



Food Insecurity and Health Care |

Addressing Food Insecurity through the Health Care System in New York

December 2021

Overview

Health-related social needs, such as access to secure food, housing, and employment, are increasingly recognized as fundamental contributors to the health and well-being of communities. While systemic inadequacies to food access predated the COVID-19 pandemic, the magnitude of need has been exacerbated. Health care organizations are more broadly investing in efforts to address unmet social needs, including food insecurity, to improve the health and well-being of individuals and communities.

United Hospital Fund and Boston Consulting Group partnered in 2021 to quantify the health impact of food insecurity on New Yorkers and review potential solutions to alleviate the burden on families and individuals. This analysis is broken into three parts. The first part measures the scale of food insecurity in New York. Part 2 assesses the role that the health care system plays in addressing food insecurity, including a financial impact analysis of food insecurity on health. Part 3 reviews potential policy and programmatic interventions that health care stakeholders could take to reduce New Yorkers' food insecurity. Food insecurity cannot be solved by health care organizations alone, especially as some of the root causes relate to long-standing inequitable policies and practices, but their engagement and collaboration is critical to helping to alleviate the immediate need for New Yorkers.

We hope this analysis provides policymakers and community leaders with data to support the development of these necessary strategies and policies. Please contact Catherine Arnst, Director of Public Information at UHF, with any questions or comments: carnst@uhfnyc.org or (212) 494-0733.

Key Takeaways

- 2.6 million New Yorkers face food insecurity in 2021.
 - 1 in 5 children are food-insecure, which is above the national average.
 - 1 in 3 children in the Bronx are food-insecure, nearly double the state average
- The population of New Yorkers facing food insecurity is diverse.
 - 75,000 New Yorkers over age 65 and 335,000 New York families face food insecurity
 - Nearly 40% of food insecure New Yorkers have private insurance and likely have incomes too high to be eligible for SNAP and other public food assistance programs

Reducing the prevalence of food insecurity could reduce the burden of disease by **\$550 million** in New York. Individuals facing food insecurity are **more likely to develop chronic health conditions—and less likely to be able to manage them.** Reliable access to healthy food can support communities' ability to reduce the financial and social burden of chronic conditions.

Context

More than one in eight New Yorkers face food insecurity. Food insecurity stems from an inability to reliably afford and access adequate amounts of nutritious food. This challenge has long plagued New Yorkers, but the systemic inadequacies of the food safety net have been exacerbated by the COVID-19 pandemic. Sharp increases in unemployment have increased need, while social distancing measures and growing demand for food have complicated access to food. Many New Yorkers have been forced to choose between their need for food, housing, transportation, medical care, and savings. Each of these is a fundamental need to ensure a person's well-being.

There are numerous free meal and grocery programs across the state that serve immediate food needs and are short-term solutions. Government-sponsored programs—the Supplemental Nutrition Assistance Program (SNAP); Women, Infants, and Children (WIC); and Healthy Bucks—provide cash assistance to individuals who meet eligibility criteria. Structural changes that improve purchasing power to afford food—such as increasing employment, decreasing the cost of fresh fruits and vegetables, and increasing minimum wage—create long-term systemic change to increase communities' food security.

The health care sector is increasingly recognizing the importance of food in health, and it is investing in efforts to support access to healthy food. Social service organizations, federal government entities, and private businesses, among others, have conducted extensive research and implemented interventions to improve food security. This report focuses specifically on the role the health care industry can play to address food insecurity. Food insecurity will not be solved by the health care system alone, and partnerships across sectors will further the benefits for communities.

Systemic racism underscores and further exacerbates the inequitable experiences of poverty, access, and education. Efforts to address food insecurity should also consider the impact of policies and structures on New Yorkers' access to health and well-being.

Food insecurity

Lacking reliable access to
adequate amounts of
affordable, nutritious food

Part 1: Food Insecurity in the US and in New York State



1 in 8 Americans food insecure in 2021

There has been an
8% decline
since 2020

However,
pre-COVID only
1 in 9
individuals
food-insecure

Households with
children typically
more affected with

1 in 6
children
food-insecure

COVID has exacerbated food insecurity in New York

New York food insecurity matches the national average

However, saw a **36% increase** during COVID

1 in 5 children food-insecure, above the national average

2.6M individuals affected

The Bronx particularly affected

1 in 4 individuals food-insecure, **1.7x** the NYS average

Children particularly affected with **1 in 3** food-insecure, **1.8x** the NYS average

