LEVERAGING RESEARCH AND EVALUATION TO ADVANCE EFFECTIVE FARM TO SCHOOL AND EARLY CARE POLICIES AND PRACTICES

PRESENTERS

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SPEAKERS:

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  - National Farm to School Network
- ROBERT EK
  - USDA Food and Nutrition Service, Office of Community Food Systems
- KATE GARDNER BURT, PHD, RDN
  - Lehman College, City University of New York
- TANYA O'CONNOR, MS
  - Colorado Department of Public Health and Environment, Child and Adult Care Food Program

LEARNING OBJECTIVES

- FOLLOWING THIS SESSION, ATTENDEES WILL RECOGNIZE THE IMPORTANCE OF SHARED MEASURES AND COLLABORATIVE APPROACHES IN ADVANCING FARM TO SCHOOL AND ECE EVALUATION AND RESEARCH.

- FOLLOWING THIS SESSION, ATTENDEES WILL BE ABLE TO UTILIZE EXISTING TOOLS, INCLUDING EVALUATION FOR TRANSFORMATION: A CROSS SECTORAL EVALUATION FRAMEWORK FOR FARM TO SCHOOL AND THE GREEN (GARDEN RESOURCES, EDUCATION, AND ENVIRONMENT NEXUS) TOOL TO ADVANCE FARM TO SCHOOL AND ECE INITIATIVES WITH INTEGRATED EVALUATION.

- FOLLOWING THIS SESSION, PARTICIPANTS WILL BE ABLE TO IDENTIFY OPPORTUNITIES TO BUILD ON EXISTING DATA AND RESEARCH, INCLUDING THE USDA FARM TO SCHOOL CENSUS, TO ADVANCE UNDERSTANDING OF FARM TO SCHOOL IMPACTS AND OUTCOMES.

Moving Toward Shared Measures in Farm to School and ECE

Tools and Resources from the
National Farm to School Network

Presentation Outline

- Introduction to farm to school and the National Farm to School Network

- Overview of the **Evaluation for Transformation: A Cross-Sectoral Evaluation Framework for Farm to School**

- Putting Data to Work: **2018 National Farm to Early Care and Education Survey**

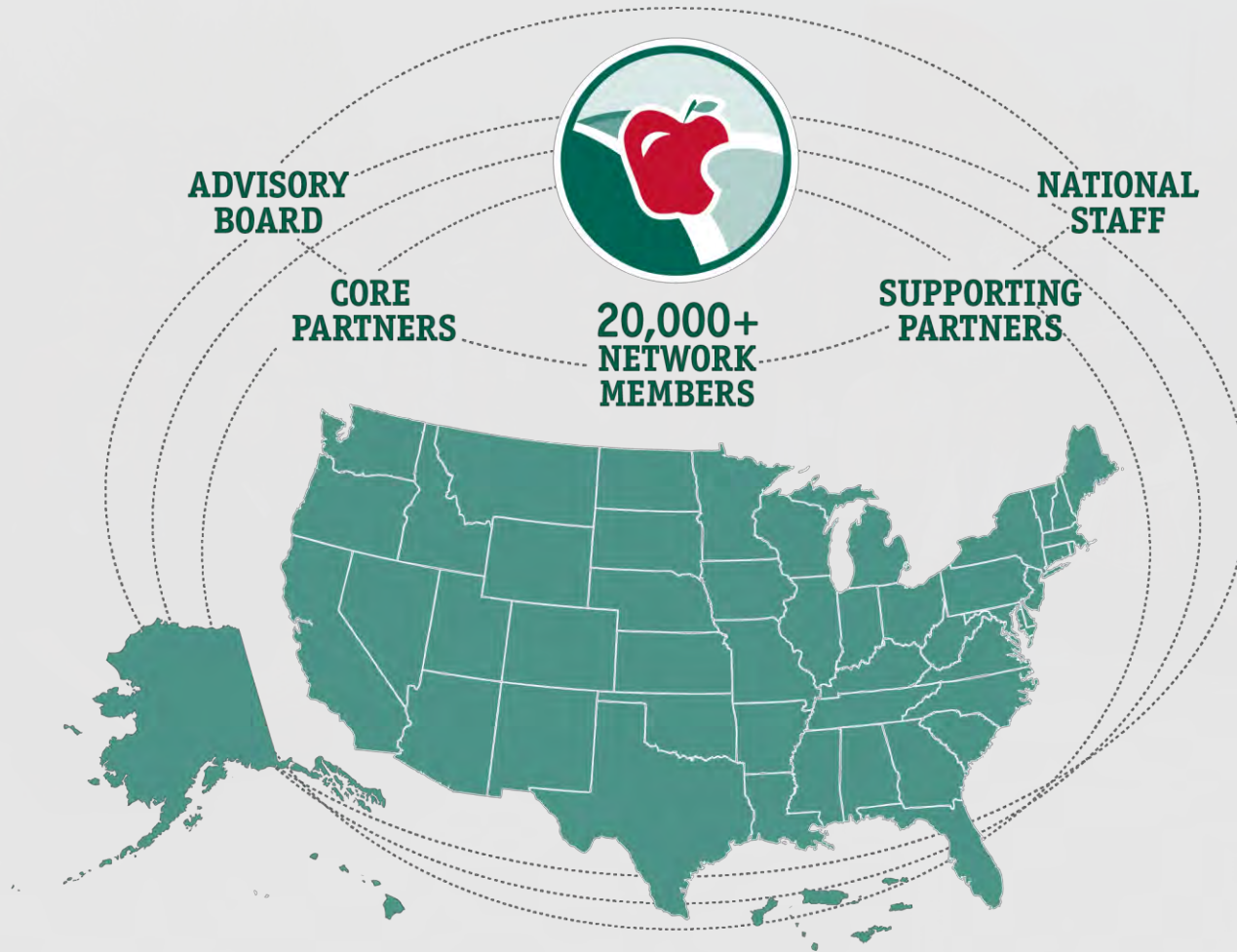# WHAT IS FARM TO SCHOOL?

CORE ELEMENTS OF
FARM *to* **SCHOOL**

EDUCATION

SCHOOL
GARDENS

PROCUREMENT

NATIONAL
FARM *to* **SCHOOL**
NETWORK

WHY FARM TO SCHOOL?

