

### Food and Nutrition Assistance Programs: SNAP and WIC

**Presenter:** Leslie Hodges USDA, Economic Research Service

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## Food and Nutrition Assistance Program Highlights for FY 2023

- Spending on USDA's food and nutrition assistance programs totaled **\$166.4 billion**, down from previous year
- SNAP participation increased and spending decreased
- Child nutrition program spending and meals served decreased
- WIC participation and spending increased
- P-EBT issued **\$13.7 billion** in benefits in its final year of operation



## SNAP participation rose, spending fell in FY 2023



- Federal spending:
   \$112.8 billion
  - Participation:
     42.1 million
- Average benefit per person per month: \$211.93

Source: USDA, Economic Research Service using data from USDA, Food and Nutrition Service.



### **SNAP Research Highlights**



Program participation and coverage rates SNAP households in retail scanner data

Online grocery shopping Consumption patterns and dietary quality

Food security, economic wellbeing, and health



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## Total meals served and spending fell in FY 2023



- NSLP:
  - 4.6 billion meals
  - \$17.2 billion
- SBP:
  - 2.4 billion meals
  - \$5.2 billion
- CACFP:
  - 1.7 billion meals
  - \$3.9 billion
- SFSP:
  - 136 million meals
  - \$546.6 million
- All four:
  - 8.8 billion meals
  - \$26.9 billion

For a comprehensive overview of NSLP administration, operations, and recent research see: <u>The National School Lunch Program: Background, Trends, and Issues, 2024 Edition</u>



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## WIC participation rose for all groups in FY 2023

Million people



- Federal spending:\$6.6 billion
- Participation:6.6 million
- Average food costs per person per month: \$55.95

Source: USDA, Economic Research Service using data from USDA, Food and Nutrition Service.



## WIC Research Highlights



coverage rates

authorized stores

benefit redemptions food costs

benefit tailoring



# Infant formula manufacturers' discounts reduced costs to WIC

Under contracts in effect in March 2023, WIC State agencies received a <u>108.6-percent discount</u>, on average, on each unit of infant formula purchased through WIC.

18 contracts representing 42 State agencies stipulated discounts of **more than 100 percent** 

5 contracts representing 7 State agencies stipulated discounts of **more than 120 percent** 

Larger discounts allow the program to serve more eligible participants on its fixed budget

Percent discounts for infant formula rebate contracts in effect in March 2023



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#### Breastfeeding in WIC increased during the formula shortage



The numbers of infants receiving the fully and partially breastfeeding food packages began to increase in February 2022 and continued through FY 2023.

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#### Over half of WIC participants reported changing formula brands in response to the formula shortage

Share of WIC households with infants affected by the infant formula shortage by how they dealt with the shortage



Source: USDA, Economic Research Service analysis of data obtained from the Household Pulse Survey public-use files from weeks 49, 50, and 51 (September 14, 2022, through November 14, 2022).



#### If breastfeeding in WIC increased to medically recommended levels



#### WIC costs would likely increase

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#### But healthcare costs would likely decrease



Source: Oliveira, V., Prell, M., & C. Xinzhe, 2019, "The Economic Impacts of Breastfeeding: A Focus on USDA's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Economic Research Report Number 261, U.S. Department of Agriculture, https://www.ers.usda.gov/publications/pub-details?pubid=91272





#### ERS Supported Data Resources to Study Food and Nutrition Assistance Programs and Food Security

National Household Food Acquisition and Purchase Survey (FoodAPS)	Food Security Supplement (Current Population Survey)	Household Pulse Survey	Eating and Health Module (American Time Use Survey)	Retail Scanner Data (Circana, formerly IRI)*
Monthly Food- at-Home Price Database	NielsenIQ TDLinx (Grocery Store Information)*	WIC State Agency Administrative Data*	Food Access Research Atlas	Food Environment Atlas
	Food Availability Data System	Flexible Consumer Behavior Survey (National Health and Nutrition Examination Survey)	Food Expenditures Series	*Restricted use data



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Director of the Food and Nutrition Education in Communities Program (FNEC) and New York State Expanded Food and Nutrition Education Program (EFNEP)

## **55 Years of the Expanded** Food and Nutrition

**Education Program** 



- Background
- New York State EFNEP
- Conclusion and Next Steps



#### Our Past Informs Our Present, And it informs our future

"It is important to understand the history of the lands we occupy, and our places within that history. Colonialism is not a thing of the past but an ongoing process and one that many people around the world continue to participate in and be subjected to.