320k individuals affected



Adults only

~400k adult only households
Do not qualify for SNAP if working full time minimum wage



Families

~335k food-insecure families
Must balance work, child care, and sourcing and preparing food



Seniors

~75k seniors living alone
Limited mobility to access resources

5 main demographics of food-insecure individuals in New York



Unemployed

Rapid unexpected changes in food security



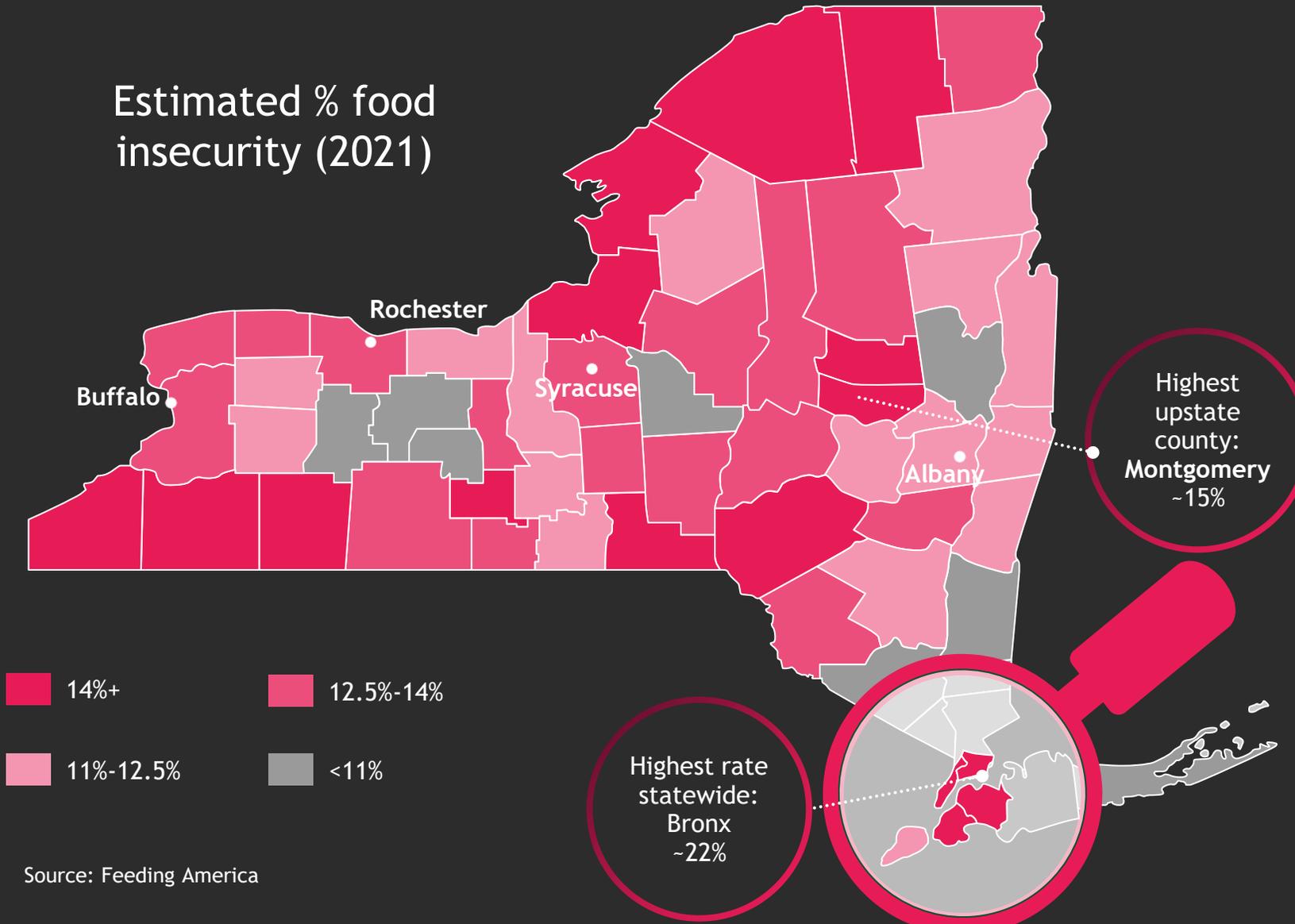
Housing insecure¹

Unable to store food or keep produce fresh

1. Housing-insecure population is 5-10% of total food-insecure population
Note: Figures based on national averages and adjusted to New York