KIDS WIN

FARMERS WIN

COMMUNITIES WIN

NATIONAL FARM *to* SCHOOL NETWORK

OUR NETWORK

ADVISORY BOARD

NATIONAL STAFF

CORE PARTNERS

20,000+ NETWORK MEMBERS

SUPPORTING PARTNERS
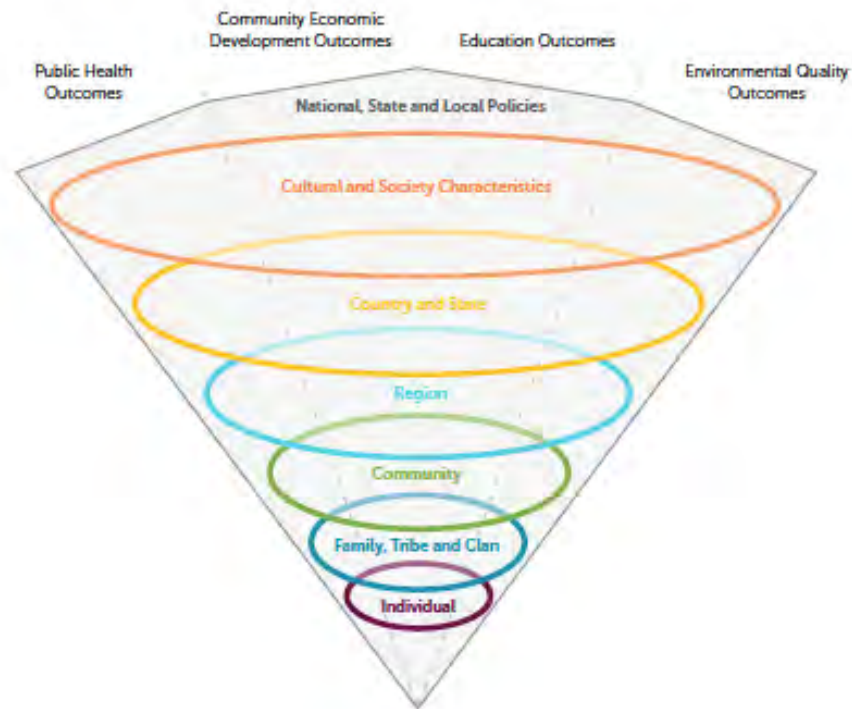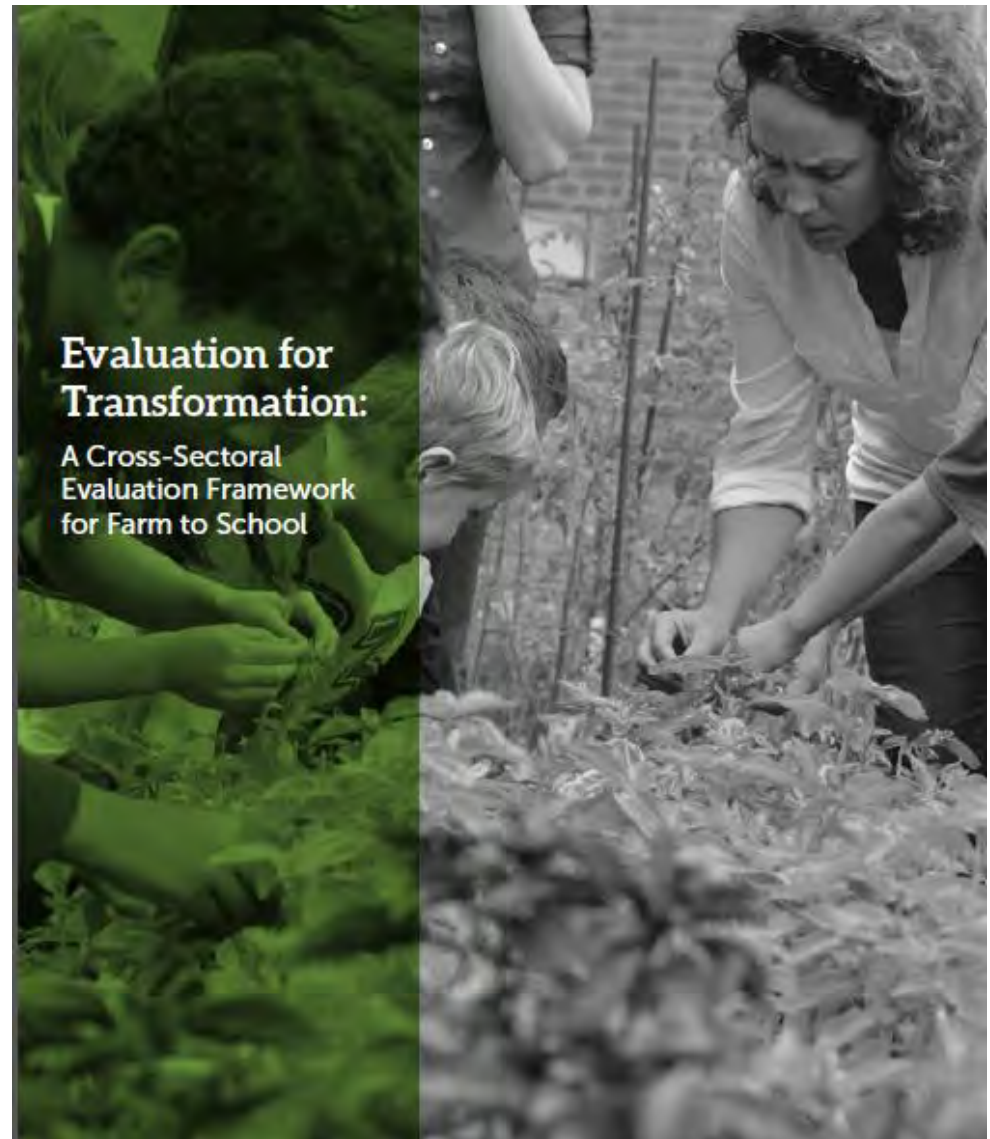
NATIONAL FARM to SCHOOL NETWORK

EVALUATION FOR TRANSFORMATION: A CROSS-SECTORAL EVALUATION FRAMEWORK FOR FARM TO SCHOOL

Why an evaluation framework?

- Move collective work forward by identifying **demonstrated** benefits.

- Provide **theoretical base** for implementation, evaluation, and reporting.

- Recommend areas for additional exploration.

Evaluation for Transformation:

A Cross-Sectoral Evaluation Framework for Farm to School

NATIONAL **FARM** to **SCHOOL** NETWORK

Cross-Sectoral Framework

Public Health

Education

Community Economic Development

Environmental Quality

User Levels

PROGRAM

Program planning, reporting and evaluation

RESEARCH

Research that builds on programs and feeds into policies

POLICY

Policies that support programs

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LEVEL

 Program   Research   Policy

PRIORITY OUTCOME

Changes or benefits that result from activities and outputs. Short-term outcomes are the most closely associated to program activities. Intermediate outcomes result from short-term outcomes. Long-term outcomes evolve from the previous two outcomes. Most of the outcomes listed are considered intermediate to long-term outcomes.

INDICATOR

State of a particular subsystem to help understand causes of problems and work to address them. A "system performance" indicator is one that reflects how the system is working and can help the community see how the system is working and anticipate potential breakdowns or changes in direction[22].

MEASURE 1, 2, ETC.

Measures are different aspects that can help people explore how an indicator is changing over time.

ASSOCIATED CORE ELEMENTS

Procurement, gardening or education activities required to result in the related outcome.

DATA SOURCES

Recommended methods to gather, track or monitor information identified as a prioritized measure where relevant.

SAMPLE TOOLS

Refers the reader to existing tools, data collection organizations or surveys at the program level.

Priority Outcomes, Indicators, and Measures

Public Health

Program Outcome: Students and their families access locally produced, healthy food through schools and ECE settings.

- Indicator 1: Child access to local, healthy foods in schools and ECE settings

  - Measure 1.1: Number of children participating in, or exposed to, farm to school/ECE activities such as gardening, cooking, nutrition and food-based lessons

  - Measure 1.2: Food preparation strategies used to increase local food availability, accessibility or appeal of local, healthy foods, including use of culturally appropriate foods in schools

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Priority Outcomes, Indicators, and Measures

Public Health

Research Outcome: Increased consumption of local and healthy foods

- Indicator 2: Child preferences for local, healthy foods
  - Measure 2.1: Increase in child awareness and knowledge about food and nutrition's impact on health
  - Measure 2.2: Increase in child willingness to try new local, healthy foods
  - Measure 2.5: Decrease in fruit and vegetables or other healthy foods children discard after lunch

NATIONAL FARM *to* SCHOOL NETWORK

Framework in Action

- Reporting metrics for USDA Farm to School grantees

- State wide assessment and reporting (see Oregon Farm to School Counts)

- Framework for program evaluations

- Frame research priorities

- Inform collaborative research projects (see Economic Impact of Farm to School: Case Studies and Assessment Tools)

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2018 National Farm to Early Care and Education Survey

2018 National Farm to ECE Survey

We heard from:

2,030 ECE sites

serving **255,257** young children

in **46** states

And learned that farm to ECE is reaching far and wide:

49% of respondents are already participating

34% serve more than 50% low-income children

33% have been practicing farm to ECE for 5+ years

Learn more at: farmtoschool.org/ece

NATIONAL FARM to SCHOOL NETWORK

MICHIGAN STATE UNIVERSITY | Center for Regional Food Systems

Educators and providers see the difference with Farm to ECE:

85% of providers report these reasons as "very important"

- Food education
- Fresh food
- Economy & community
- Parents & families
- Local farmers
- Children's health
- Experiential learning
- Learning standards

Learn more at **farmtoschool.org/ece**

NATIONAL FARM to SCHOOL NETWORK

MICHIGAN STATE UNIVERSITY | Center for Regional Food Systems

NATIONAL FARM to SCHOOL NETWORK

What does farm to ECE look like?