The United States is the product of settler colonialism, whereby people move permanently into a place and develop a new and distinct culture, but only through the intentional displacement, and sometimes eradication, of Indigenous peoples and cultures."

<sup>~</sup>The Art Institute land acknowledgment ceremony on September 27, 2019.



Cornell University is located on the traditional homelands of the Gayogohó:no' (the Cayuga Nation).

The Gayogohó:no' are members of the Haudenosaunee Confederacy, an alliance of six sovereign Nations with a historic and contemporary presence on this land.

The Confederacy precedes the establishment of Cornell University, New York state, and the United States of America. We acknowledge the painful history of Gayogohó:no' dispossession, and honor the ongoing connection of Gayogohó:no' people, past and present, to these lands and waters.

This land acknowledgment has been reviewed and approved by the traditional Gayogohó:no' leadership.

## **Background: What is EFNEP?**

- A federally funded initiative launched in **1969** by the United States Department of Agriculture (USDA)
- Aims to assist limited-resource families and youth in acquiring knowledge, skills, and attitudes necessary for healthy diets and lifestyles.
- Operates through the 1862 and 1890 Land-Grant Universities (LGUs) in every state, the District of Columbia, and the six U.S. territories – American Samoa, Guam, Micronesia, Northern Marianas, Puerto Rico, and the Virgin Islands.





### Background: What is EFNEP?

- Collectively, 76 Land-grant Universities conduct EFNEP and reach roughly 200,000 low-income adults and 450,000 low-income youth
- Builds **community capacity** by training local educators and empowering families.
- Routinely, 80 percent or more EFNEP families report living at or below 100 percent of poverty







### **Background:** What is EFNEP?

#### TARGET POPULATIONS:

- Low-income adults with children
- Youth (grades K-12) in schools or community programs
- Focus on underserved communities disproportionately affected by food insecurity and diet-related chronic disease
- Delivered through **peer educators** who reflect the communities they serve

#### CORE PROGRAM COMPONENTS:

- Adult Program:
  - Series of group-based or individual lessons
  - Hands-on learning, goal-setting, behavior tracking
- Youth Program:
  - Integrated into schools, 4-H, and afterschool settings
  - Emphasizes healthy eating, gardening, and active lifestyles



Hands-on learning with Seneca CCE





# Background:

### War on Poverty

- Established in response to growing concerns about malnutrition and food insecurity among low-income populations in the 1960s.
- Designed to complement the War on Poverty programs.
- Focused on teaching practical skills like meal planning, food safety, and budgeting.

### **Background: Smith-Lever**

- President Lyndon B. Johnson authorized \$10 million for the EFNEP program in 1968, and in 1969 Congress authorized \$30 million under the Smith-Lever Act. The original program was delivered by 1862 land grant universities.
- The pilot project involving young homemakers in limited-resource rural areas of Alabama was a cooperative 5-year project (July 1, 1964 through June 30, 1969) between Alabama Extension, Auburn University, and Federal Extension Service, USDA.
- The three primary areas considered in the pilot project were:
  - + To develop and test methods of reaching and teaching homemakers
  - + To develop and test educational materials
  - + To determine if paraprofessionals could be trained to teach low-socioeconomic homemakers so they could understand and apply what they learned



#### Background: What is EFNEP?

- **1970s-1980s:** Expanded to include youth-focused programming.
- **1990s:** Integration of technology for program delivery and data collection.
- 2000s: Strengthened focus on addressing health disparities and chronic disease prevention.
- **Present Day:** Program innovations include culturally tailored interventions and digital tools to enhance outreach..



### NYS EFNEF

- NYS EFNEP is part of the Food and Nutrition Education in Communities Program in the Division of Nutritional Sciences, College of Human Ecology
- Help individuals, families, and communities live a healthy and active life by:
  - + disseminating science-based knowledge, education, and curricula;
  - + fostering community partnerships and outreach;
  - + providing program planning, training, and technical assistance support; engaging in applied research and evaluation
- Work in NYS in collaboration with CCE and with partners locally, regionally, and nationally to improve policies, programs, and practices related to nutrition education, healthy food access, and food and nutrition security



#### Who are we?

Part of the Division of Nutritional Sciences (DNS) at Cornell University, the goal of the Food and Nutrition Education in Communities Program (FNEC) is to help individuals, families, and communities live a healthy and active life by disseminating science-based knowledge, education, and curriculum, fostering community partnerships and outreach; providing program planning, training, and technical assistance support; and engaging in applied research and evaluation.