Both NYC and upstate have high rates of food insecurity

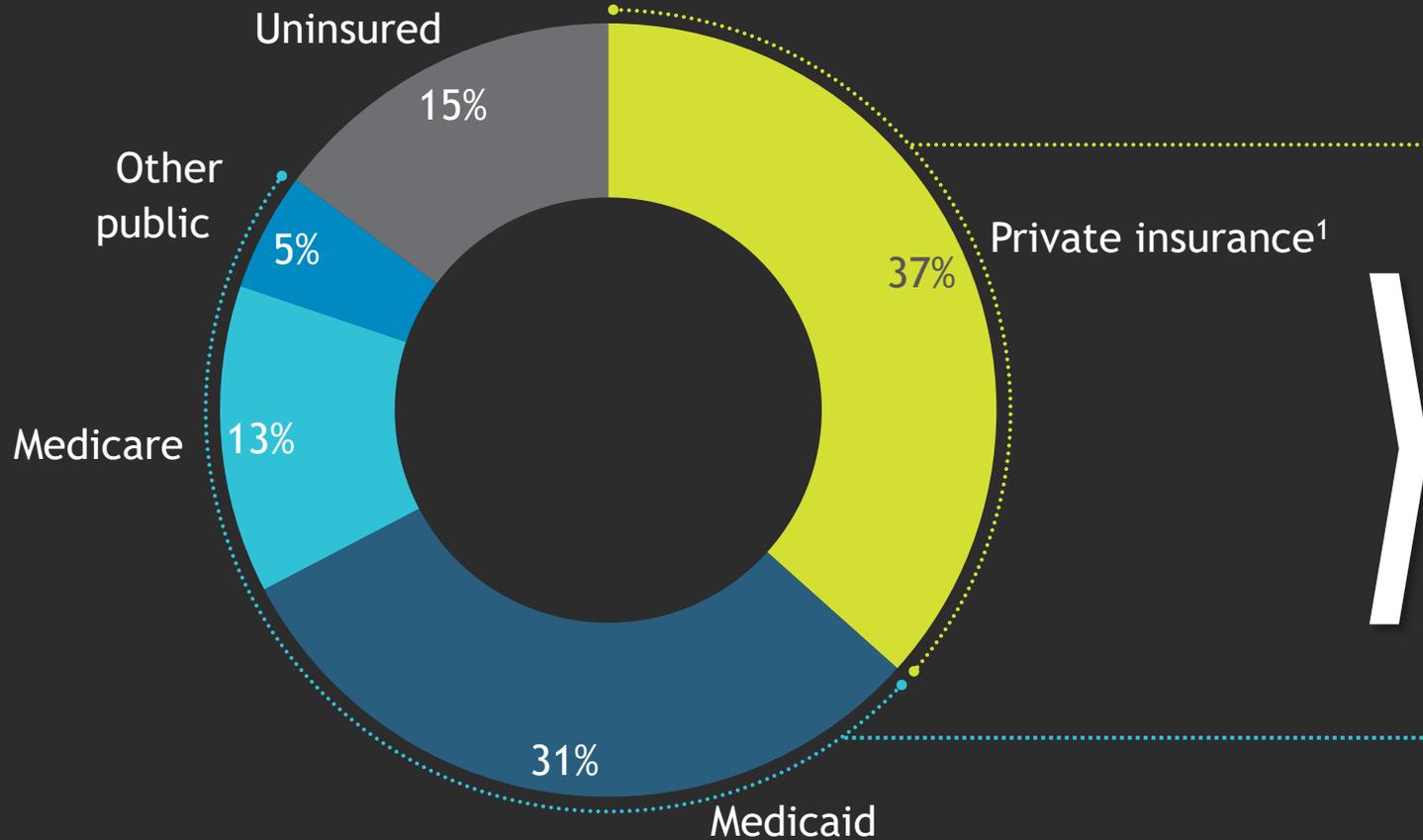
Estimated % food insecurity (2021)