The most frequently reported farm to ECE activities align with the core elements of farm to ECE and include:

76% Education

75% Gardening

69% Procurement

And ready to grow:

30% plan to start farm to ECE in the next year

54% plan to increase local food purchasing

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Barriers to Farm to ECE

Barriers to Local Purchasing:

- Cost/price of item
- Seasonality
- Reliability of product
- Finding suppliers/farmers
- Knowing how to order local food

Barriers to Education/Gardening:

- Limited funding for supplies
- Limited staff time to develop and implement lessons
- Limited staff knowledge of gardening and local foods

Putting the results to work

- Informing programmatic and resource development initiatives
  - Motivations
  - Barriers
  - Reach
- Leveraging state level results
  - Supporting partners in advocacy and promotion
  - Leveraging lack of response

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NETWORK

USDA Farm to School Census

Charting the Landscape of Farm to School Activity

Robert Ek

Program Analyst

Healthy Kids

Local Food

USDA | OFFICE *of* COMMUNITY FOOD SYSTEMS

Where Does the [Office of Community Food Systems](#) Come In?

Section 18 of the Richard B. Russell National School Lunch Act was amended to create a Farm to School Program to:

1. Distribute grant funding to improve access to local foods in schools.

2. Provide training and technical assistance to improve access to local foods in schools.

3. Disseminate research and data on existing programs and opportunities for expansion.

42% of districts surveyed by USDA say they participate in farm to school activities.

That's **5,254** districts and **42,587** schools bringing the farm to school for the benefit of an estimated **23.6 million** children.

USDA The United States Department of Agriculture
Food and Nutrition Service

https://farmtoschoolcensus.fns.usda.gov

www.farmtoschoolcensus.fns.usda.gov

2019 Farm to School Census?

SCHOOL GARDENS

Kate Gardner Burt, PhD, RD

Assistant Professor, Lehman College | City University of New York

PS 216
Sheepshead Bay, Brooklyn

PS 175
Harlem, Manhatthan

PS 58
Carroll Gardens, Brooklyn

PS 3
Greenwich Village, Manhattan

PS 333
Upper West Side, Manhattan

Why school gardens?

