



CREATED BY GUSNIP NTAE CENTER

# Policy and environmental approaches to improve health among low-income populations in the United States: Making the Case for Financial Incentives

**Amy L. Yaroch, PhD**

**Gretchen Swanson Center for Nutrition**

**November 10, 2022**

The Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Information Center (NTAE) is supported by Gus Schumacher Nutrition Incentive Program grant no. 2019-70030-30415/project accession no. 1020863 from the USDA National Institute of Food and Agriculture.



# Amy Yaroch, PhD

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- Executive Director at Gretchen Swanson Center for Nutrition
- Grant writer and researcher



**Twitter:** @AmyYaroch

**Twitter (GSCN):** @GretchenSwanson



# Gretchen Swanson Center for Nutrition

Primary focus is **measurement and evaluation** across the content areas of healthy eating/active living, food insecurity, health equity, and policy advocacy.

- National program evaluation for funders
- Evaluation training and capacity building for grantees
- Lead the GusNIP NTAE and reporting and evaluation
- Conduct our own independent research in content areas listed



# Outline

- Financial Incentives and Making the Case
- About GusNIP
- About NTAE and Nutrition Incentive Hub
- Impact of Financial Incentives (Results from Y2)
- Financial Incentives as a Path Forward in Israel?





# Making a Case for Financial Incentives



# Financial Incentives (Two Types for GusNIP)

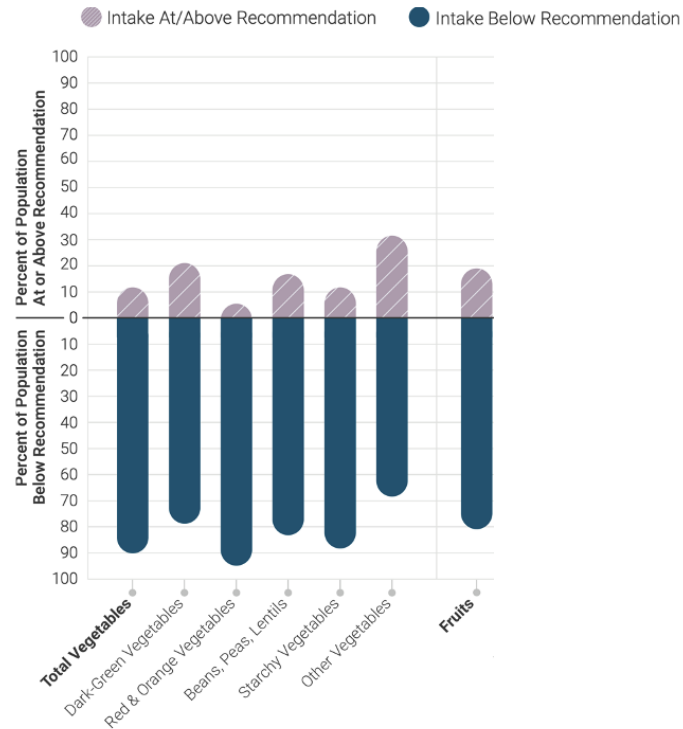


**Nutrition Incentive (NI)**



**Produce Prescription (PPR)**

## Dietary Intakes Compared to Recommendations for Fruits and Vegetables



**Fruit and vegetable intake is below recommendations for all Americans**

U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025*. 9<sup>th</sup> Edition. December 2020. Available at [DietaryGuidelines.gov](https://www.dietaryguidelines.gov)

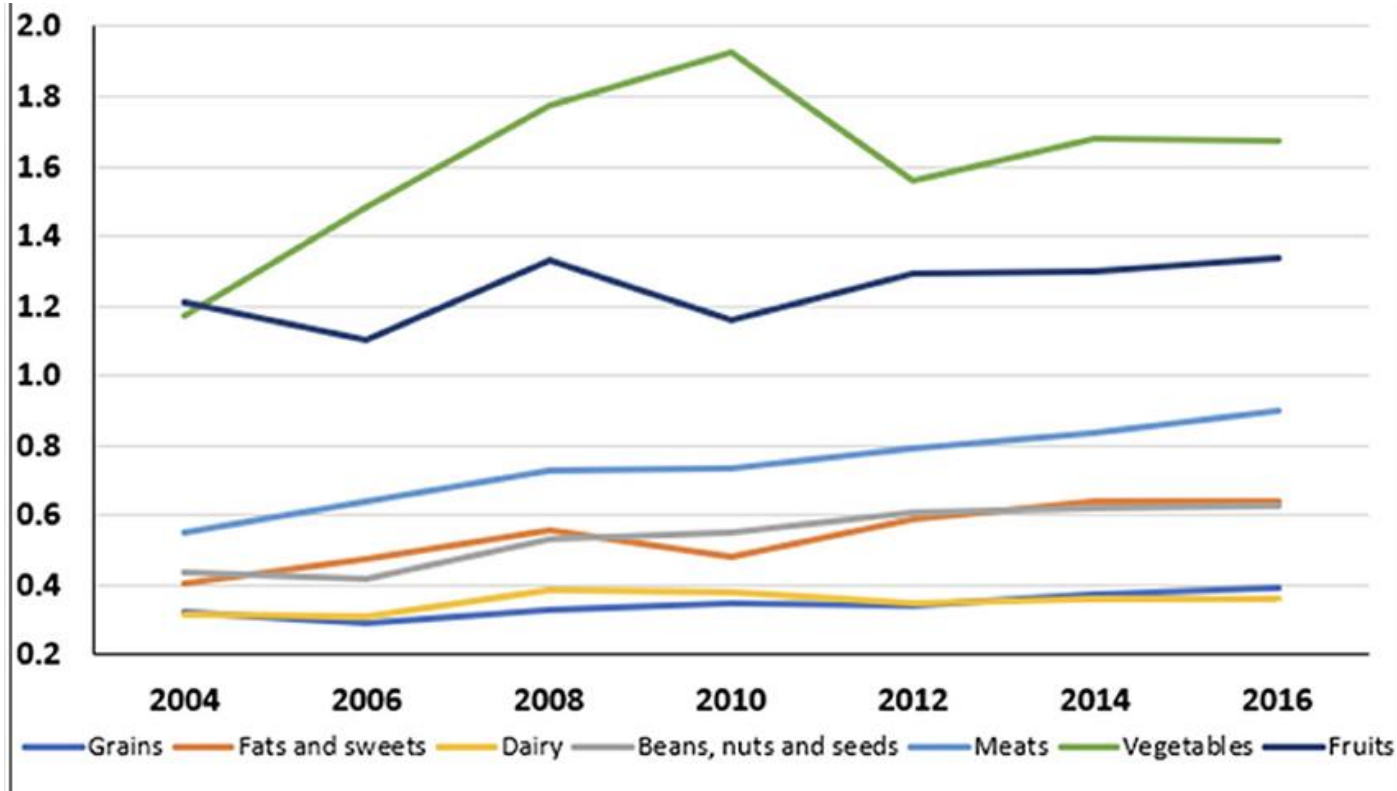


# Disparities in the United States

- Individuals who report low-income are also more likely to
  - report low fruit and vegetable intake
  - report food insecurity
  - experience chronic disease and obesity
- Systematic and long-standing inequities contribute to these health disparities



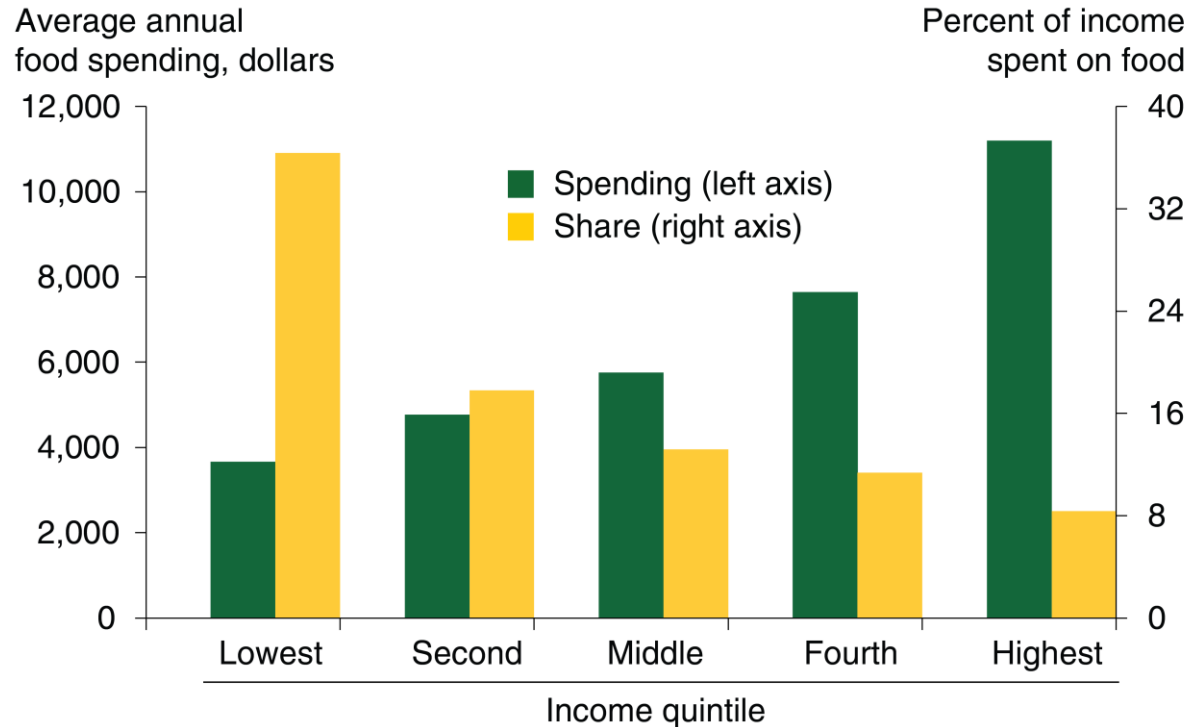




**Fruits and vegetables are the most expensive food groups in the United States**

Gupta S, Hawk T, Aggarwal A, Drewnowski A. Characterizing ultra-processed foods by energy density, nutrient density, and cost. *Frontiers in nutrition*. 2019:70.

## Food spending and share of income spent on food across U.S. households, 2013



Source: USDA, Economic Research Service using data from U.S. Bureau of Labor Statistics, Consumer Expenditure Survey, 2013

**Individuals with low-incomes spend the least on food and the highest share of their total income in the United States**

# Financial Incentive Role in Addressing Health Disparities

Promote healthy food consumption & lower risk of diet-related conditions



Intervention & assessment of financial incentives



Increased risk of diet-related conditions



Low healthy food dietary patterns



Disadvantaged socioeconomic groups



Food insecurity/nutrition insecurity



Limited

Accessibility

Affordability

Availability

# Financial Incentives for Fruits and Vegetables

- Vouchers, rebates, tokens, automatic discounts for healthy food, like fruits and vegetables
- Financial incentives for fruits and vegetables are applied as a policy lever to support the purchase of fruits and vegetables among low-income populations
- **Incentives:**
  - enhance consumer choice
  - increase purchasing power



# About GusNIP





# From HIP to FINI to GusNIP

## HIP Pilot: 2008



- \$4.4M
- 30 cents on the dollar

## FINI: 2014



- \$100M over 5 years
- Requires a 1:1 non-federal match

## GusNIP: 2018



- \$250M budgeted over 5 years
- Requires a 1:1 non-federal match (for nutrition incentive programs)

# GusNIP Project Types

## Nutrition Incentive (SNAP Incentive)

Increase value of SNAP benefits at point of purchase often by providing “incentives” such as doubling the value of SNAP \$ when spent on fruits and vegetables

- Higher reach
- Operate at firm level
- **Benefits:**
  - Increased purchase/consumption FVs
  - Increased produce sales
  - Increased economic impact

## Produce Prescription (PPR)

Allow healthcare professionals to prescribe fruits and vegetables for patients experiencing food insecurity and often chronic disease condition (e.g., Type 2 diabetes)

- Higher dose
- Operate in health care setting primarily
- **Benefits:**
  - Patient health improvement
  - Chronic disease reduction
  - Reduction in health care utilization