4 of top 5 food-insecure counties in NYS in 2019 were upstate/rural

Since COVID, top three food-insecure counties are all in NYC

Both public and private payers have a role to play

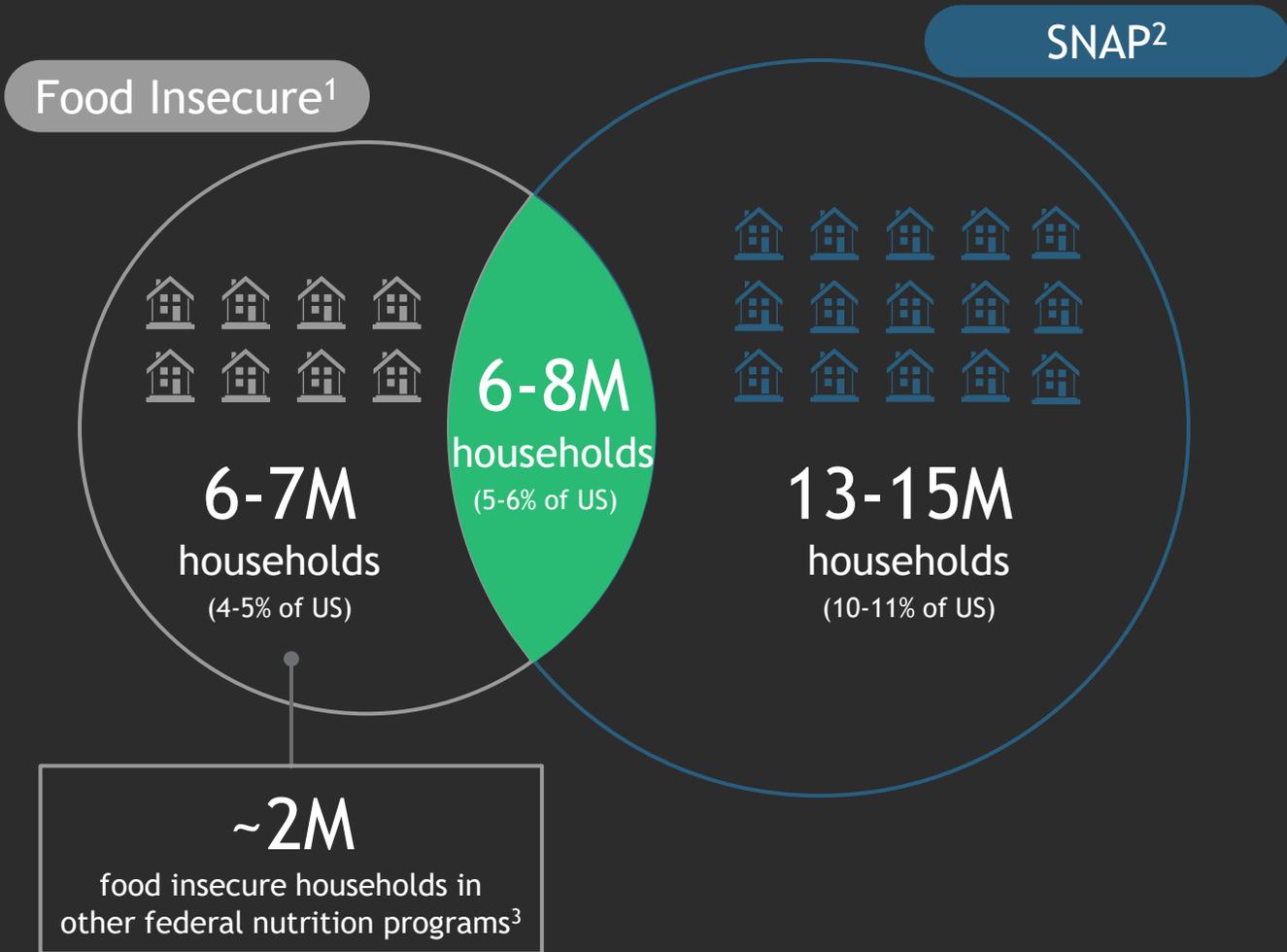


1 in 3 food-insecure individuals are privately insured

1 in 2 food-insecure individuals covered by public insurance

1. Includes employer sponsored insurance and non-group
Source: CDC; HHS; Medical Expenditure Panel Survey; Census

SNAP assists ~21M households in US, although 6-7M food-insecure households still without access