- Academic benefits

- Dietary benefits

- Physical benefits

- Psychosocial benefits

- Improvements in attitudes

- Challenge: One size doesn't fit all

The GREEN Tool (Garden Resource, Education, and Environment Nexus)
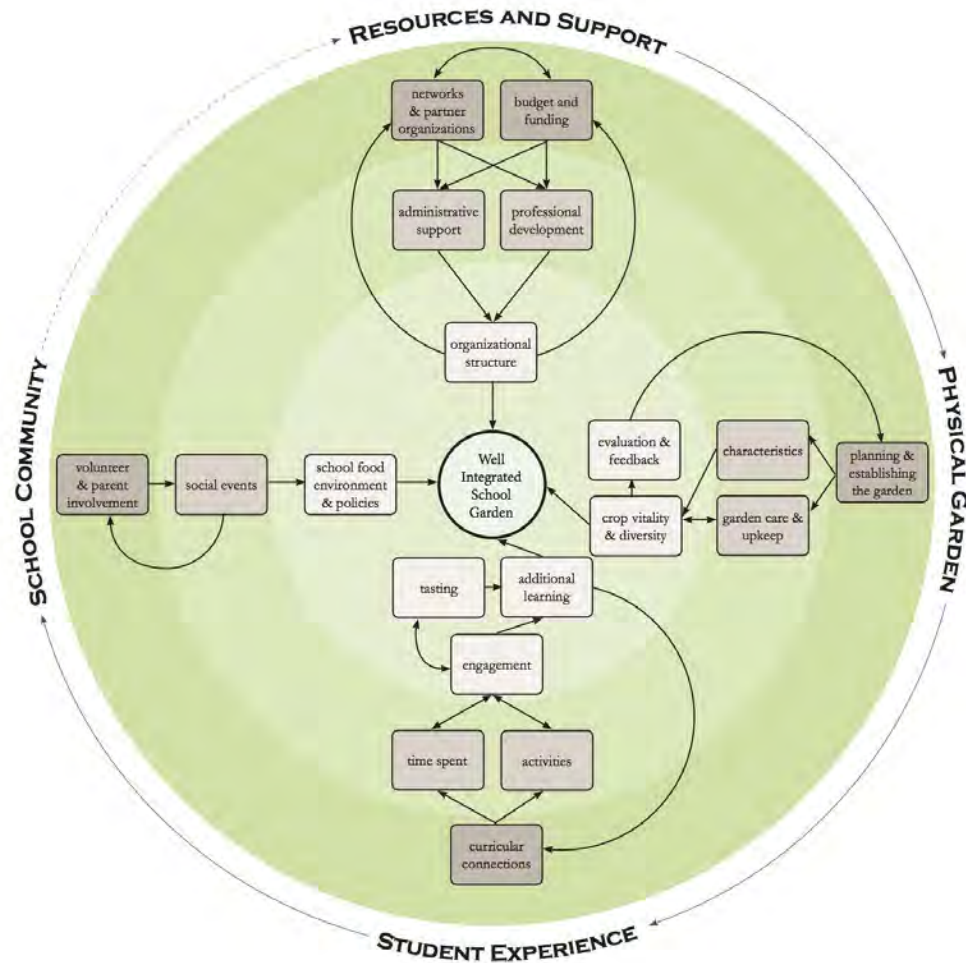
Resources & Support Domain
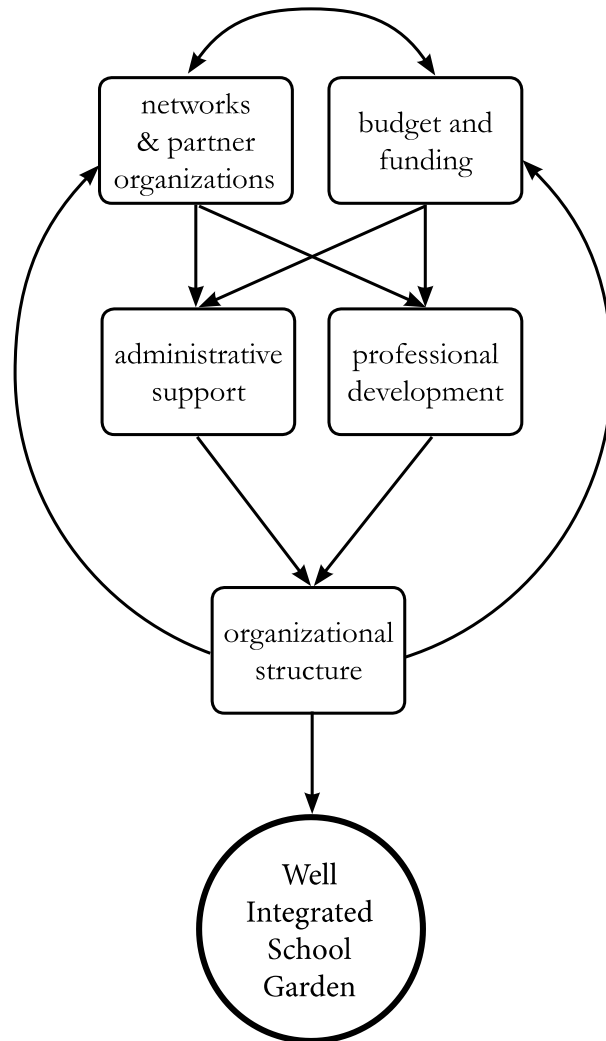
Physical Garden Domain
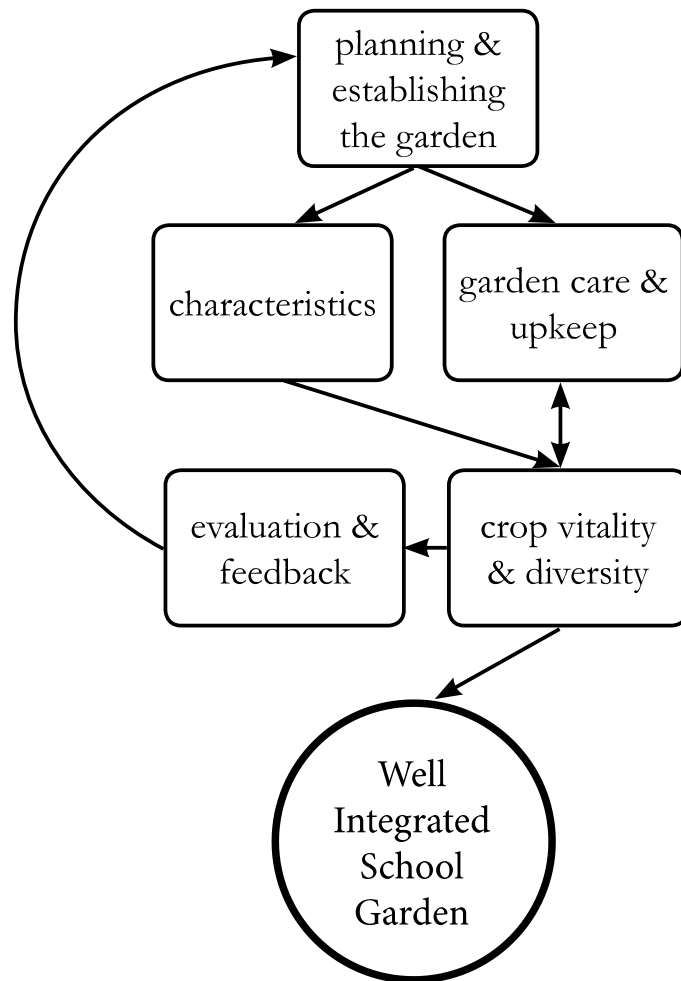
Student Experience Domain
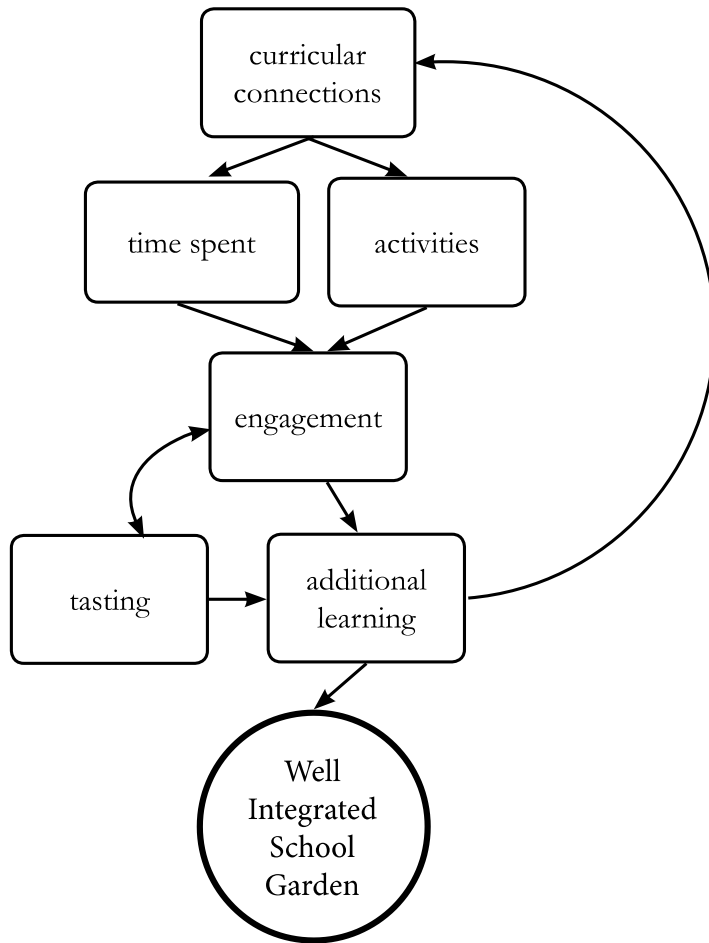
School Community Domain
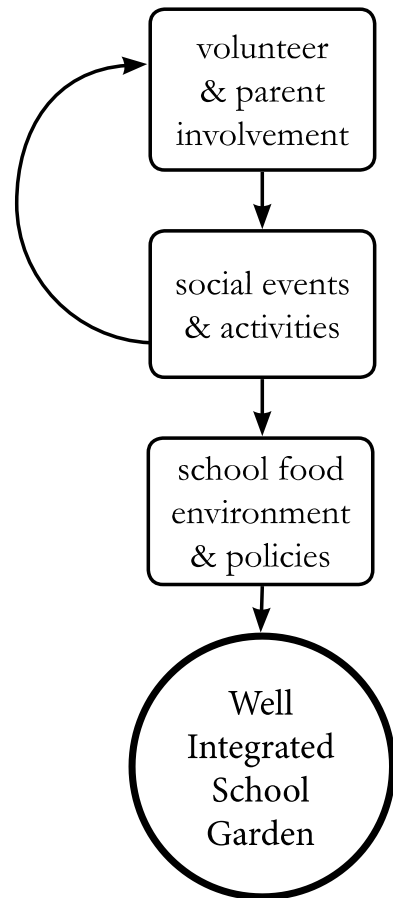
What makes a garden successful?

Critical factors:

- #1 - Budget
- #2 - Time

Important factors:

- Community interest
- Evaluation
- Partners
- Planning
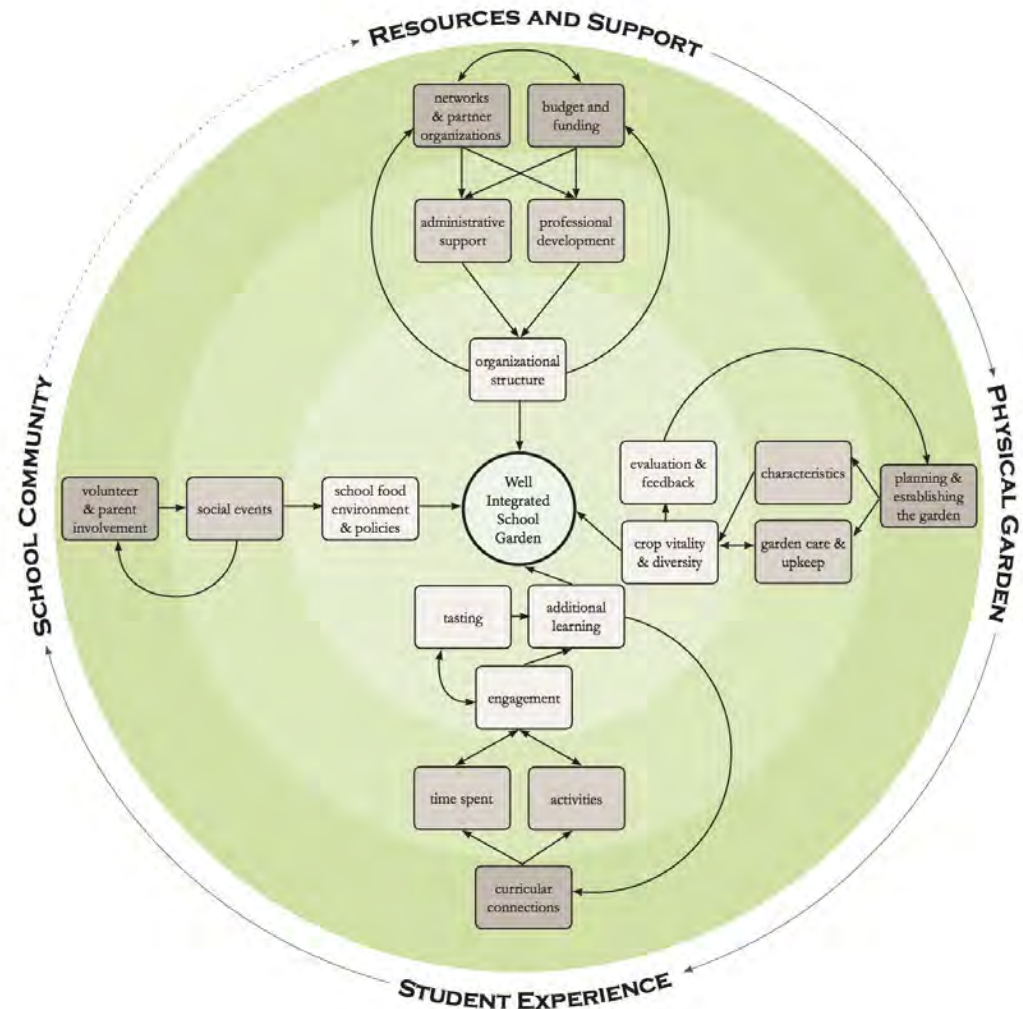
What are the challenges?

1. Time
   - For all classes to use the garden
   - Time to train faculty and staff
2. Funding
   - Lack of funding
   - Lack of awareness of funding sources
3. Staff
   - Inadequate number of volunteers
   - Teacher-faculty disinterest
4. Low community engagement
   - Little connection to the school community as a whole
   - No connection to community-at-large (neighborhood businesses, farmers markets, community gardens)

How would you allocate additional funds?

☐ Infrastructure (54%)

☐ Hiring additional support staff (for garden maintenance) (28%)

☐ Program expansion (professional development, curriculum development) (20%)

Green Tool Scorecard

Scoring: if a component is not present, a score of zero is assigned. Low = 1, moderate = 2, high = 3

Resources & Support Domain	Score
Budget and Funding - *The monetary requirement and financial estimate necessary to support a gardening program* ☐ Low - actively seeking more funding to meet current year's needs ☐ Moderate – enough funds to meet yearly needs and raising for future growth ☐ High – in the black (money left over from previous years)	
Networks & Partner Organizations - *The interconnectedness of a school with other supporting organizations or individuals in the field of school gardens* ☐ Low - few outside connections (<3) ☐ Moderate - some outside connections (3-4) ☐ High - many outside connections (or connections that meets all needs for logistics/students) (>4)	
Administrative Support - *Mental, practical, or other encouragement and help needed from key leaders within a school required for teachers, parents, or others to implement an ongoing gardening program* ☐ Low – aware but uninvolved administrators (gave project approval but little or no active involvement) ☐ Moderate – some involvement (supportive of garden committee, interested in staying abreast of activities) ☐ High - valued and supported (actively promoting use of the garden to teachers, students and parents)	
Professional Development - *Guided learning and training provided to educators in order to improve their knowledge, skills, and comfort using school gardens as an educational tool* ☐ Low – encouragement by administrators, garden committee, parents, or teachers to facilitate use of the garden (e.g. host meetings, sending emails, having "open garden days") ☐ Moderate – some professional developments for interested teachers or parents ☐ High – offer professional development sessions or designated time for teachers, parents, or other to develop skills related to the physical garden or connecting it to academics	
Organizational Structure - *The decision making person(s) that determines how a school's gardening program is implemented* ☐ Low - limited participation in garden committee ☐ Moderate – regular meetings, some people only peripherally involved ☐ High – active committee of members and/or strong outside organization involvement that manages the garden, where tasks are delegated and accomplished	
TOTAL DOMAIN SCORE:	

Notes:

How is the GREEN Tool used?

1. Planning a new garden
2. Self-assessment/measuring change
3. Goal setting

Thank you!

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Cooking up Healthy
Options with Plants
(CHOP) Project Evaluation

CHOP Goals/
Farm to ECE Core Elements

Core Element of Farm to School/ECE	Project Goal
Procurement-including the preparation and serving of local food.	*Colorado CHOP* Goal 1 The culinary training and coaching activities will provide knowledge and technical assistance to child care staff who prepare meals for children.
Education	*Colorado CHOP* Goal 2 Child care staff will receive training about the Grow it, Try it, Like it! curriculum and how to implement it.
Gardening	*Colorado CHOP* Goal 3 Facilities receiving sub-grants will build gardens with help from community partners to create healthy child care environments.

Evaluation for Transformation
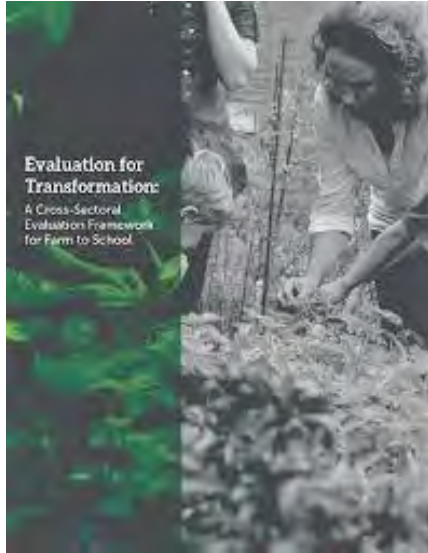
Key outcomes related to public health for farm to school listed in the literature:

- **Children's participation in school meals and its** relation to child food security
- Child knowledge and awareness about gardening, agriculture, healthy eating, local foods and seasonality in early care and K-12 settings.
- **Students' willingness to try new foods and healthier** options
- **Students' attitudes toward, preferences for, and** consumption of fruits and vegetables.
- **Student's consumption of less unhealthy foods**
- **Student's participation in physical activity in** gardens.

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CACFP Team Nutrition Grant – Farm to Child Care
Logic Model
December 2016

Overarching Goal: Optimal health and well-being for CACFP participants in Colorado.

PRIORITIES	INPUTS	OUTPUTS		SHORT TERM OUTCOMES	LONG TERM OUTCOMES
		Strategies	Target Pops	Accomplished in 12 months	Beyond 12 months

Impact children's long-term eating habits by creating healthy habits within the child care setting

CACFP, Division of Child Care, Local Health Departments, LiveWell Colorado, Colorado Farm to School Taskforce, ECOP, Master Gardeners, Colorado Health Foundation Funded Culinary Materials, Research Experts, Leveraged funding.