# About the NTAE and Nutrition Incentive Hub



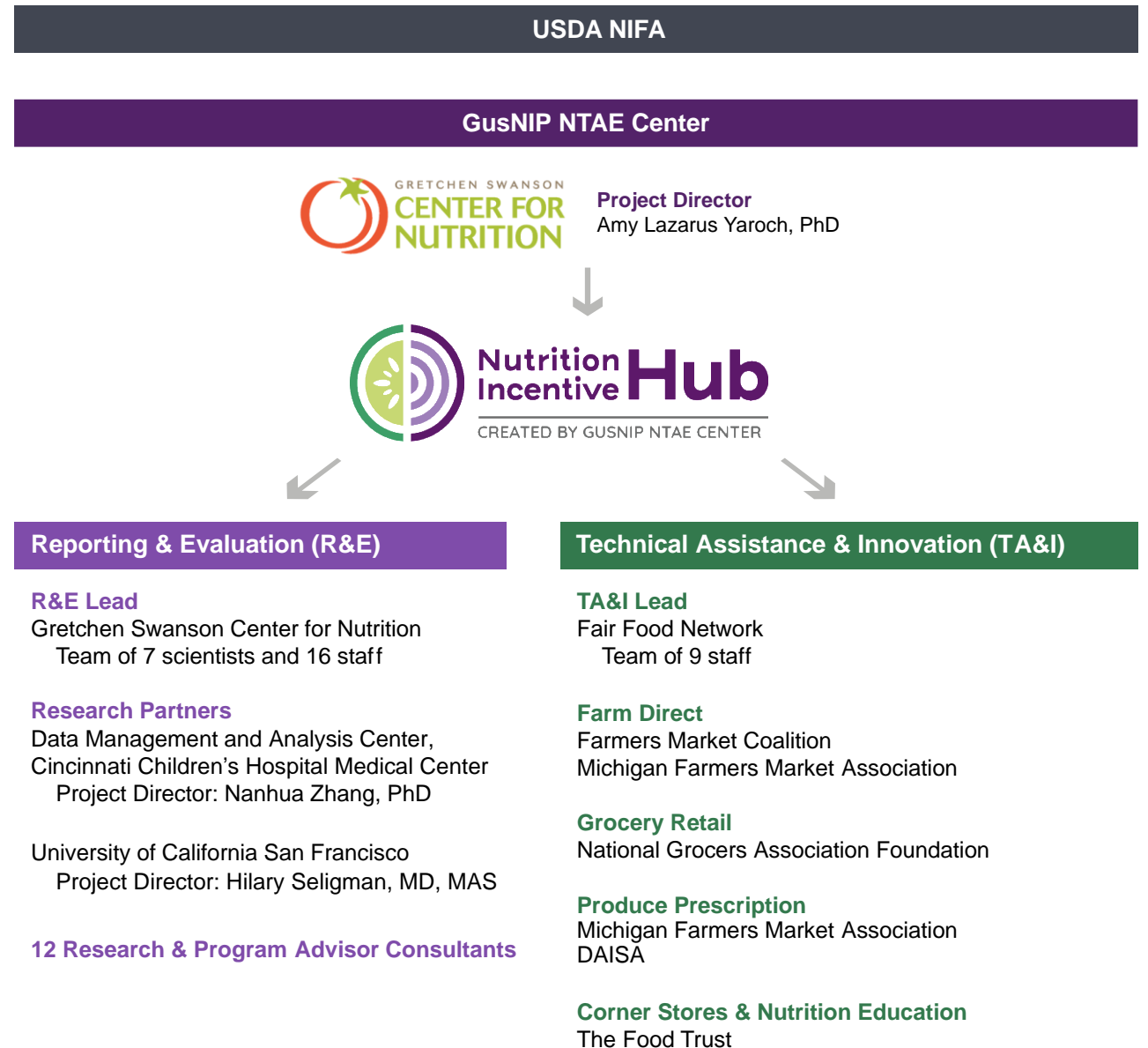
# Nutrition Incentive Hub: Coalition of Partners

## Gretchen Swanson Center for Nutrition

- Leading the Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Information Center (NTAE)
- Leading reporting and evaluation
- Headquartered in Omaha and remote across the nation

## Fair Food Network

- Leading technical assistance and fostering innovation
- Based in Michigan





# Year 2 Impact Findings

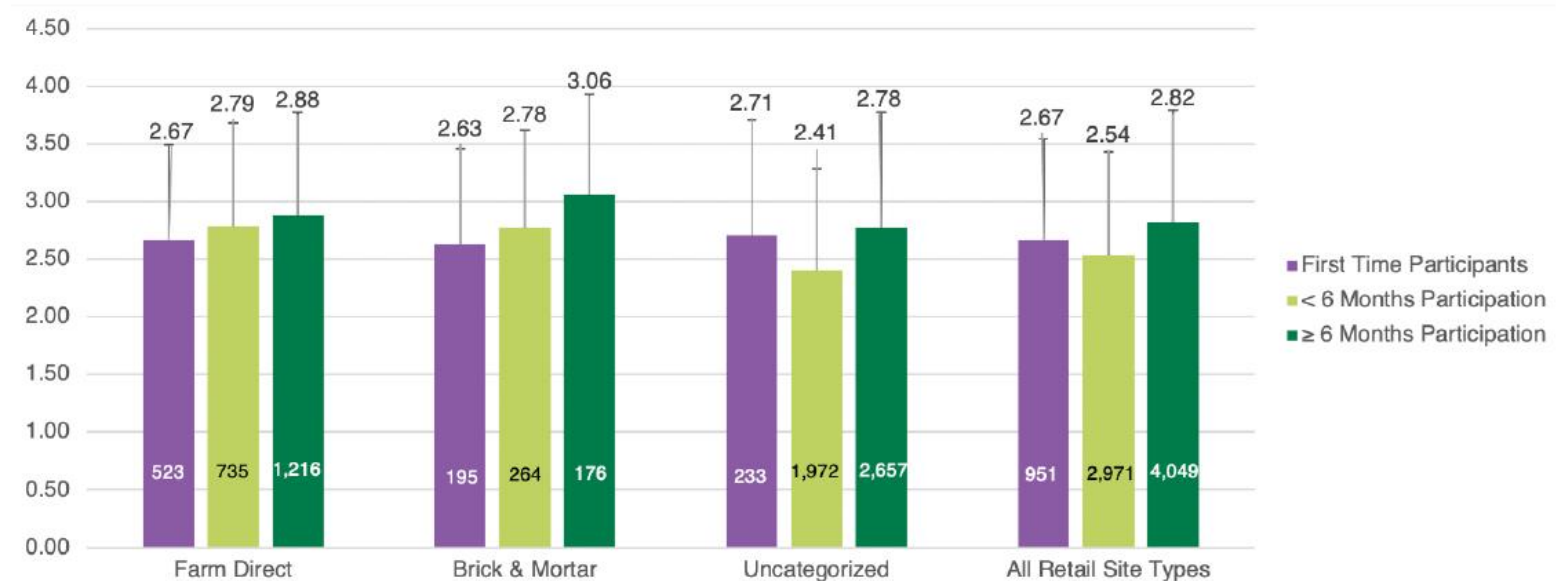




# Year 2 Results: Nutrition Incentive Fruit and Vegetable Intake

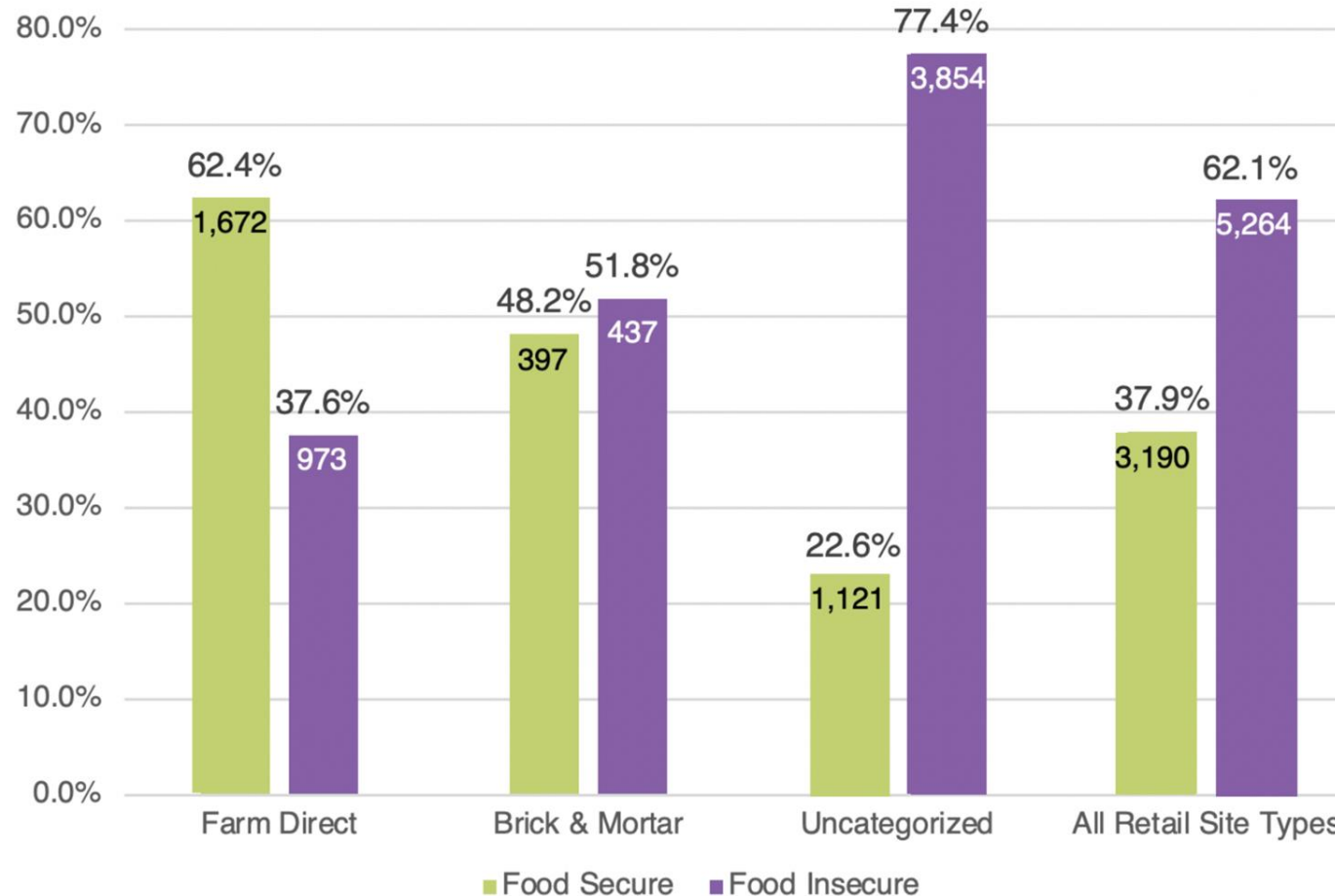
Longer participation associated with higher fruit and vegetable intake

Average Daily Fruit and Vegetable Cup Equivalents Among Nutrition Incentive Participants by Firm Type (2020-2021; n=8,699)



# Year 2 Results: Nutrition Incentive Food Security

Food Security Nutrition Incentive Projects  
2020-2021



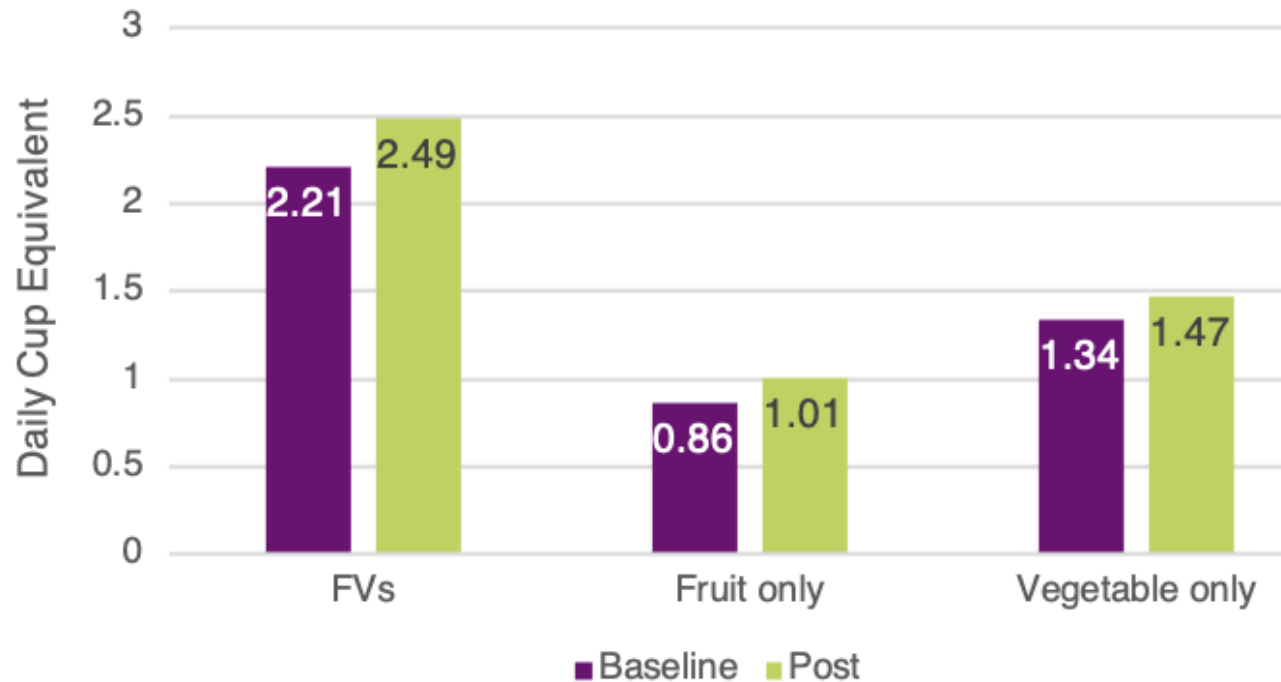
- 37.9% of participants were food secure and 62.1% of participants were food insecure
- **Longer participation associated with greater food security**