Although a primary target of FNEC's efforts are in New York State (NYS) in collaboration with Cornell Cooperative Extension (CCE), FNEC works with partners locally, regionally, and nationally to improve nutrition policies, programs and practices related to nutrition education, healthy food access, and food and nutrition security.

**Our Mission:** 

#### Our Vision:



To promote positive nutrition practices through research, evidence-based programming and policies to encourage wise use of resources, enable access to nutritious and safe food, and foster food secure communities for low-income individuals and families.



#### Program Spotlights: Expanded Food and Nutrition Education Program (EFNEP)

EFNEP is the nation's first nutrition education program and has been active in New York State (NYS) since program

- inception in 1969. • Funded by USDA, FNEC administers EFNEP in NYS with 71 trained CCE staff who live in communities they serve
- and represent 24 counties and all 5 NYC boroughs. • With hands-on lessons from tested curricula, EFNEP educators support low-income families with knowledge and
- with hands-on lessons from tested curricula, EFNEP educators support low-income families with knowledge and skill to improve nutrition and physical activity behaviors.



 Every \$1 spent in EFNEP saves \$10 in health expenditures and improves Quality Adjusted Life >3 years for adult participants.
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Dollahite J, Kenkel D, Thompson CS. An economic evaluation of the Expanded Food and Nutrition Education Program. J Nutr Edua Behav. 2008;40:134-143 **Background:** 

**Cornell** 

University EFNEP

### **Contribute to**

### **Foundation of**

**National** 

### **Program**



#### Role of EFNEP aides in improving diets of pregnant women

Jean Bowering<sup>1</sup>, Mary A. Morrison<sup>1</sup>, Ruth L. Lowenberg<sup>1</sup>, Nilda Tirado<sup>1</sup> Shaw more

#### Summary

The East Harlem Nutrition Education Program provided pregnant women with counseling by a clinic nutritionist plus, in some instances, assistance from paraprofessional EFNEP aides. The study was conducted among low-income women attending an obstetrics clinic at Metropolitan Hospital in New York City. The women's diets were initially low in calcium, vitamin C, iron and energy and improved with program participation. Women with aide assistance in addition to clinic counseling generally showed greater dietary improvement than those with counseling alone and especially increased their intakes of milk, fruits and vegetables. A more positive response to aide intervention was seen among Puerto Rican women than among black American or Haitian women. The difficulties encountered in assessing the effectiveness of an aide



#### **Background: Cornell University EFNEP Contribute**

#### to Foundation of National Program

#### Researchers: Every \$1 Invested in New York Nutrition **Program Reduces Participants'** Health Care Costs by \$10



BY SHERI HALL



amily's diet and nutritional well-being. The study was published in the May/June issue of the *Journal of* The researchers looked at the costs and benefits of the EFNEP

program for 5,730 low-income adults who "graduated" from Ney York's six-session EFNEP program in 2000 at a cost of about \$900 per

Using the same approach that the U.S. Office of Management and Budget has used in cost-benefit analyses, the researchers no only estimated how the program participants' changed behavior affected their health and medical costs, but also their productivity, life

All told, the improvements produced by EFNEP were estimated to be worth more than \$49 million, producing a benefit-to-cost ratio of \$9,59 per \$1. In other words, each dollar spent on EFNEP resulted in "Cost-effectiveness was estimated to be as great as for many current

health interventions, such as lifestyle changes to prevent diabetes," said bollahite. "The education provided by EFNEP also directly supports current goals of the U.S. Department of Agriculture and the U.S. Department of Health and Human Services, as indicated in the Dictary Guidelines for Americans and Healthy People, 2010. EFNER which has been offering nutrition education in New York since 1969, is delivered through Cooperative Extension throughout

the United States with federal, state, and local funding. It reaches more than 150,000 low-income adults each yea The study was supported by the U.S. Department of Agriculture. Cornell's College of Human Ecology, and Cornell Cooperative

Extension. • • •

EAST HARLEM NUTRITION EDUCATION PROGRAM

3. Dietary and Biochemical Assessment of Women in a High Risk Obstetric Clinic

Report Prepared by:

Jean Bowering<sup>2</sup> Ruth L. Lowenberg Mary A. Morrison

DEPARTMENT OF HUMAN NUTRITION AND FOOD NEW YORK STATE COLLEGE OF HUMAN ECOLOGY A STATUTORY COLLEGE OF THE STATE UNIVERSITY CORNELL UNIVERSITY, ITHACA, NEW YORK

with Cooperation from:

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Jerry Rivers<sup>4</sup>

March, 1974

This project was supported in part by Special Needs Funds from the Exten-sion Service, U.S.D.A. and funds from the project "Nutrition Improvement in the Northeast Region" (NE-73), U.S.D.A.