Strategies / Target Pops:

- Train child care providers and partners in effective culinary practices related to fruits and vegetables (Culinary Trainings) — Child care providers and partners (cooks and directors)
- Provide on-site support in implementing effective culinary practices and healthy food environments (Onsite coaching) — Child care providers (cooks, directors, staff)
- Train and support child care providers to implement nutrition education and evidence-based gardening activities (Sub-grants and Webinars) — Child care providers (staff and directors); children in child care; parents

Short Term Outcomes (Accomplished in 12 months):

- Providers and partners increase knowledge of effective culinary practices and CACFP meal patterns and dietary guidelines
- Barriers to providing fresh fruits and vegetables in child care are reduced
- Child care providers increase knowledge and implementation of gardening activities and nutrition education within their centers
- Child care providers improve the healthfulness of their child care environment and the food they serve (increased healthy food and beverage options, including fresh fruits and vegetables)
- Children increase familiarity of fresh fruits and vegetables, willingness to try them, and perceptions of taste
- Parents increase knowledge to support their children's healthy eating habits at home.

Long Term Outcomes (Beyond 12 months):

- Optimal consumption of fresh fruits and vegetables for children while in elementary school and beyond.
- Optimal health and well-being for CACFP participants in Colorado

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EVALUTION FOCUS – PROCES/OUTPUTS

Trainings, webinars, coaching sessions (# offered, duration, # and type of participants)
Gardening (# and % of providers building gardens, # of gardening activities implemented)
Nutrition Education (# and % of providers conducting nutrition education for children, # hours children spend learning about nutrition, # of nutrition resources shared with parents)

EVALUATION FOCUS – OUTCOMES

Highlighted in yellow in the logic model above: knowledge of effective culinary practices, including dietary guidelines, and meal patterns; healthfulness of the food environment and foods served; children's familiarity and perceptions of how fresh fruits and vegetables taste, including willingness to try them.

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CHOP overarching goal:

Increase offering of, and consumption of fresh, seasonal or local fruits and vegetables and/or on-site garden produce by children in child care centers.

CHOP Groups

Group Levels	Activity		
	Culinary Training	Technical Assistance	Culinary Coaching
Training	X		
Training+TA	X	X	
Training+TA+Coaching	X	X	X

CHOP Goal # 1-Procurement:

Increase the number of CACFP child care providers preparing seasonal, fresh, and/or garden fruits and vegetables and other healthy foods and beverages for children in care.

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Skill Driven Menu

Powerhouse Chili with Quinoa*

This delicious warming chili is packed with red and orange vegetables, black beans serve as the meat alternate to round out the bowl! **Serve over Quinoa as an excellent addition!**

Roasted Cornbread

Roasted corn brings out the sweetness in this lovely versatile cornbread

Green Salad*

Carrot, Cucumber and Red Bell Peppers with Mixed Greens and a simple Vinaigrette

Yogurt Cup*

Plain Yogurt served with Homemade Berry Sauce and Melon

All items served on this menu are vegetarian. Items with an * are gluten free. For questions related to allergies please refer to the recipes, or ask our Staff.

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Empowerment

"This training inspired me, I now see that feeding children is <u>an opportunity, not a chore.</u>"
Nancy Fox-Clement, 2017 CHOP Sub-grant recipient

CHOP Website: https://www.colorado.gov/pacific/cdphe/cacfp-chop

Cooking technique videos!

Spinach Pici Pasta

Servings: 10
Each 1/2 cup serving meets 1/4 cup of the vegetable requirement at lunch/supper for 3-5-year-old children. An additional 1/4 cup of a visually recognizable fruit or vegetable must also be served to meet the required fruit/vegetable components at lunch/supper. This pasta provides 3.50 oz. eq grains.

14 oz. Fresh Spinach

20 oz. Enriched White AP Flour

Salt

Recipe adapted from Jamie Oliver's
Super Food Family Classics

Almond Butter Yogurt Dip

Makes 10 servings
CACFP creditable food serving size: 2oz
2 oz dip with fruit provides 0.5 oz eq meat alternate, serve with ½ cup fruit at Snack.

2 Cups Plain Greek Yogurt

6 Tbsp. of Honey (3/8 Cup)

4 Tbsp. Almond Butter

1 tsp. Vanilla Extract

½ tsp. Cinnamon

Combine all ingredients, and mix well. Store in an airtight container. Serve with fresh berries, melon, kiwis, apples, pears, or oranges.
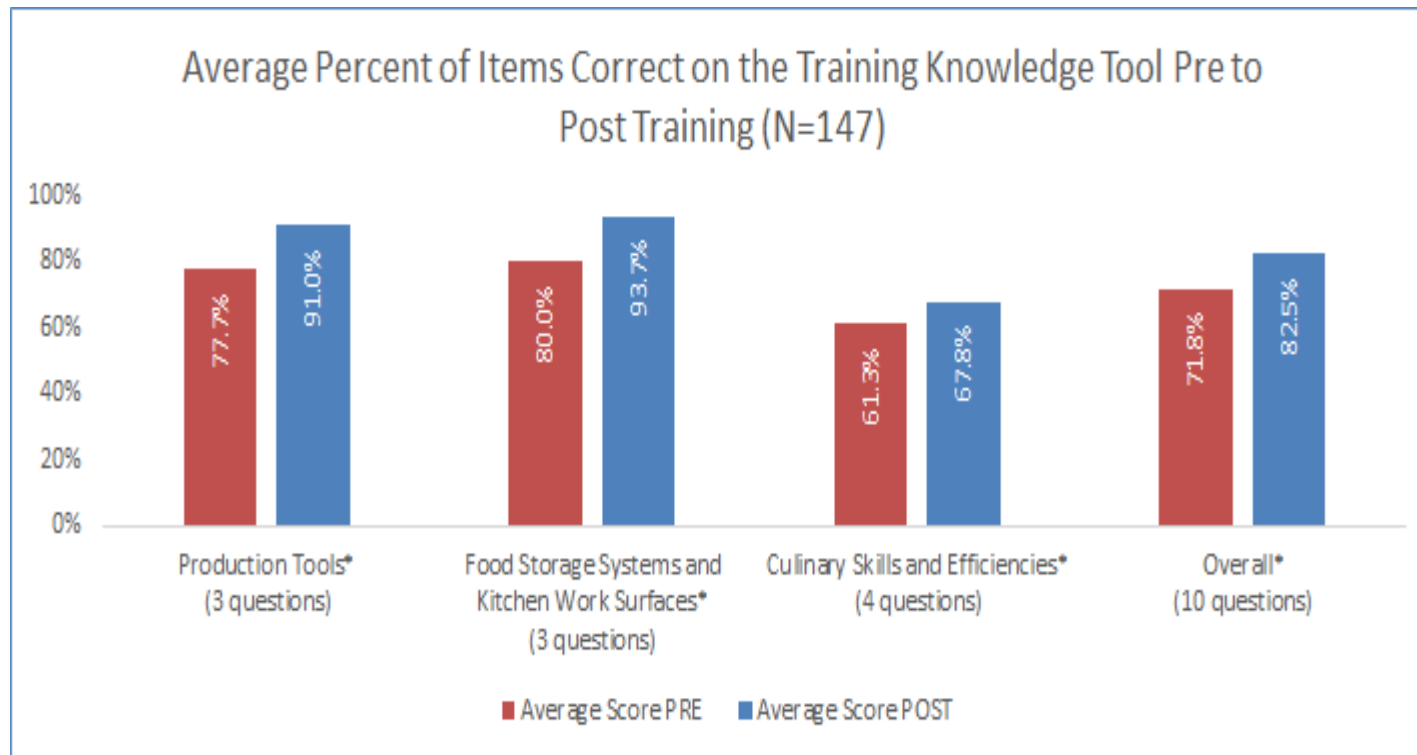
"This project was funded using U.S. Department of Agriculture grant funds."
"The USDA is an equal opportunity provider."

Newsletters!