# Year 2 Results: Produce Prescription Fruit and Vegetable Intake

Daily Fruit and Vegetable Intake Among Produce Prescription Project Participants

2020-2021

N = 1,201 baseline, N = 196 post



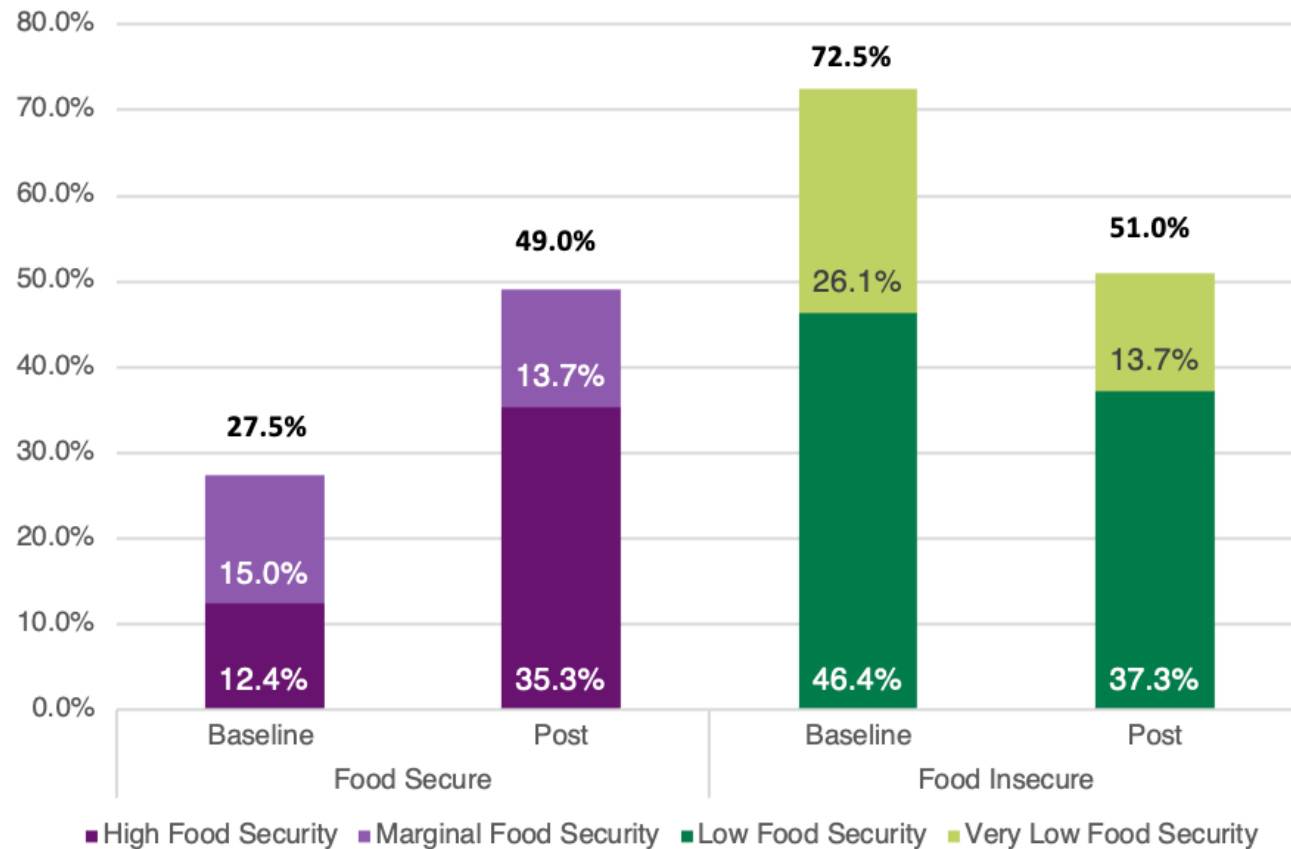
Produce prescription participants reported **increased fruit and vegetable consumption** compared to baseline

# Year 2 Results: Produce Prescription Food Security

## Food Security Baseline to Post for Produce Prescription Projects

2020-2021

N = 1,201 baseline, N =196 post



Produce prescription participants reported **reduced food insecurity** compared to baseline

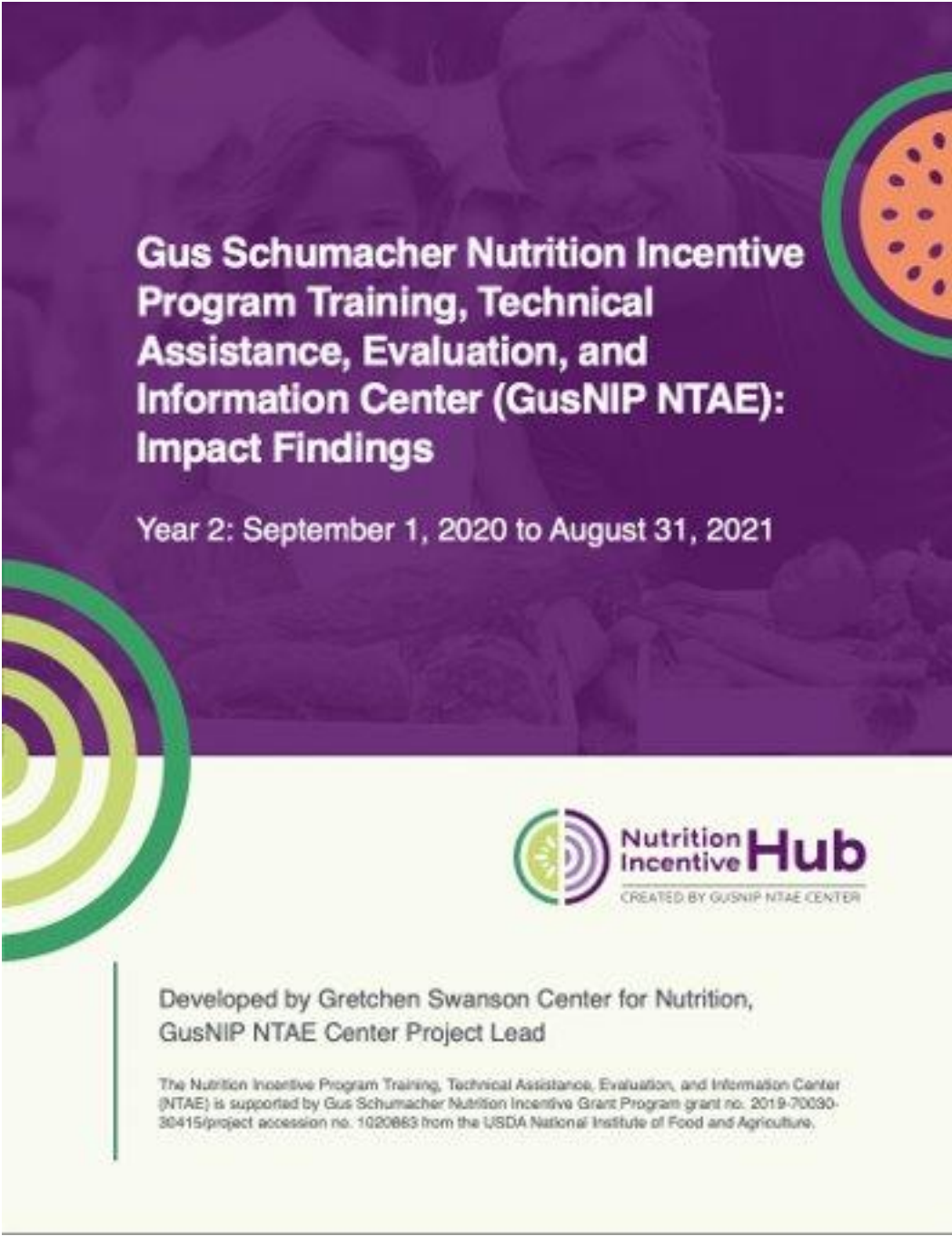
# Year 2 Results: Economic Impact

## Economic Impact



Supporting program participants, farmers, grocers, and communities





## Gus Schumacher Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Information Center (GusNIP NTAE): Impact Findings

Year 2: September 1, 2020 to August 31, 2021



Developed by Gretchen Swanson Center for Nutrition,  
GusNIP NTAE Center Project Lead

The Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Information Center (NTAE) is supported by Gus Schumacher Nutrition Incentive Grant Program grant no. 2019-70030-30415/project accession no. 1020663 from the USDA National Institute of Food and Agriculture.

## View the Impact Findings Report on Our Website

- Download a copy at [www.nutritionincentivehub.org](http://www.nutritionincentivehub.org)
- Please use and share!

# Financial Incentives as a Path Forward in Israel?



# Produce Prescription Programs in Israel

- Utilize universal healthcare systems to integrate produce prescription programs into care models
- Promote financial incentives to increase intake of fruits and vegetables through public/private partnerships
  - Food Banks
  - Who else could be leveraged from government, industry or non-profits?



# Acknowledgements

**Carmen Byker Shanks, PhD, RDN**

**Principal Research Scientist**, Gretchen Swanson Center for Nutrition

**Eric Calloway, PhD, RDN**

**Senior Research Scientist**, Gretchen Swanson Center for Nutrition

**Courtney Parks, PhD**

**Senior Research Scientist**, Gretchen Swanson Center for Nutrition

**Ruth Quattro, MPH**

**Project Coordinator for Communication and Outreach**, Gretchen Swanson Center for Nutrition



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[www.nutritionincentivehub.org](http://www.nutritionincentivehub.org)



# About the Nutrition Incentive Hub

The Nutrition Incentive Hub is a coalition of partners, created by the Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Information Center (NTAE), that supports nutrition incentive and produce prescription projects.

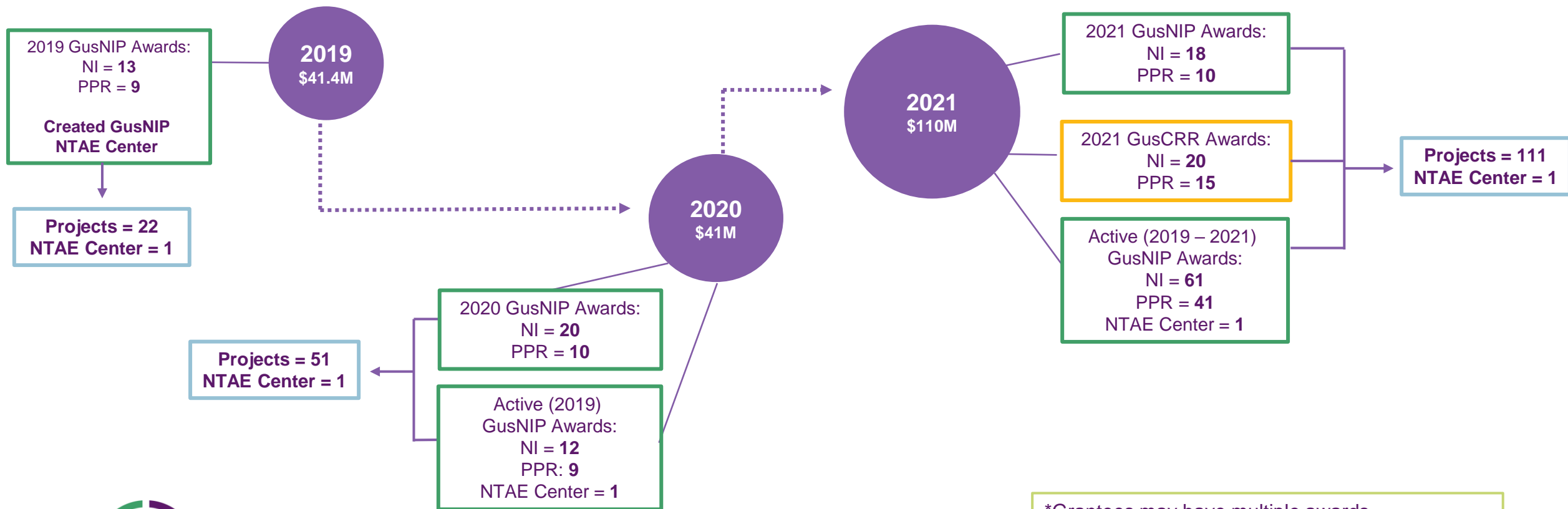
**Our objective: Strengthen access to fruits and vegetables**

- Supporting Gus Schumacher Nutrition Incentive Program (GusNIP) grantees and applicants
  - Funded through 2018 Farm Bill
  - Formerly known as the Food Insecurity Nutrition Incentive Program (FINI)

The Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Information Center (NTAE) is supported by Gus Schumacher Nutrition Incentive Program grant no. 2019-70030-30415 project accession no. 1020863 from the USDA National Institute of Food and Agriculture.