Assistant Professor, Department of Human Nutrition and Food, Cornell Univ. Extension Associate, Department of Human Nutrition and Food, Cooperative Extension, New York City.

Professor, Department of Human Nutrition and Food, Cornell Univ.

Professor, Department of Pediatrics, New York Medical College

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### **Sixteen EFNEP Counties**

## Partnerships (2024)

- 567 Partnerships exist +WIC
  - +Head Start
  - +Adult Education Sites
  - +Places of Worship
  - +Food Stores
  - +Health Clinics
  - +Libraries



#### **EFNEP Reaches a Diverse Audience**



### **Reported Behavior Change**

#### Improvement





## **Quote from an EFNEP Participant**

A single mother in Queens, New York, attended EFNEP classes conducted by Cornell University to learn about healthy eating choices.
"Now I cook meals with my daughter at home, and we eat fast food only two times a month instead of everyday like we used to," she said. "We both have lost weight just by changing our eating habits, I am walking more, I play games with my daughter and drink water instead of drinking juice."

EFNEP: Over 50 Years of Nutrition Education | NIFA

### Challenges: Enrolled – FFY1999 –



Covid-19



### **Challenges : Professional Staff –**

### FFY1999 – FFY2025



### **Challenges : Paraprofessional Staff –**

### FFY1999 – FFY2025



### **Methods: Study Design**

Cross-sectional analysis using program entry and exit survey data.
Participants categorized by rural vs. urban location and graduation status.

#### Analytic Approach:

•Descriptive Analysis:

•Categorical Variables (e.g., sex, ethnicity, race, education, food service program involvement):

•Frequency tables generated in SAS - using Chi-square tests (Mantel-Haenszel,

Likelihood Ratio).

•Continuous Variables (e.g., age, poverty rate, number of children, household size, diet quality scores):

•Group means compared using Independent Samples T-Tests

#### •Regression Analysis:

•Multiple linear regression used to assess predictors of change in behavior scores (e.g., Change).

#### •Model Selection :

•Used for model building across outcomes (e.g., food security, diet quality, food resource management).

### Frequency Findings

- Sample Sizes: Rural N=4004, Urban N=11980
- Significant Chi-Square Results:
- - Sex (Rural p=0.0147, Urban p<0.0001)
- - Ethnicity (Urban p=0.0104)
- - Race (Rural p=0.0010, Urban p<0.0001)
- - Food Programs (Rural p=0.0005, Urban p<0.0001)

### Frequency Findings - Rural Participants

Characteristic	Graduates (Mean ± SD)	Non-Graduates (Mean ± SD)	p-value
Sex	0.61 ± 0.49	0.56 ± 0.50	0.0147
Race	0.70 ± 0.46	0.63 ± 0.48	0.0010
Food Programs	0.77 ± 0.42	0.71 ± 0.45	0.0005
Ethnicity	0.23 ± 0.42	$0.21 \pm 0.41$	NS

### Frequency Findings – Urban Participants

Characteristic	Graduates (Mean ± SD)	Non-Graduates (Mean ± SD)	p-value
Sex	0.59 ± 0.49	0.52 ± 0.50	<0.0001
Race	0.62 ± 0.49	0.54 ± 0.50	<0.0001
Food Programs	0.81 ± 0.39	0.75 ± 0.43	<0.0001
Ethnicity	0.45 ± 0.50	$0.41 \pm 0.49$	0.0104

### **Combined Rural vs Urban Comparison**



### **The Future: Challenges and**

## **Opportunities**

- Challenges:
  - Reaching populations in high need.
  - Adapting to changing technology and participant needs.
- Opportunities:
  - Leveraging partnerships with community organizations.
  - Incorporating community responsive curricula.
  - Using virtual platforms to expand access.

### Summary: Key Milestones

- EFNEP has provided over **five decades** of transformative education for families and youth.
- Continues to play a critical role in promoting food security, health equity, and community resilience.
- Encourages stakeholders to support and expand the program to meet the needs of future generations.