Webinars!

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Culinary Training Knowledge Change

Knowledge Change for Each Content Area on the Training
Knowledge Tool from Before to After Culinary Training (N=147).

Average Percent of Items Correct on the Training Knowledge Tool Pre to Post Training (N=147)

	Average Score PRE	Average Score POST
Production Tools* (3 questions)	77.7%	91.0%
Food Storage Systems and Kitchen Work Surfaces* (3 questions)	80.0%	93.7%
Culinary Skills and Efficiencies* (4 questions)	61.3%	67.8%
Overall* (10 questions)	71.8%	82.5%

Asterisks indicate a statistically significant difference

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Culinary Coaching Effectiveness

Food Service Practice Scores-Centers that received coaching (N=6)

Group 3: Food Service Practices Pre and Post CHOP (n=6)

- Overall* (146 items): Score PRE 68%, Score POST 90%
- Culinary Skills and Efficiencies* (44 items): Score PRE 70%, Score POST 91%
- Food Storage Systems and Kitchen Work Surfaces (56 items): Score PRE 81%, Score POST 96%
- Production Tools* (46 items): Score PRE 52%, Score POST 83%

■ Score PRE ■ Score POST

Asterisks indicate a statistically significant difference

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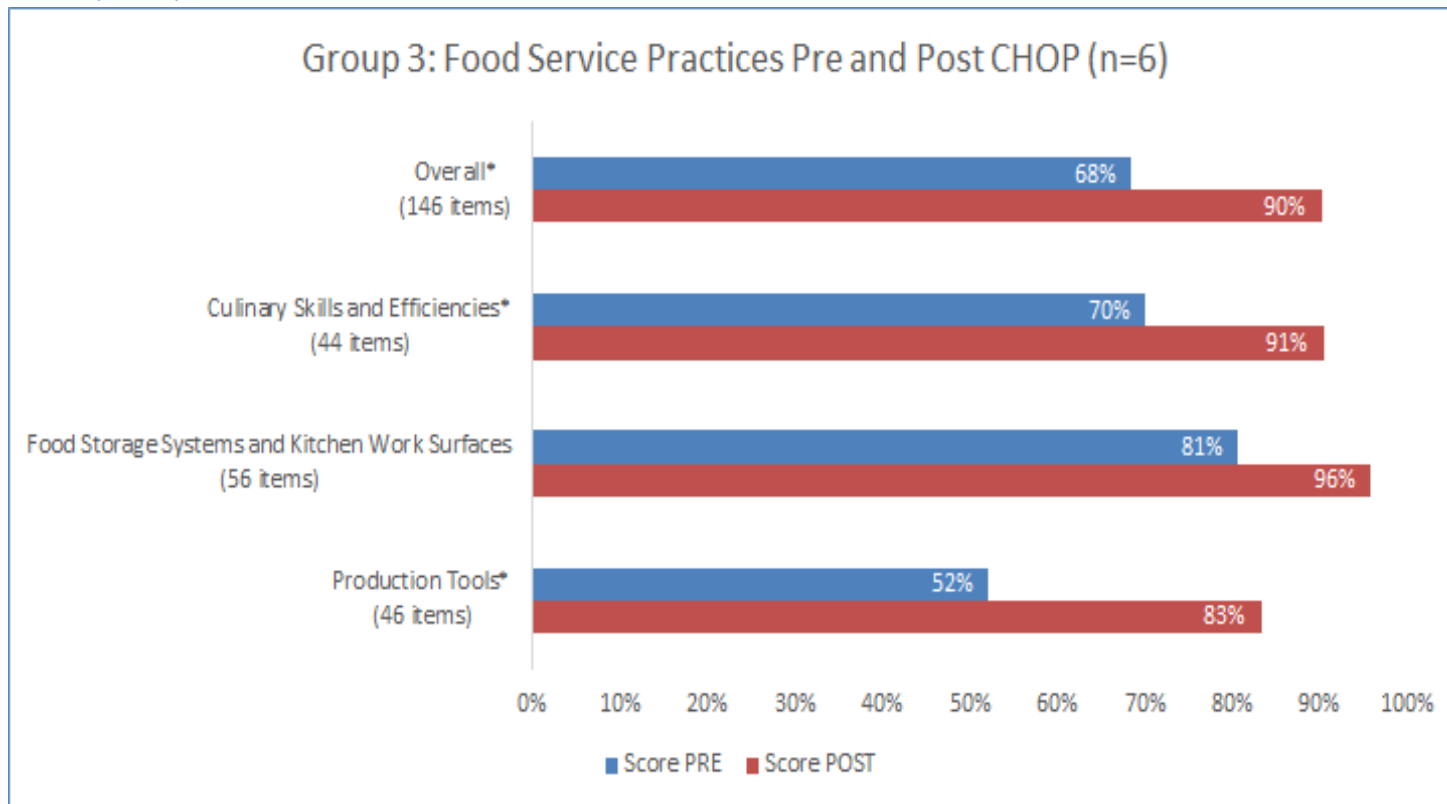
Healthy Menu Offerings

Change in Number of Times Fresh Produce is Offered on Child Care Menus Before CHOP Began to After CHOP Ended

Average Number of Healthy Menu Options Pre and Post CHOP

Group 3: Training+TA+Coaching (n=9)* — PRE: 15, POST: 23
Group 2: Training+TA (n=22)* — PRE: 25, POST: 30
Group 1: Training Only (n=16)* — PRE: 16, POST: 23

■ PRE CHOP Program   ■ POST CHOP Program

* Asterisks indicate a statistically significant difference

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Informing Practice:Quick Bites Videos

https://www.colorado.gov/pacific/cdphe/cacfp-training

CHOP Goal # 2-Education:

Children in care will increase familiarity of fresh fruits and vegetables and how they grow and taste.

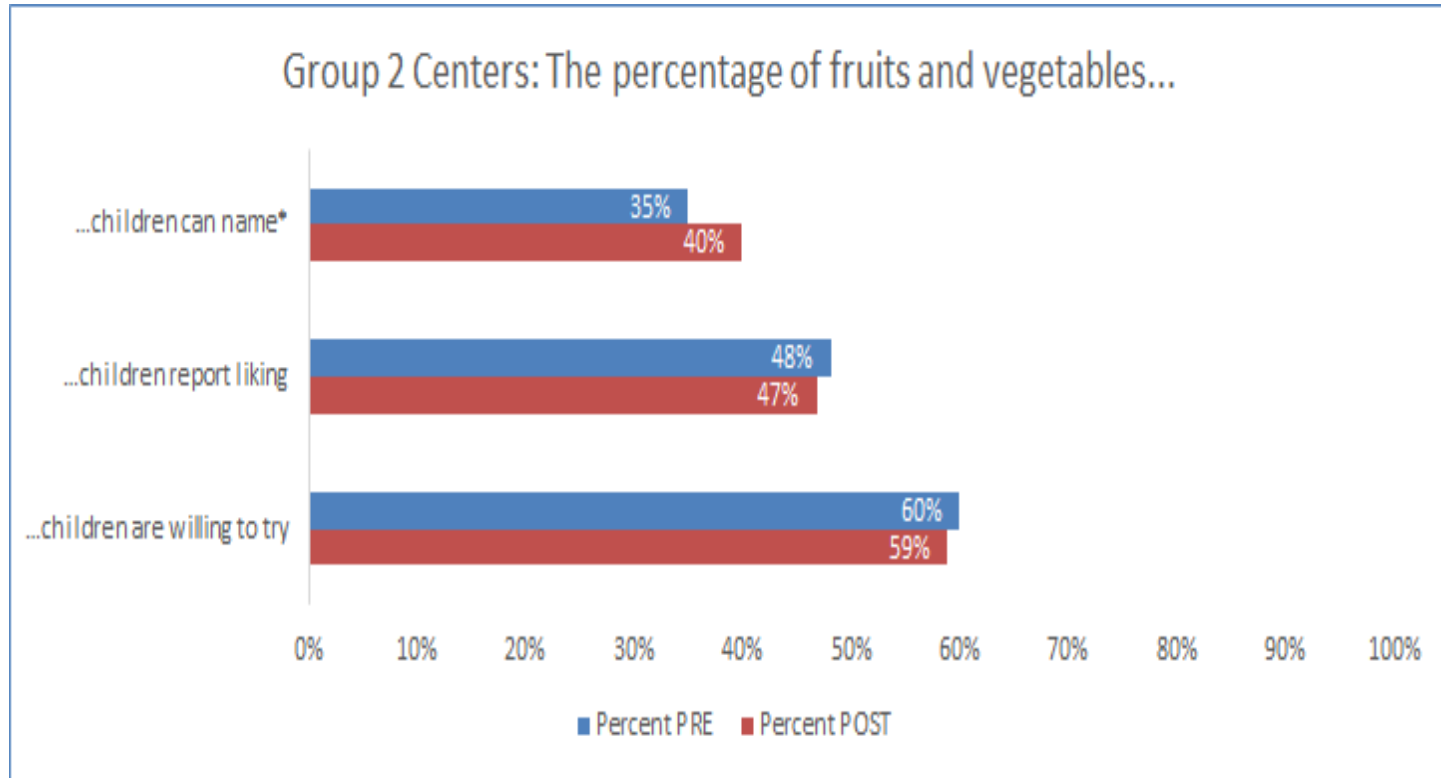# Grow it, Try it, Like it! Curriculum, Harvest for Healthy Kids