# The Field is Growing



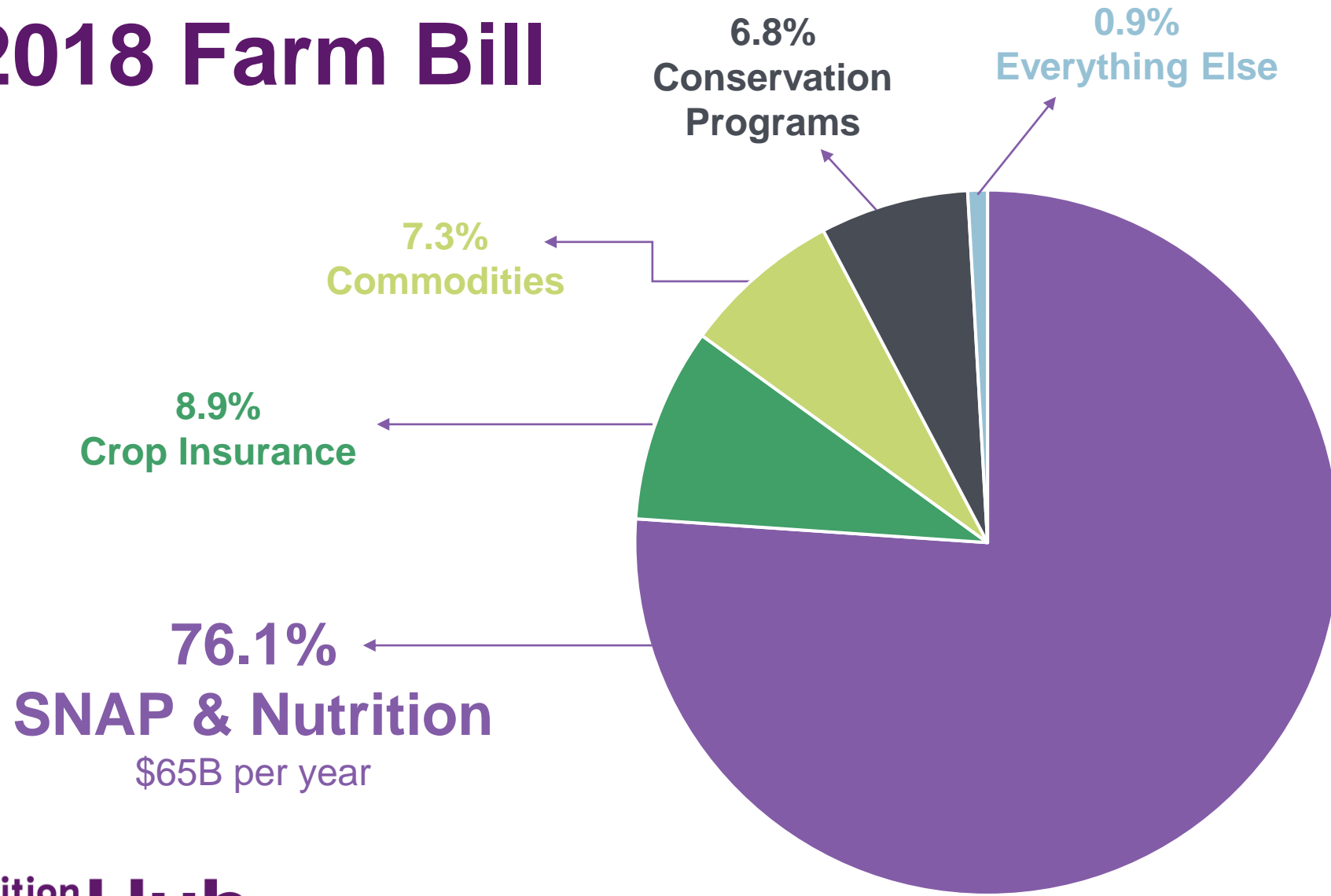
# Produce Prescription

- Decrease **chronic diseases** (i.e. diabetes) through promoting healthy eating patterns
- Promote **nutrition education**
- Promote **increase intake** of fruits and vegetables
- Potential **increase in health care utilization & health care cost savings** via improvements in patient health and chronic disease reduction.

# Nutrition Incentives

- Promote **increase intake** of fruits and vegetables
- Longer participation associated with **greater food security**
- Increase **produce sales** and expansion of customer base
- Increase **economic impact** to communities through incentive dollars generating a multiplier effect.

# The 2018 Farm Bill



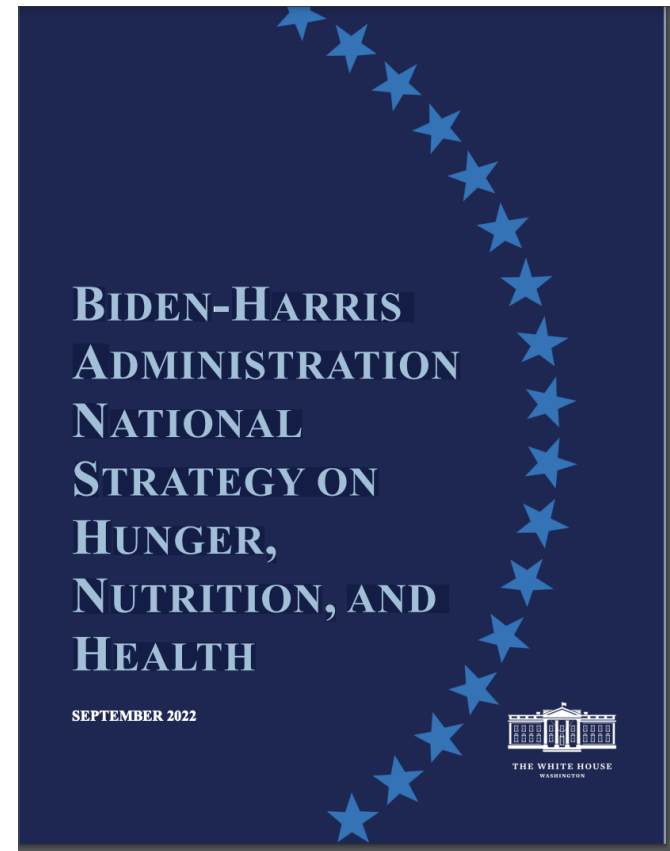
# United States White House Conference on Hunger, Nutrition, and Health

- On **Wednesday, September 28**, the Biden-Harris Administration hosted the White House Conference on Hunger, Nutrition, and Health
- This was the first conference on Hunger, Nutrition, and Health since **1969**



# Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health

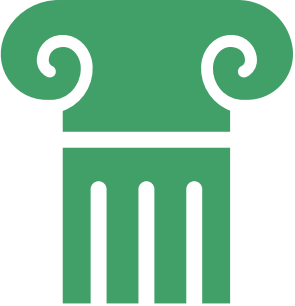
**Goal: Ending hunger and increasing healthy eating and physical activity by 2030 so fewer Americans experience diet-related diseases— while reducing related health disparities**





# Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health

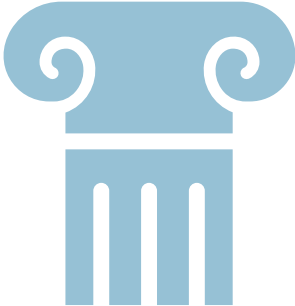
5 Pillars to achieve the President's goal:



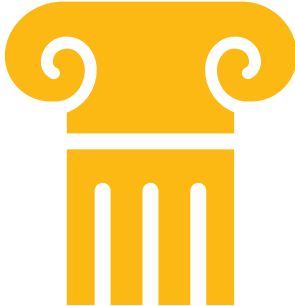
Improving food access and affordability



Integrating nutrition and health



Empowering all consumers to make and have access to healthy choices



Supporting physical activity for all

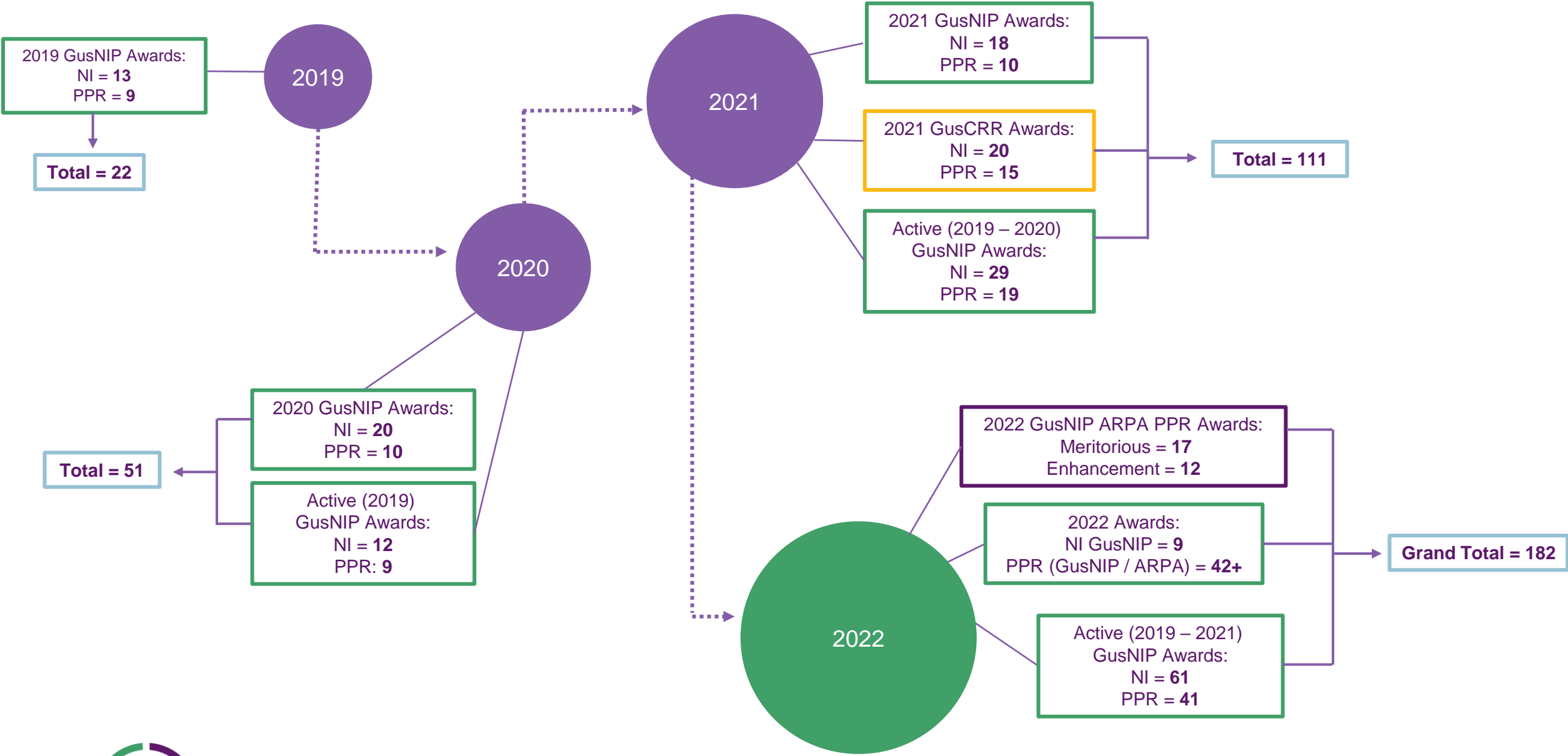


Enhancing nutrition and food security research



**Nutrition Incentive Hub**

CREATED BY GUSNIP NTAE CENTER



\*Grantees may have multiple awards  
\*\*Totals reflect closed awards during that period

# Produce Prescription (PPR) Programs



# Produce Prescription (PPR) Programs: Overview

- Health care providers prescribe fruits and vegetables during routine visits to people experiencing food insecurity and/or a diet-related chronic illness, such as type 2 diabetes
  - Example:
    - Providing “**prescription pads**” of 13 weekly **vouchers** (@\$30 per week) for the purchase of GusNIP eligible fruits and vegetables from local groceries and markets
    - **Participant eligibility:** screen for food insecurity, at risk for or diagnosed with a chronic health condition
    - Participants can “refill” their prescriptions every quarter and receive a new prescription pad of eligible vouchers

# What are Produce Prescriptions?

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Prescriptions for fresh fruits and vegetables that are written by healthcare professionals for patients who are experiencing food insecurity and have (or have a high risk of) a chronic disease (e.g., Type 2 diabetes)

- Often partnerships between healthcare (clinics, insurers, systems) and community organizations, with vouchers distributed from the healthcare site
- Produce prescriptions are generally higher dose than nutrition incentives - they offer more incentive and patient support (e.g., intensive nutrition education)





## Financial Incentives for Fruits and Vegetables

- ✦ Vouchers, rebates, tokens, automatic discounts for healthy food, like fruits and vegetables
- ✦ Financial incentives for fruits and vegetables are applied as a policy lever to support the purchase of fruits and vegetables among low-income populations
- ✦ **Incentives:**
  - ✦ enhance consumer choice
  - ✦ increase purchasing power

# Produce Prescription (PPR) Programs:

## Application in Israel





# The Psifas Initiative for Precision Medicine



# Nutrition Incentive (NI) Programs



# Nutrition Incentive (NI) Programs: Overview

- Increase the purchase of fruits and vegetables by consumers participating in SNAP by providing incentives at the point of purchase
  - Example:
    - **Spend \$1 with SNAP, earn \$1** for qualifying fruits and vegetables at participating grocery stores via an electronic discount using a store loyalty card
    - **Participant eligibility:** SNAP participants
    - **Ongoing participation** as long as participant shops at a participating retailer