### **The Future**

- Expanding outreach to urban and rural areas with limited access to resources.
- Strengthening data collection to demonstrate impact and secure funding.
- Innovating program delivery methods to include more virtual learning tools.
- Collaborating with public health initiatives to address food insecurity and chronic disease prevention.

#### Probability of Food Security (PFS) A New Food Security Measure

Seungmin Lee

University of Notre Dame

IRB Webinar

Apr 2025

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#### Food Security Measure in the U.S.

- The USDA has measured food security in the U.S. since 1995.
- The USDA's food security measure is a categorical measure (food security, low food security, and very low food security) based on a number of affirmative answers to 10 (or 18) questions in the Household Food Security Survey Module (HFSSM).
  - Worried about foods, skipping meals, etc.
- The USDA food security measure has been adopted to other household surveys to examine food security.
  - Panel Study of Income Dynamics (PSID), National Health and Nutrition Examination Survey (NHANES), etc.

#### Limitation of the USDA Food Security Measure

- Requires a survey module, thus cannot be applied to the existing data.
  - Existing food security data have their own limitations such as survey length, gap period, and sample representativeness.
  - These data limitations prevented researchers from studying households' food insecurity patterns in the long run, such as duration of food insecurity episodes and average food security status over years.
- Only has three levels of food security status, thus cannot fully measure food security level.

#### The Probability of Food Security

- The Probability of Food Security (PFS) is the estimated probability (zero to one) that a household's observed food expenditure equals or exceeds the minimal cost of a healthful diet, reflected by the USDA's Thrifty Food Plan (TFP) cost.
  - "Given household characteristics (gender, education, etc.), how likely could a household afford a healthy diet?"
  - Household is estimated to be food insecure if its PFS is below a threshold probability.
- PFS complements the USDA food security measure by (i) creating a long-term panel data on the existing data (ii) fully assessing levels of food (in)security.

#### Studying Food Security using PFS

- What can we learn about food security through the PFS?
- The PFS enables us to estimate food security that has been previously unavailable.
  - Dynamics: What share of food insecure households are <u>chronically</u> food insecure?
  - **Severity**: How severe are food insecurities across different sub-populations?
  - Policy Evaluation: What is the effect of SNAP on food security at the intensive margin?
- I introduce two studies; the one on dynamics, the other on policy evaluation (SNAP).

#### Food Security Dynamics

- Identifying chronically food insecure households is crucial, as they could be "trapped" into food insecurity without policy interventions.
- There are two different approaches in studying dynamics.
  - Spells: the duration of continuous, unbroken sequence of food insecurity experiences. ("How long has a household been subsequently food insecure?")
  - Permanent: Household's average PFS over time ("What is household's PFS over years?")
- I investigated food security dynamics in two different periods; 2001-2017 (both approaches) and 1979-2019 (spells only)

#### Dynamics in 2001-2017



- (Spell) More than a half food insecurity experience is one-time experience.
- (Permanent) Nearly 30% of food insecure households are chronically food insecure (average PFS below threshold)

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#### Dynamics in 1979-2019



• Food insecurity experience lasts 4 rounds (4-10 years) on average.

• Nearly half of food insecurity experience (48%) persists over years.

#### PFS for Policy Analaysis

- PFS can also be used for policy analysis targeting food security, both at extensive margin (food insecure or not) and at intensive margin (level of food insecurity).
- I study the effects of SNAP on food insecurity from 1997 to 2013 (work in progress).
- I use state-level SNAP administrative rules (fingerprinting requirement, broad-based categorical eligibility, etc.) as an exogenous variation for causal inference.

#### PFS on SNAP

	Full sample		Low-income population	
	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)
SNAP (=1)	-0.118***	0.297	-0.123***	0.010
	(0.00)	(0.22)	(0.00)	(0.11)
N	82850	82850	39710	39710
Mean PFS	0.78	0.78	0.67	0.67

• SNAP does NOT have significant effects on estimated food security.

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#### PFS on SNAP - Distributional Effect



Estimated Effects of SNAP by PFS percentile

• The neediest may suffer from non-cash constraints.

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#### Conclusion

- PFS is a new food security measure that estimates households' (or individuals') likelihood of affording a healthy diet.
- PFS complements the official measure by creating a long-term food security panel data and fully assessing levels of food (in)security.
- PFS is a useful toolkit to study food security, such as dynamics, level and policy analyses.
  - Programming codes generating PFS is available upon request (and soon available online).

#### Thank you

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