Harvest for Healthy Kids Tool
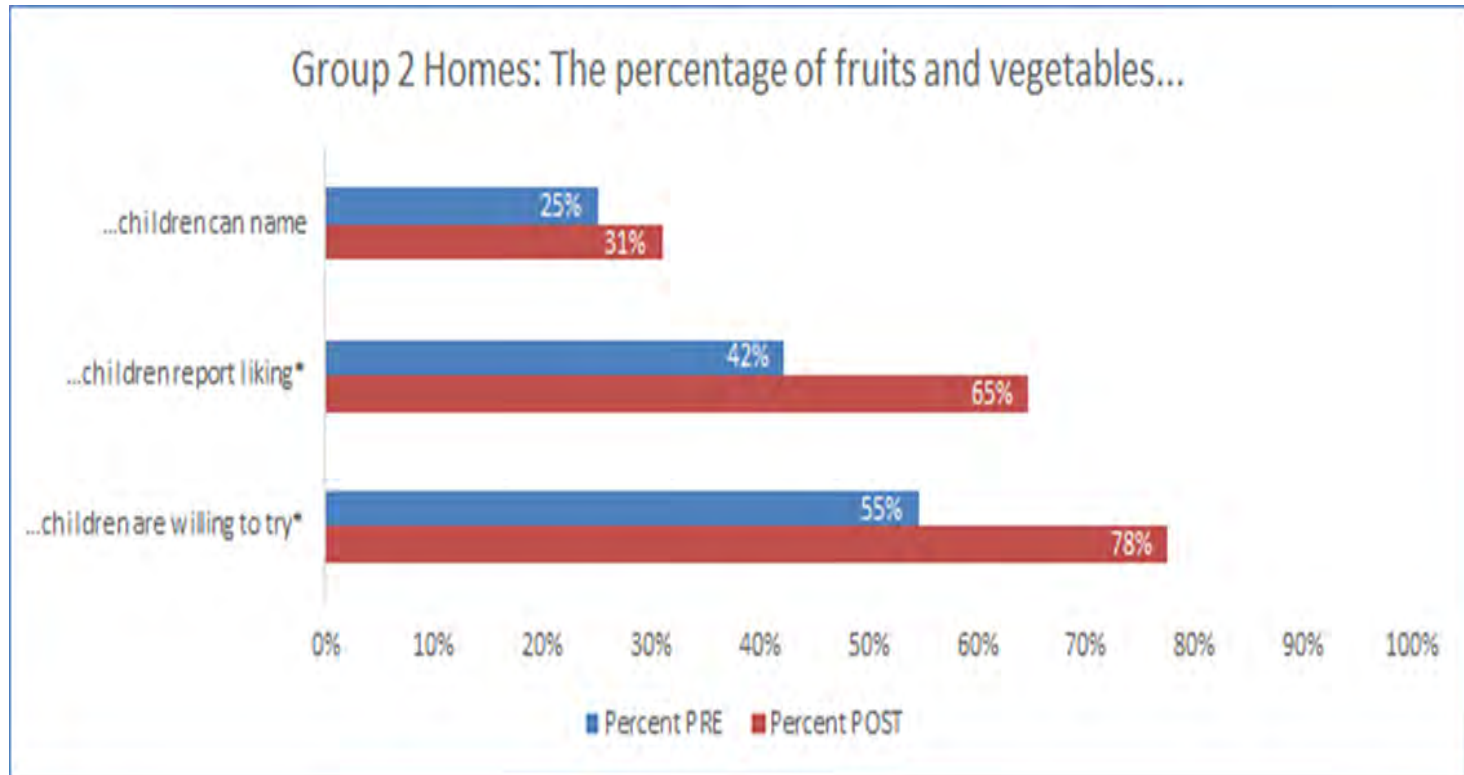
Children's Responses to Harvest Tool

Centers-**Children's Responses to Interacting with Fruits and Vegetables on the** Harvest Tool from Before CHOP Began to After CHOP Ended, N=95 children

Group 2 Centers: The percentage of fruits and vegetables...

Category	Percent PRE	Percent POST
...children can name*	35%	40%
...children report liking	48%	47%
...children are willing to try	60%	59%

Asterisks indicate a statistically significant difference

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Children's Responses to Harvest Tool

Homes-**Children's Responses to Interacting with Fruits and Vegetables on the** Harvest Tool from Before CHOP Began to After CHOP Ended, N=17 children

Group 2 Homes: The percentage of fruits and vegetables...

...children can name	PRE 25% / POST 31%
...children report liking*	PRE 42% / POST 65%
...children are willing to try*	PRE 55% / POST 78%

■ Percent PRE ■ Percent POST

Asterisks indicate a statistically significant difference

Informing Practice-Child Care Homes
Building on successes of homes in CHOP grant

❖ *Home Focus in year 2 ASPHN Mini CoIIN work*
❖ *Free CSAs to home providers*
❖ *Home providers to share tips, etc. with center teachers*
❖ *Cooks Circle*

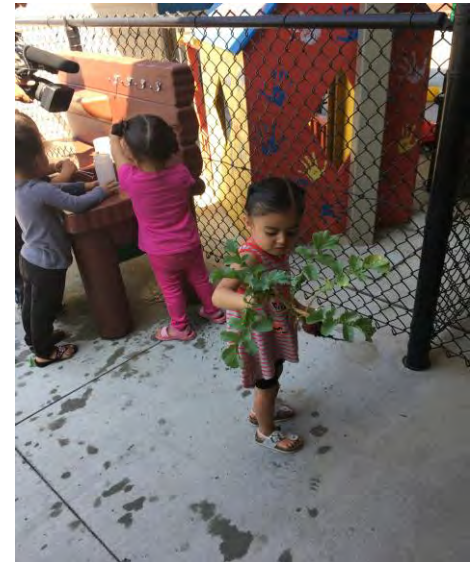

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CHOP Goal # 3-Gardening:

Children in care will spend more time participating in gardening activities.

CHOP gardens!

Thank you!

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