# GusNIP Overview

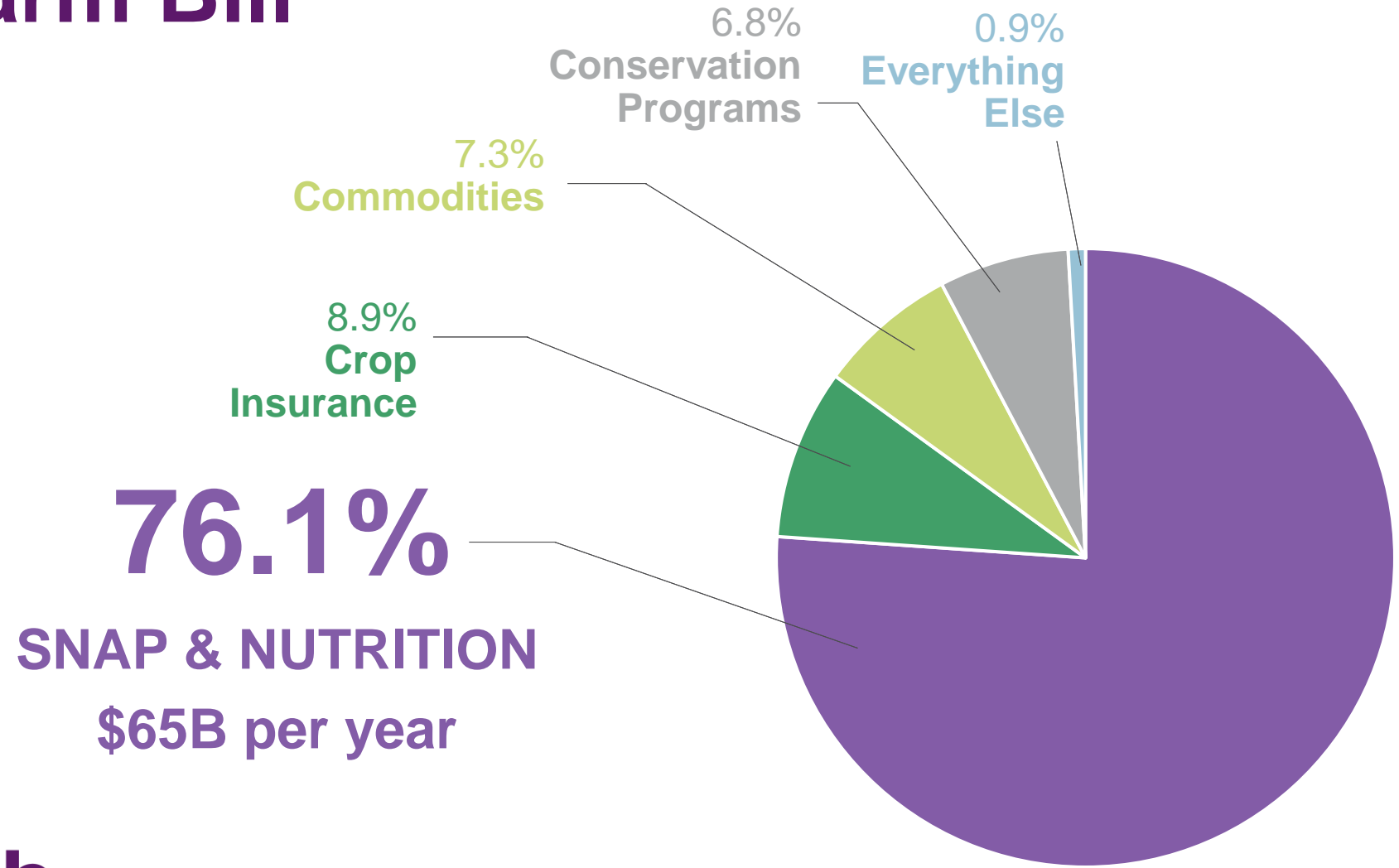


# GusNIP Goals

- Increase the purchase and consumption of fruits and vegetables among participating households
- Reduce individual and household food insecurity
- Improve health outcomes of participating households
- Decrease associated healthcare use and costs



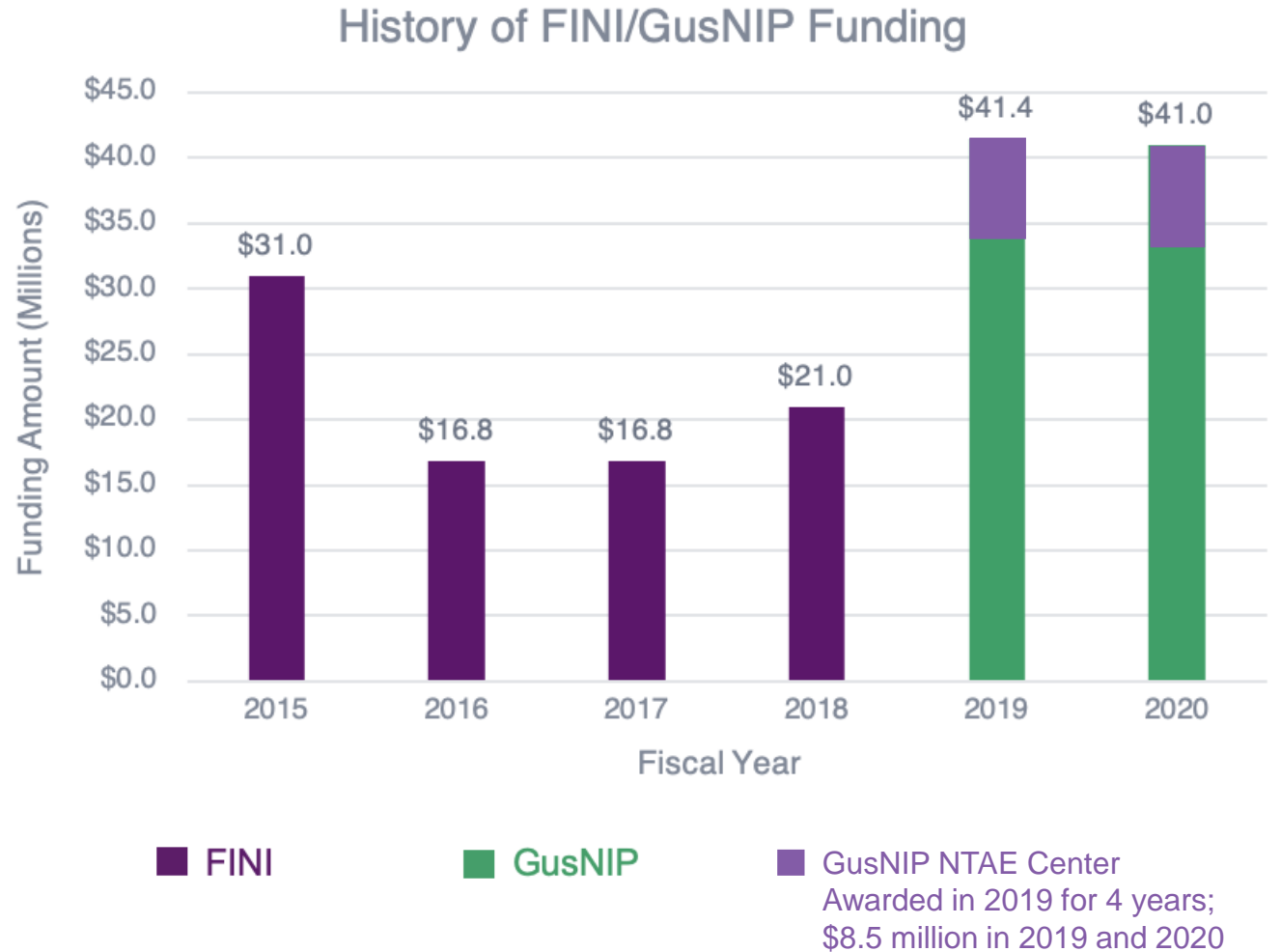
# The 2018 Farm Bill



**Nutrition Incentive Hub**

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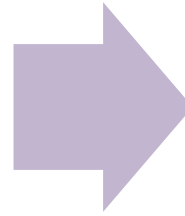
# Six Year Funding History of FINI/GusNIP





**Questions?**

Extend human  
lifespan, to prevent  
disease and diagnose  
life-threatening  
conditions early

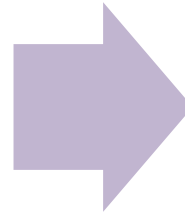


Decrease chronic  
diseases (i.e.  
diabetes) through  
promoting healthy  
eating patterns

State of Israel Ministry of Health,  
*The Psifas Initiative for Precision Medicine*



Establishing new  
medical  
treatments and  
therapies



Promote nutrition  
education

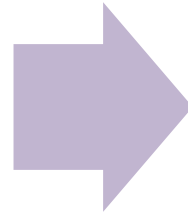
State of Israel Ministry of Health,  
*The Psifas Initiative for Precision Medicine*



**Nutrition  
Incentive Hub**

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Finding new  
medicines and  
improving old  
ones



Promote  
increase intake  
of fruits and  
vegetables

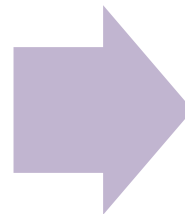
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**Nutrition  
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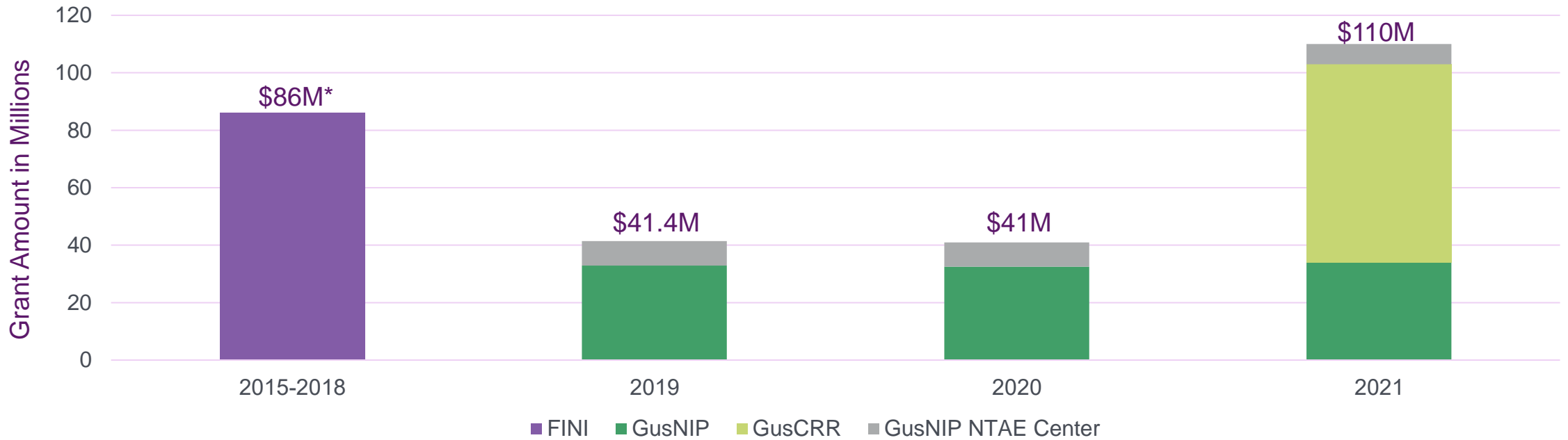
Better treatments and  
improving prevention to  
all Israelis



Potential increase in  
health care utilization &  
health care cost savings  
via improvements in  
patient health and chronic  
disease reduction.

State of Israel Ministry of Health, *The Psifas Initiative for  
Precision Medicine*

## Award Amounts by Grant Type, 2015 - 2021



\*Avg. Per year: \$21.4M

# R&E Year 3 Accomplishments

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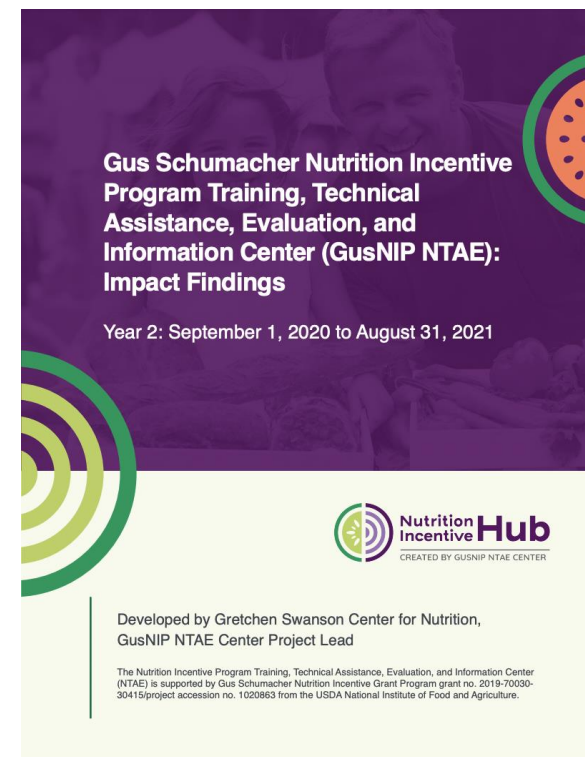
- ✓ Year 2 **Impact Findings** Report
- ✓ Launched the **External Evaluators Community of Practice**
- ✓ Built and launched the **Searchable Resource Library** on the Nutrition Incentive Hub website
- ✓ Built and launched **discussion groups** within the secure portal
- ✓ New **Program Advisor training plan** designed to onboard grantees in cohorts for more peer-to-peer engagement
- ✓ **Secured additional funding** to conduct a robust sub-studies about the impact of PPR and NI on participants
- ✓ Building an **economic impact calculator** for Nutrition Incentives to be housed on Nutrition Incentive Hub website



# Release of Year 2 Impact Findings

## Release of Year 2 Impact Findings

- Visit the Nutrition Incentive Hub website ([nutritionincentivehub.org](https://nutritionincentivehub.org)) to view the Y2 Impact Findings report
  - Participants **purchased over \$20M in fruits and vegetables** at local farmers markets and grocery stores that offered NI and PPR projects. In Y2, almost \$17M more incentives were redeemed to purchase fruits and vegetables compared to Y1.
  - Incentive spending generated an **economic impact of approximately \$41,031,080**.
  - **Y2 was the first time GusNIP grantees were able to collect participant surveys**. Despite persisting challenges with collecting data in person, there **were almost 10,000 surveys collected** across NI and PPR projects.
  - **NI participants reported eating more fruits and vegetables** than the average American adult. NI participants also reported eating more fruits and vegetables the longer they participated in the program.
  - **PPR participants increased fruit and vegetable intake** and experienced **improvements in food security** status from pre- to post-project assessments.



### Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Reporting

Carmen Byker Shanks & Amy Yaroch, Gretchen Swanson Center for Nutrition ([evaluation@nutritionincentivehub.org](mailto:evaluation@nutritionincentivehub.org))  
Erica Christensen Raml & Holly Parker, Fair Food Network ([ta@nutritionincentivehub.org](mailto:ta@nutritionincentivehub.org))



# Presentations to draw info from

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- [Milken Presentation.pptx](#)
- [Debate ISBNPA Phoenix 2022-2.pptx](#)
- Dina + Hilary's presentation to the Produce Prescription Community of Practice [Seligman\\_PPR\\_CooP\\_09\\_22\\_22\\_FINAL.pptx](#)
- Hilary's presentation to the USDA [Seligman\\_USDA\\_Healthcare\\_utiliz\\_09\\_22\\_22\\_FINAL.pptx](#)
- "Financial Incentive Role in Address Health Disparities" from this slide deck as well: [NHBLI Presentation \\_\\_10192022.pptx](#)
- [NHBLI Presentation \\_\\_10192022.pptx](#)
- [GusNIP USDA PD Meeting Presentation 10192022.pptx](#)

# About Us



## Connect with us:

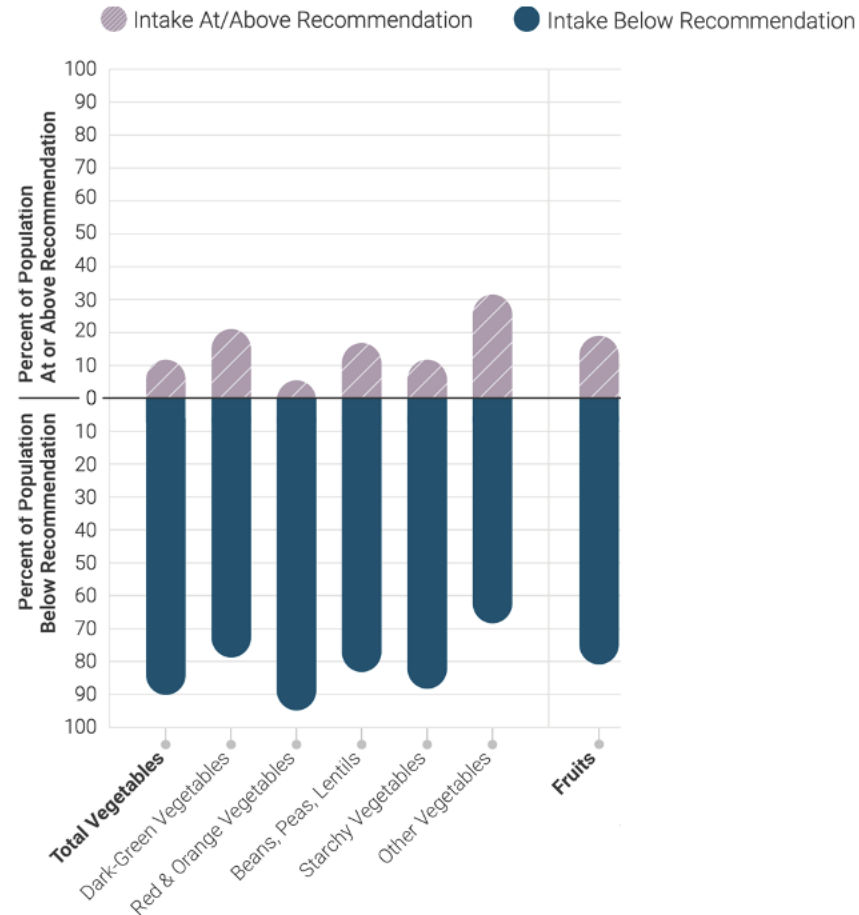
- \* Website: [www.centerfornutrition.org](http://www.centerfornutrition.org)
- \* Facebook: CenterforNutrition
- \* Twitter: GretchenSwanson
- \* Twitter: @AmyYaroch

- \* Founded in 1973, the Gretchen Swanson Center is a national nonprofit research institute, headquartered in Omaha, Nebraska, providing expertise in public health nutrition.
- \* Our primary focus is measurement and evaluation focused on healthy eating and active living, improving food security and healthy food access, promoting local food systems and applying a health equity lens in all we do.

**We're Hiring!**  
**Join Our Team!**



# Dietary Intakes Compared to Recommendations for Fruits and Vegetables



**Fruit and vegetable intake is below recommendations for all Americans**

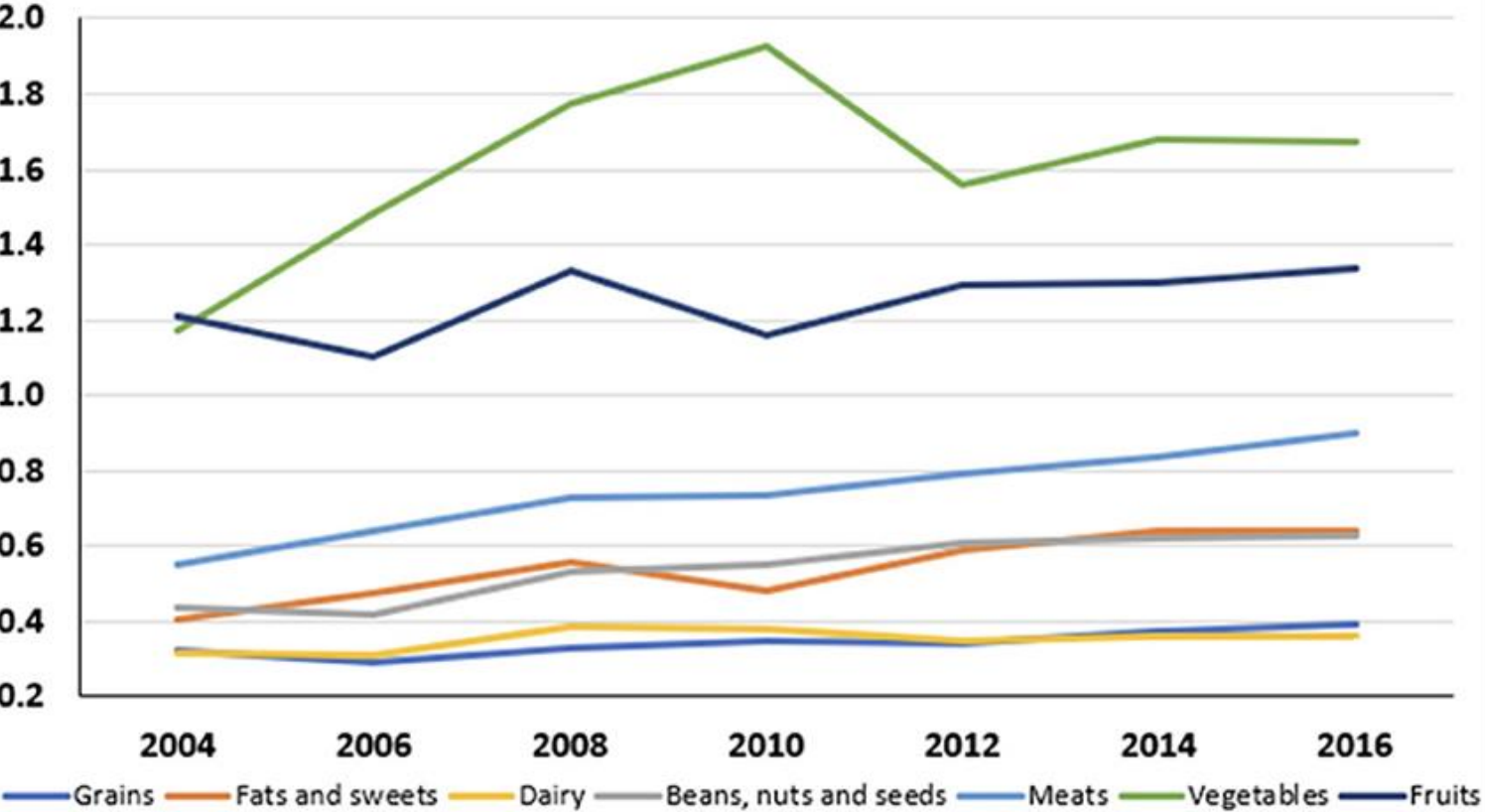
U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025*. 9<sup>th</sup> Edition. December 2020. Available at [DietaryGuidelines.gov](https://www.dietaryguidelines.gov)



## Disparities in the United States

- ✦ Individuals who report low-income are also more likely to
  - ✦ report low fruit and vegetable intake
  - ✦ report food insecurity
  - ✦ experience chronic disease and obesity
- ✦ Systematic and long-standing inequities contribute to these health disparities.

Mean monetary cost in \$/100 kcal for FFQ component foods by USDA MyPyramid Food groups (2004–2016)



**Fruits and vegetables are the most expensive food groups in the United States**

Gupta S, Hawk T, Aggarwal A, Drewnowski A. Characterizing ultra-processed foods by energy density, nutrient density, and cost. *Frontiers in nutrition*. 2019;70.

### Food spending and share of income spent on food across U.S. households, 2020



Source: USDA, Economic Research Service using data from the U.S. Bureau of Labor Statistics, Consumer Expenditure Survey, 2020.

**Individuals with low-incomes spend the least on food and the highest share of their total income in the United States**



# From HIP to FINI to GusNIP

## HIP Pilot: 2008



- \$4.4M
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- \$100M over 5 years
- Requires a 1:1 non-federal match

## GusNIP: 2018



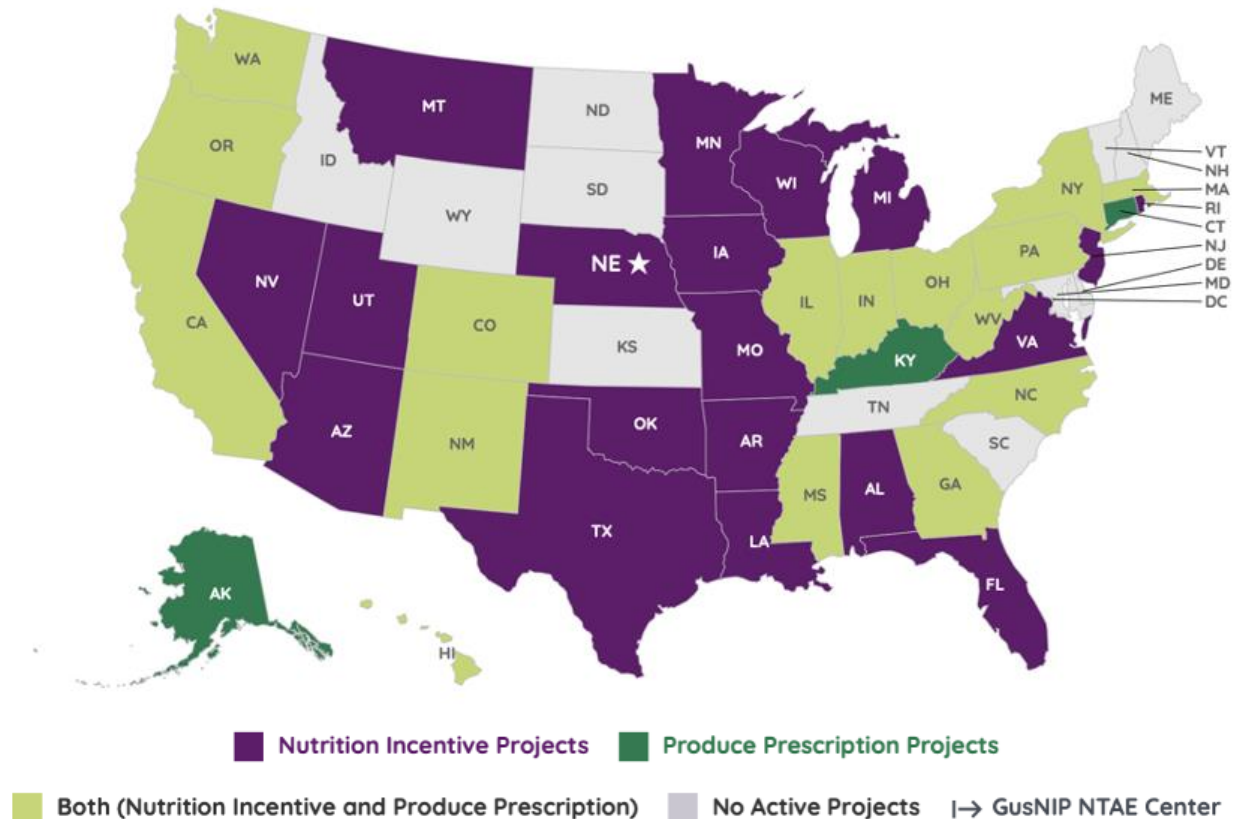
- \$250M budgeted over 5 years
- Requires a 1:1 non-federal match (for nutrition incentive programs)