30% less likely to be food-insecure if on SNAP, according to USDA

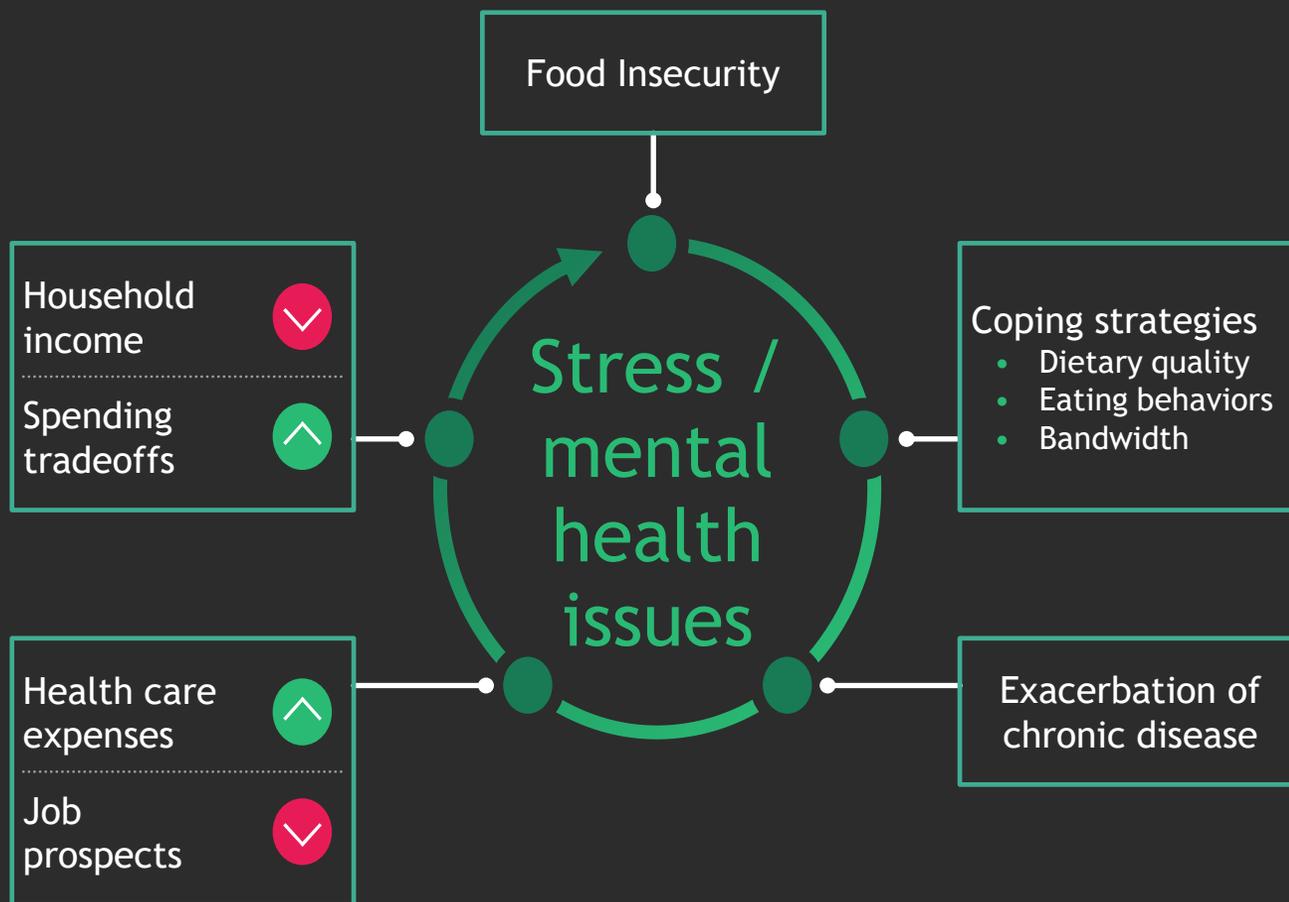
Unfortunately, SNAP still not sufficient for 6-8M households

Working poor not qualifying, lack of awareness, and stigma likely lead food-insecure households to not participate in SNAP

1. Restricted to food-insecure households under 185% FPL 2. Represents entire SNAP population, vast majority of SNAP beneficiaries are under 185% FPL 3. WIC or School Lunch Program

Part 2: Role of the Health Care System

Food insecurity (FI) part of a cycle, which can be affected by other health-related social needs



As a result, people must make tough spending choices



Food



Medical care



Utilities



Transportation



Housing

Food insecurity is associated with higher likelihood of suffering from chronic conditions

