Line Program Dissemination”, 2010

⁴Guide to Community Preventive Services, 2010



The Know, Grow and Eat Your Vegetables Program

Decision made to generalize the garden-based education model to people with I/DD

Received a \$3,100 grant from the Schenectady County Public Health Service's Strategic Alliance for Health

Location: Horticulture Center greenhouse, Rotterdam, New York

Only program of its kind in the United States recognized by the CDC and NACCHO to generalize garden-based nutritional education to individuals with I/DD toward the amelioration of chronic disease.



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Located at Maple Ridge Day Center in Rotterdam, New York

Serves 250 individuals with an I/DD in a 3,000 square foot commercial greenhouse

Instruction in nursery and greenhouse management, floral design, plant cultivation and potting, traditional gardening techniques, landscape maintenance and plant nutrition

Conducts floral installation at numerous community sites, participates in regional flower shows, provides garden development and maintenance consultation services and operates three vegetable garden sites



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Program Objectives

Objective 1:

Program participants will increase their awareness of and contact with vegetables.

Objective 2:

Program participants will learn healthy meal preparation strategies.

Objective 3:

Program participants will have increased access to fresh produce through incorporating harvested produce into healthy meals.



Stage One: Pre-project assessment

Baseline survey administered to SARC day program participants

Assessed current knowledge and consumption of 15 vegetable types to be grown.

- Tomatoes
- Green peppers
- Cucumbers
- Peas
- Carrots
- Sweet potatoes
- Spinach
- Yellow squash
- Broccoli
- Beets
- Green beans
- Onions
- Potatoes
- Lettuce
- Zucchini



Stage 2: Plant Cultivation

Participants worked alongside the horticulture coordinator daily in the greenhouse to plant and cultivate the seedlings.

Heated propagation mats (“Agri-Tape”®) were used to expedite seedling growth.



Stage 3: Construction of Raised Planters

Grant funding used to purchase materials to build and fill two raised planting beds

In-kind contribution by Schenectady ARC to construct planting beds and instruct participants in planting, growing and harvesting vegetables

Planters located alongside a concrete walkway to accommodate 75 participants with physical disabilities

Information related to accessible gardening may be found at www.christopherreeve.org and www.carryongardening.org/uk.



Stage 4: Transfer of Vegetable Seedlings

Maturing plants were transferred to the four raised planting beds.



Stage 5: Cultivation of Vegetable Plants

Participants watered and pruned the vegetable plants



Stage 6: Healthy Meal Preparation Training

Nutrition educators from Cornell Cooperative Extension of Schenectady County conducted a six-week program entitled “Eat Smart New York” at four SARC group homes and an adult day program

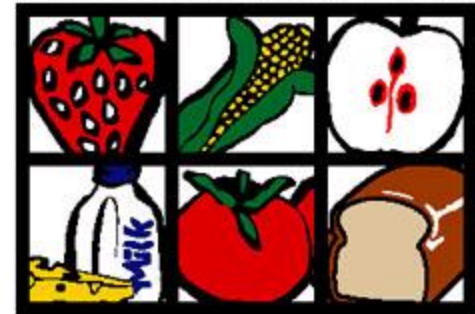
Funded completely through the USDA’s Food and Nutrition Service

Taught 28 participants and 12 staff about healthy meal preparation practices and how to incorporate vegetables into daily meals and snacks



Cornell University
Cooperative Extension

Eat Smart New York!



ESNY

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Stage 7: Plant Harvesting and Distribution

From late summer to early fall, participants harvested approximately 500 vegetables from the outdoor raised planters

Vegetables were collated into plastic baggies, each containing a pertinent vegetable-based recipe

Distributed to participating consumers, group homes and family home settings



Program Outcomes

- 70 participants planted and cultivated 15 different types of vegetable plants
- Improvement in recognizing 10 of the 15 vegetable types grown
- 28 SARC participants attended weekly CCESC healthy cooking classes
- Consumption of fruits and vegetables increased from 2.3 to 3.3 cups per day
- 56% showed improvement in one or more nutrition practices
- 25 individuals participated in harvesting approximately 500 vegetables
- At least 80 participants received fresh produce from the garden
- Over 30 meals were prepared using fresh produce from the garden



Program Sustainability

- Healthy meal preparation classes funded through the USDA.
- Horticulture coordinator and maintenance staff fully subsidized by SARC.
- The Strategic Alliance for Health funded materials needed to construct and fill the raised planting beds
- SARC assumes ongoing financial responsibility for the maintenance and replenishment of the planting beds.



Recognition of the Know, Grow and Eat Your Vegetables Program

- CDC implementation guide: “Know, Grow, and Eat your Vegetables: Policy, Systems, and Environmental Changes to Increase Access to Healthier Foods among Individuals with Intellectual and Developmental Disabilities.”
- CDC video “Tell Your Story! Highlighting Local Health Department Success Stories about Preventing and Addressing Birth Defects, Disabilities, and Blood Disorders”.
(<http://www.cdc.gov/healthycommunitiesprogram/communities/SAH/>)
- Presented at CDC’s “Strategic Alliance for Health Action Institute” in Chicago.
- Received NACCHO’s Model Practices Award
- NYS Department of Health webinar “Strategies for Creating Accessible Gardens”
- NACCHO webinar “Know, Grow and Eat Your Vegetables: Increasing Access to Healthier Foods Among Individuals with Intellectual and Developmental Disabilities”.



Implementation Guide



Know, Grow, and Eat your Vegetables:

Policy, Systems, and Environmental Changes to Increase
Access to Healthier Foods among Individuals with
Intellectual and Developmental Disabilities



Schenectady County

New York



Schenectady County Strategic Alliance for Health

Creating a Culture of Healthy Living



Creating
a Culture of
Healthy Living

Available at

<http://www.schenectadycounty.com/FullStory.aspx?m=39&amid=808>

Know, Grow and Eat Your Vegetables Princetown Ridge Day Center

- 71 consumers received education about vegetables to be grown
- 46 planted, watered and cultivated plant seedlings
- 11 received healthy meal preparation course
- 25 involved in harvesting produce
- 50 received fresh produce from the garden
- 32 meals prepared using fresh produce from the garden



The Garden Assistance Program

- Schenectady ARC consulted with two organizations in the development of their gardens:
 - Keane Elementary School (Schenectady City School District)
 - First United Methodist Church, Schenectady, New York
- Assessed needs, designed plots and selected vegetable plants
- Consumers and staff installed, maintained and harvested vegetable plants.



The Minard Garden Program

- 2,000 square foot garden
- Minard House, Mariaville, New York
- Grew eight varieties of vegetable and/or herb plants
- Several fruit trees were installed.
- Ten group homes participated in a composting project.
- Two raised, handicapped accessible planting beds were constructed to accommodate mobility impaired consumers





- \$189,500 grant from AstraZeneca Healthcare Foundation
- Goal: Mitigate complications of cardiovascular and chronic disease among low-income families through increased vegetable consumption and nutrition education
- Method: Physicians of the Ellis Family Health Center and other providers issue vouchers to low-income patients which they redeem for vegetables at local farm stands
- Cornell Cooperative Extension nutritionists provide health and nutrition education
- Schenectady ARC consumers and at-risk youth grow, harvest and package vegetables for distribution at farm stands.
- Will impact 400 individuals and provide 4,000 meals per month.



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Questions?

For more information about the Health and Disability Project:

<http://www.naccho.org/topics/HPDP/healthdisa>

Implementation Guide: <http://www.schenectadycounty.com/FullStory.aspx?m=39&amid=808>

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