# GusNIP's Incentives for Fruits and Vegetables

## GusNIP 2019-2021

- \$99.9M
- 115 grants
  - 51 Nutrition Incentives
  - 29 Produce Prescriptions
- 1 GusNIP NTAE Center
  - Led by the Gretchen Swanson Center for Nutrition
  - In collaboration with Fair Food Network and many expert partners

Active GusNIP Projects



# TWO GusNIP Project Types

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**Nutrition Incentive (NI)**



**Produce Prescription (PPR)**

# GusNIP Nutrition Incentive (NI) Projects

Increase value of Supplemental Nutrition Assistance Program (SNAP) benefits at point of purchase often by providing “incentives” such as doubling the value of SNAP \$ when spent on fruits and vegetables

- ✦ FYI: SNAP is a federal program that provides nutrition benefits to supplement food budgets of families that are low-income to purchase food
- ✦ if a participant spends \$10 of SNAP on fruits or vegetables, they get \$20 of produce at participating sites
- ✦ Nutrition incentives typically reach more people, but have a lower dollar value than produce prescriptions
- ✦ Operate at the firm level
  - **Farm direct:** farmers markets, mobile markets, community supported agriculture
  - **Brick and mortar:** supermarkets, corner stores

# Nutrition Incentive Program Benefits



Increase purchase and intake of fruits and vegetables



Decrease food insecurity



Economic benefit

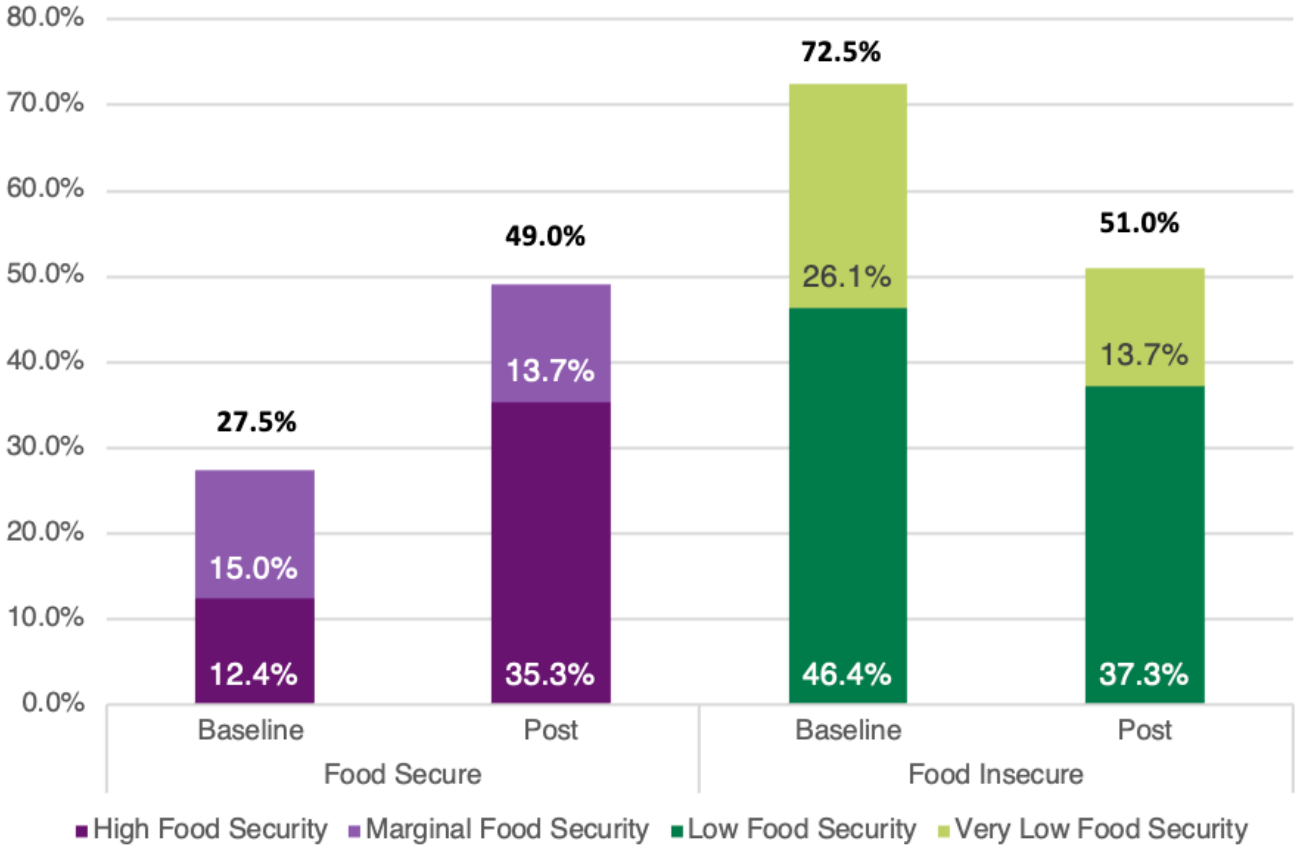


# Year 2 Results: Produce Prescription Food Security

## Food Security Baseline to Post for Produce Prescription Projects

2020-2021

N = 1,201 baseline, N =196 post



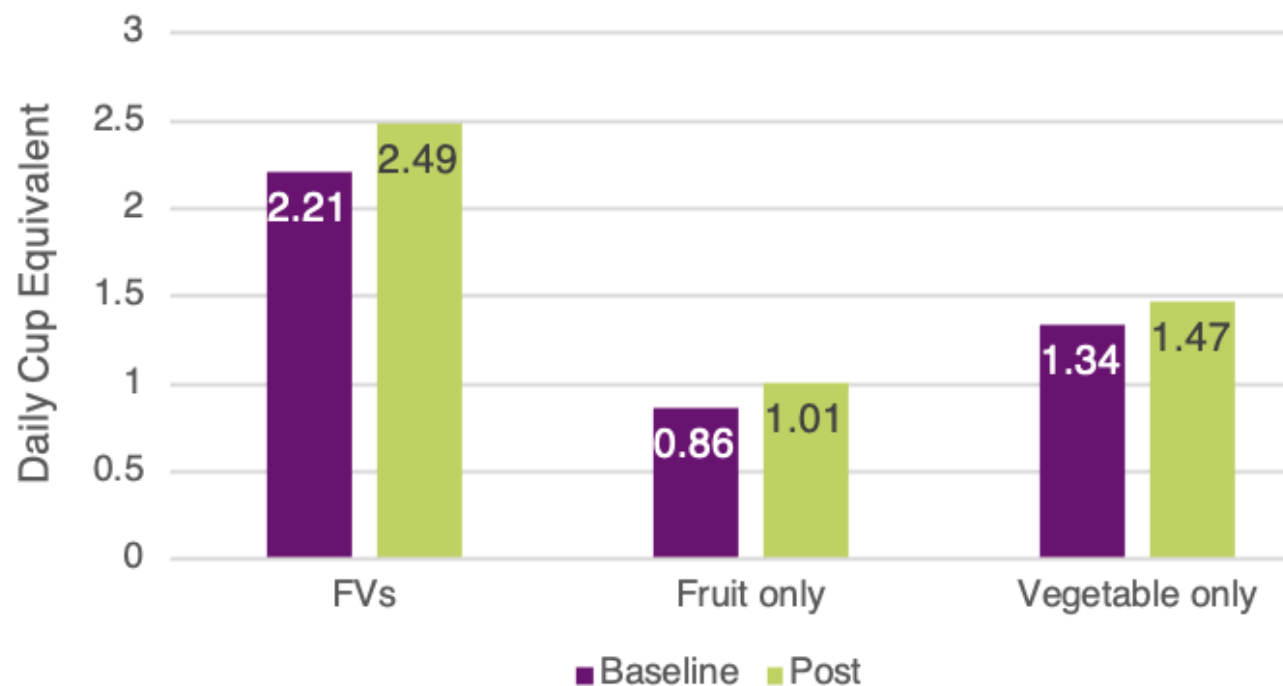
Produce prescription participants reported **reduced food insecurity** compared to baseline

# Year 2 Results: Produce Prescription Fruit and Vegetable Intake

Daily Fruit and Vegetable Intake Among Produce Prescription Project Participants

2020-2021

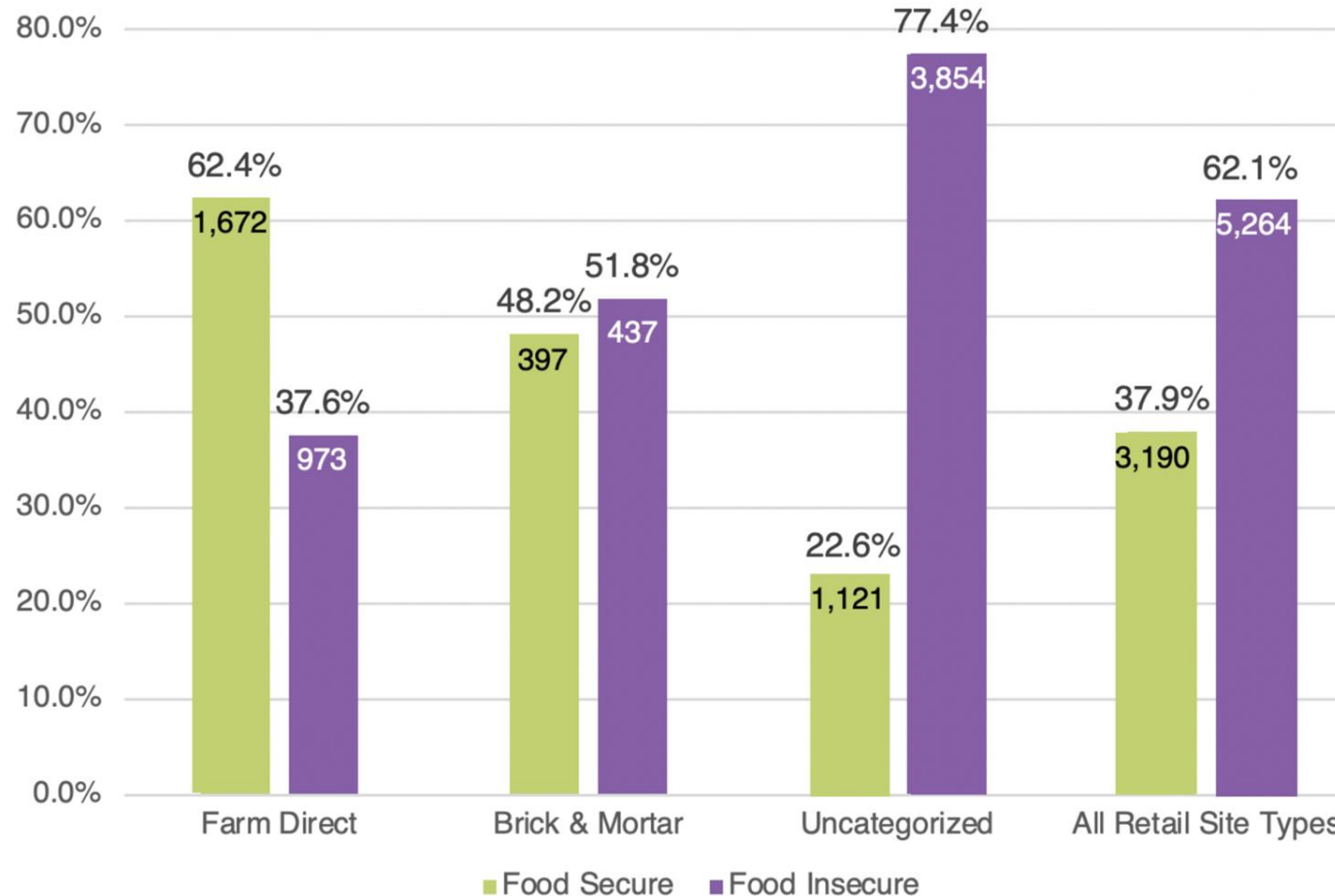
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# Year 2 Results: Nutrition Incentive Food Security