Increased prevalence factor amongst FI



1. Chronic obstructive pulmonary disease
Source: USDA 2017 study on working-age adults, 2018 Canadian study by CCHS

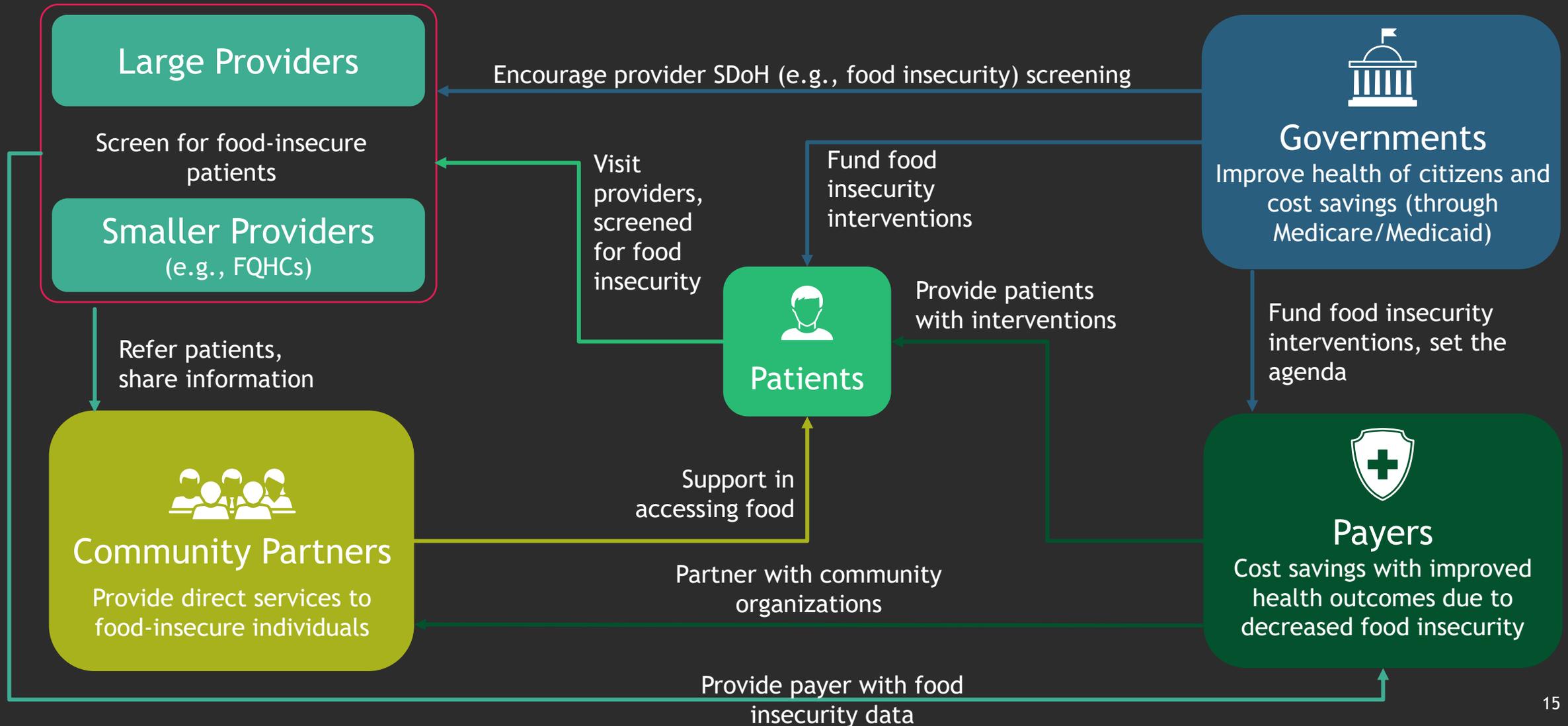
Resulting in up to

~7 years

of reduction in life expectancy for food-insecure population



Several entities in ecosystem addressing food insecurity



We took two approaches to assessing impact of FI in NYS



A Analyzed past interventions to estimate range of impact for 3 key performance indicators (KPIs)