Food Security Nutrition Incentive Projects  
2020-2021

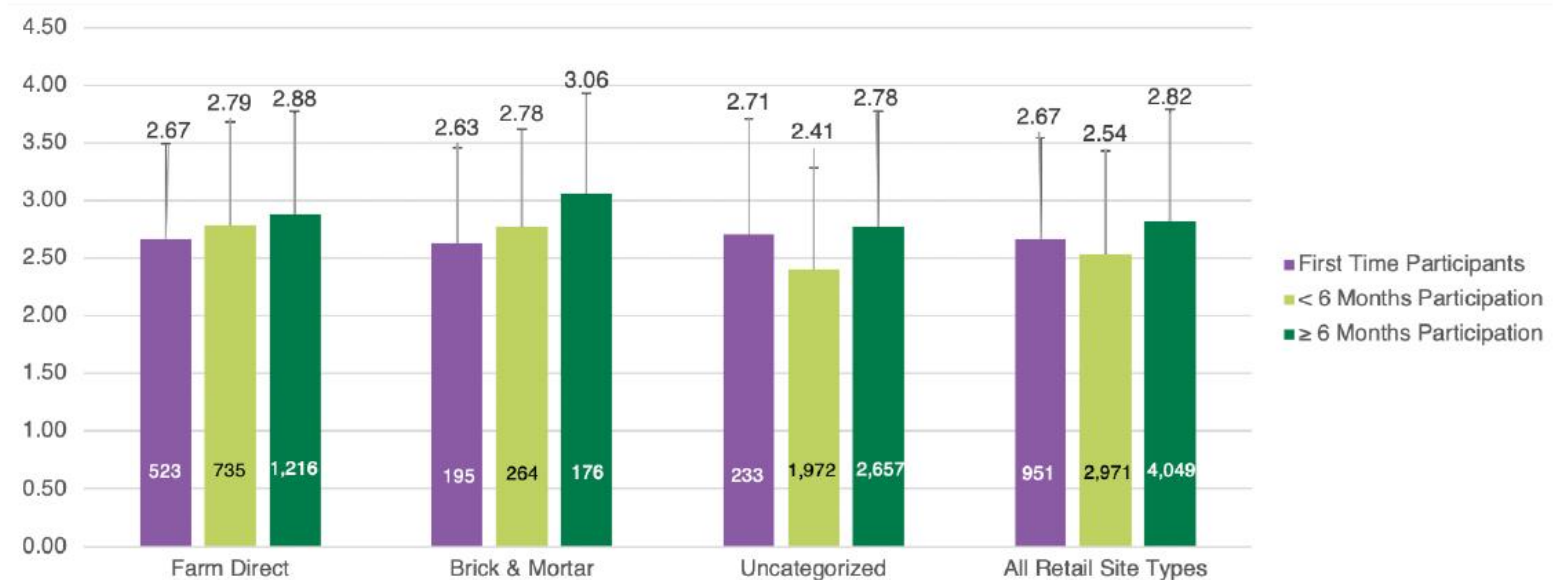


- 37.9% of participants were food secure and 62.1% of participants were food insecure
- **Longer participation associated with greater food security**

# Year 2 Results: Nutrition Incentive Fruit and Vegetable Intake

Longer participation associated with higher fruit and vegetable intake

Average Daily Fruit and Vegetable Cup Equivalents Among Nutrition Incentive Participants by Firm Type (2020-2021; n=8,699)



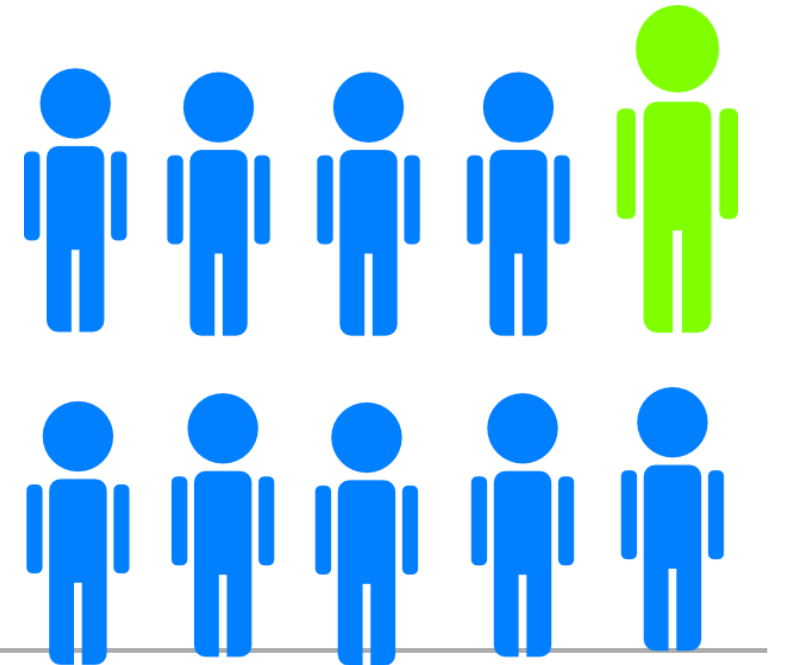
# How much FV (or increase in FVI) improves health outcomes?

To prevent and protect against chronic disease, Dietary Guidelines for Americans (DGAs) recommend:

Fruit: **1.5-2 cups** per day

Vegetables: **2-3 cups** per day

Only **1 in 10** Americans reach adequate daily levels of fruit and vegetable intake

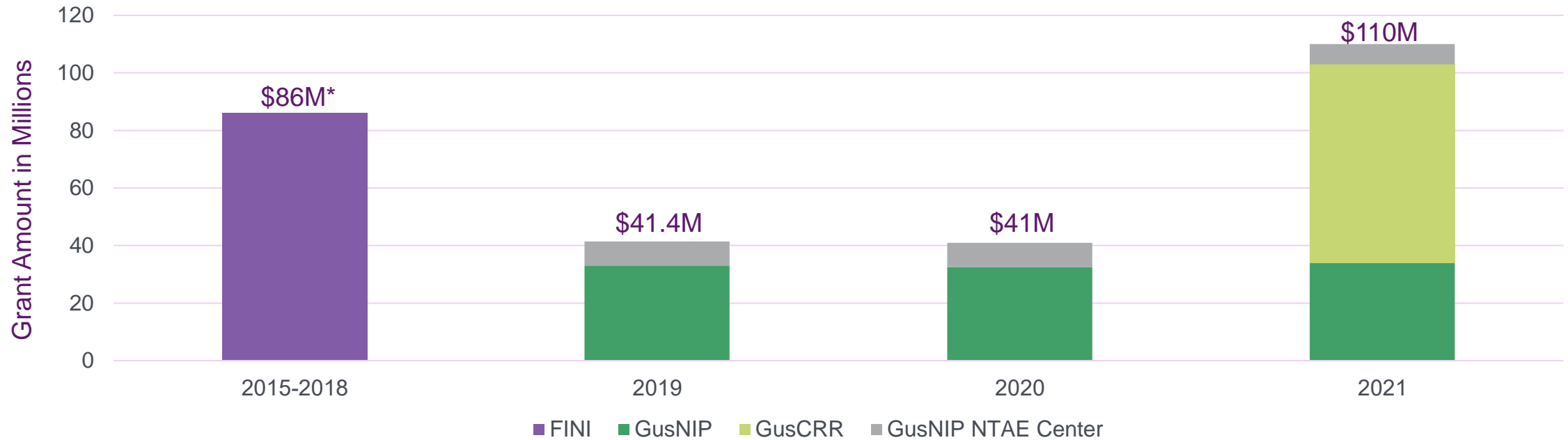




**Questions?**



## Award Amounts by Grant Type, 2015 - 2021



\*Avg. Per year: \$21.4M

# TWO GusNIP Project Types

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**Nutrition Incentive (NI)**



**Produce Prescription (PPR)**

# GusNIP Nutrition Incentive (NI) Projects

Increase value of Supplemental Nutrition Assistance Program (SNAP) benefits at point of purchase often by providing “incentives” such as doubling the value of SNAP \$ when spent on fruits and vegetables

- ✦ FYI: SNAP is a federal program that provides nutrition benefits to supplement food budgets of families that are low-income to purchase food
- ✦ If a participant spends \$10 of SNAP on fruits or vegetables, they get \$20 of produce at participating sites
- ✦ Nutrition incentives typically reach more people, but have a lower dollar value than produce prescriptions
- ✦ Operate at the firm level
  - **Farm direct:** farmers markets, mobile markets, community supported agriculture
  - **Brick and mortar:** supermarkets, corner stores

# Nutrition Incentive Program Benefits



Increase purchase and intake of fruits and vegetables



Decrease food insecurity



Economic benefit

# GusNIP Produce Prescription (PPR) Projects

Allow healthcare professionals to prescribe fruits and vegetables for patients experiencing food insecurity and often a chronic disease condition (e.g., Type 2 diabetes)

- ✦ Often partnerships between healthcare (clinics, insurers, systems) and community organizations
- ✦ Produce prescriptions are generally higher dose than nutrition incentives - they offer more incentive and patient support (e.g., intensive nutrition education)
- ✦ Vouchers distributed from the healthcare site for participants to use at **clinics**, **farm direct**, or **brick and mortar** locations
- PPR projects collect health outcome, health cost, and utilization data

# Produce Prescription Program Benefits



Increase purchase and intake of fruits and vegetables



Decrease food insecurity



Improve health outcomes



Decrease healthcare use and costs



# The Need for and Power of Shared Measures



**Individual NI & PPR  
Program Impact**



**Aggregate Program  
Impact**



Increased purchase and intake of FV's



Decreased food insecurity



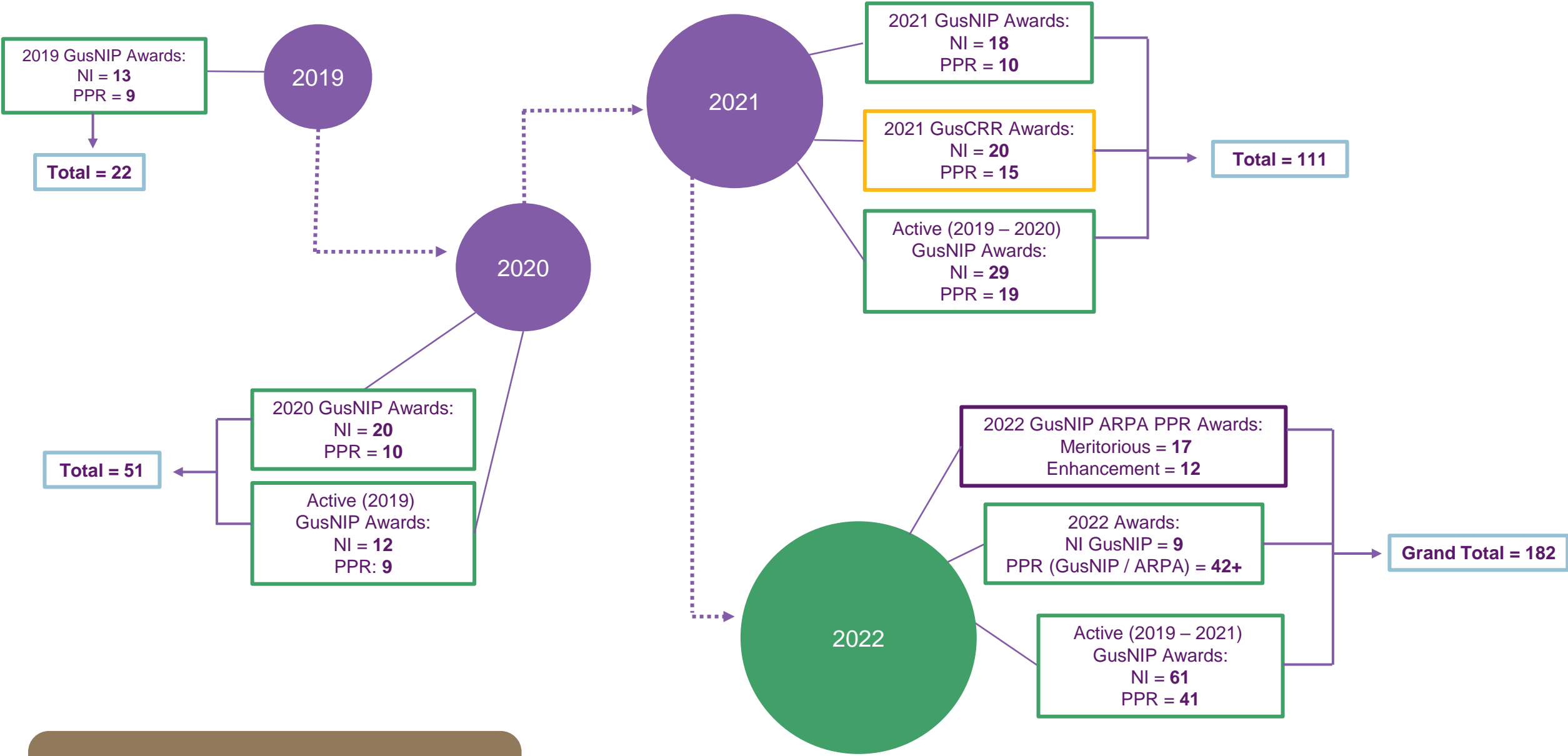
Improved health outcomes



Decreased healthcare use and costs



Economic benefit



**The Field is Growing**

\*Grantees may have multiple awards  
 \*\*Totals reflect closed awards during that period