Reduction in food insecurity status

Return on investment

Reduction in short-term annual health care spend



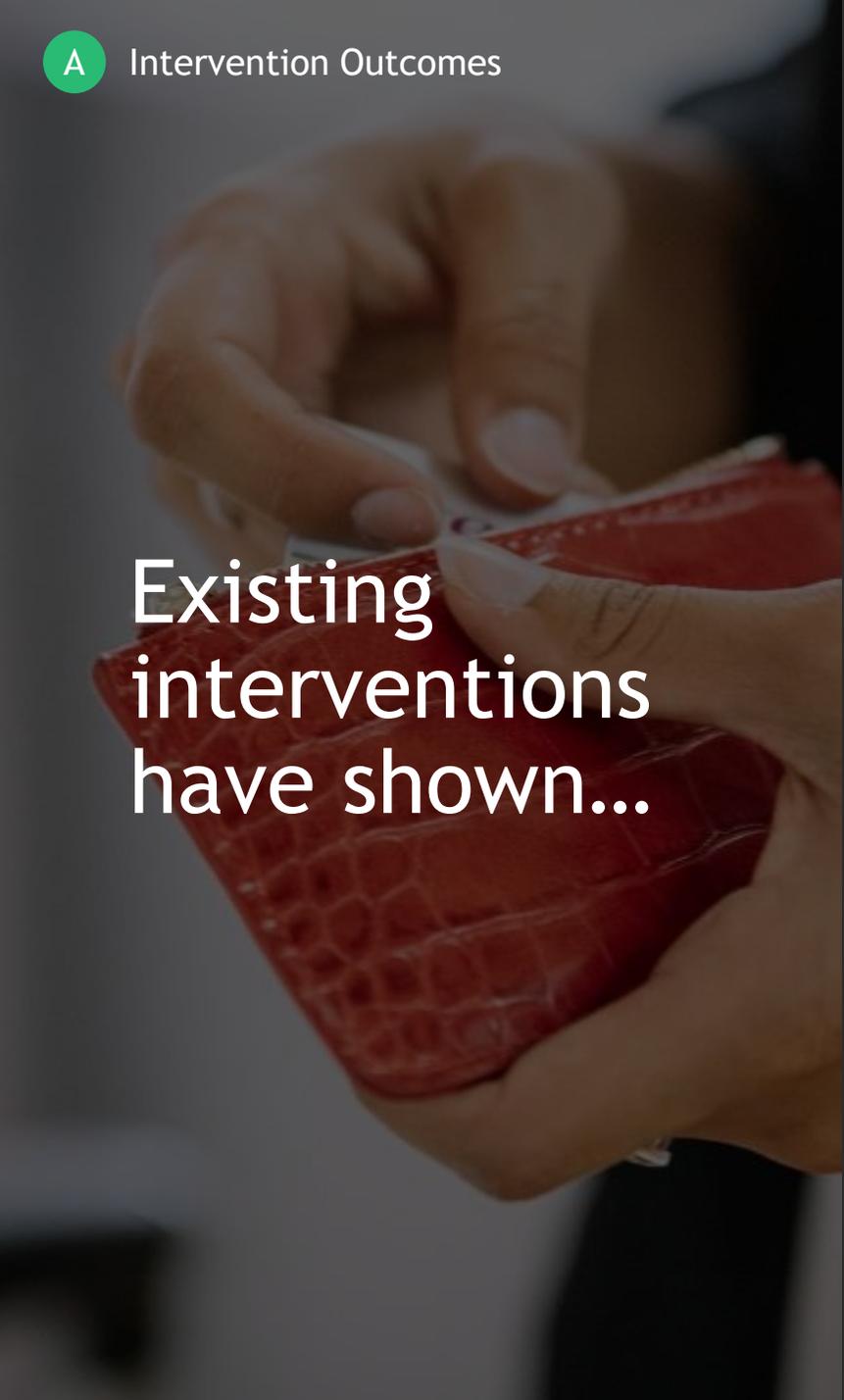
Considered benefits of transitioning out of food insecurity

B Health Care Savings

- Lower treatment cost
- Possible prevention

C Life expectancy

D Impact on children



Existing
interventions
have shown...

Reduction in food
insecurity status

15 - 30%

Large sample,
long-term¹

60%+

Small, local,
hyper-targeted

Return on investment

1 - 2.5x

Reduction in short-
term annual
health care spend per
capita²

\$1.5k - 3k

1. Long-term sample considers >1year studies

2. Only accounts for lower health care costs, does not consider decreased likelihood of chronic conditions

Source: Commonwealth Fund, Feeding America, Health Affairs, NIH, CDC, NBER

Decreasing FI in NYS by 20% would transition **0.5M** people out of FI and reduce healthcare spend by **~\$550M¹**

Total Cost Savings: ~\$550M

~\$200M	~\$190M	~\$165M
Cost incurred by private insurers and employers	Cost incurred by public insurers ²	Out-of-pocket cost

1. 20% falls within feasible range of outcomes as per past intervention review; range of \$200 to 900M; only considers hypertension, stroke, diabetes, and COPD; breakdown may not sum to total due to rounding

2. Includes other public insurance besides Medicare/aid, for which the same cost as Medicare/aid is assumed

Source: USDA, CDC, NIH, ADA, AMA, KFF, NCBI, NHANES, Chronic Condition Data Warehouse

While substantially improving their quality of life:



Less time spent in hospital visits



Reduced reliance on medication
Fewer adverse side effects



Lower stress levels
Improved mood

Reducing FI in NYS would prevent chronic conditions...

Estimated Case Count Reduction

Diabetes 29K

COPD 17K

Hypertension 14K

Stroke 6K

...and increase life expectancy

~1 year

Increase in life expectancy for each prevented case of food insecurity¹

~\$13B

Value associated with incremental life years²

1. Does not consider other health improvements outside of the four conditions, or any other effects associated with FI (housing, income, etc)
2. Uses low-end estimate of \$50K as cost per "quality-adjusted life year", considers a FI reduction of 20% in NYS (0.5M people)
Source: National Pharmaceutical Council

Interventions targeted at children affect several areas in the **short term**...

Physical Health

 **21%**

decrease in obesity for those who received free or reduced-price lunch through National School Lunch Program

Mental Health

 **4x**

more likely to need mental health counseling during elementary school if one suffers from hunger

Education

 **3pt**

Gain in math and reading scores for children who continued to receive support through SNAP

Nutrition

 **83%**

of households enrolled in Brighter Bites reported increased child intake of food and vegetables

... and can also have **long-term** impact

Child beneficiaries of SNAP saw benefits into adulthood¹

1.3pts higher high school graduation rate²

1.1 years of increased life expectancy

7.1% higher earnings

2.5pts lower portion of population living below poverty line³

1. Compares adults who received SNAP prior to the age of 5 to those who were eligible but did not receive the support

2. Compared to mean of 93 percent 3. Compared to mean of 10 percent

Source: NHANES, Feeding America 2009, Cornell University 2006, CDC 2017, NBER

Impact assessment - Methodology and Sources

Approach to modeling benefits of transitioning out of food insecurity

- 1 For each condition (hypertension, COPD, diabetes, stroke) calculate impact on *life expectancy* and potential healthcare savings**
Using a probabilistic approach, we consider avg healthcare savings associated with lowered *treatment cost* and potentially lower *prevalence rate* when food-secure
- 2 Assign an overall average savings figure for each transition out of FI**
Take the midrange of potential savings (high-end assumes lowered prevalence of diseases for impacted population, low-end assumes lower cost per treatment)
- 3 At the state level, calculate impact on *case count* and *healthcare costs***
Apply decrease in prevalence rate to total transitions out of food insecurity
Multiply total number of transitions by average health care savings per individual
- 4 Split NYS healthcare savings into *Private vs Public* insurer types**
Use population split and refine according to differences in treatment cost between Medicare/aid and privately insured people
- 5 Split NYS healthcare savings into *OOP vs Payer***
Consider OOP/Payer split for each condition and how it differs according to insurer type
- 6 Calculate statewide economic impact associated with loss in *life expectancy***
Individuals impacted times incremental years/transition and *cost/QALY*¹

Sources

Life Expectancy

American Heart Association
Center for Disease Control
International Journal of COPD

Prevalence Rate

- 1** US Department of Agriculture

Treatment Cost

Center for Disease Control
American Heart Association
American Diabetes Association
International Journal of COPD
Clinico Economics Research

Private vs Public Split

- 4** Medical Expenditure Panel Survey
Kaiser Family Foundation

OOP vs Payer Split

- 5** Chronic Condition Data Warehouse
Journal of American Medical Assoc.

Cost/QALY

- 6** National Pharmaceutical Council

Part 3: Health Policy and Program Interventions to Address Food Insecurity

6 categories of potential interventions by providers and payers targeting food insecurity



Food support

Directly address food insecurity with donations



Data generation

Collect, track, share information about scope of food insecurity



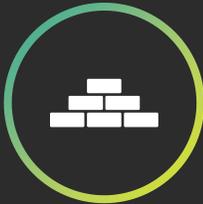
Education

Inform on healthy shopping, eating, cooking on a budget



Indirect

Enable community organizations to serve FI population through funding and knowledge sharing



Prevention

Target the root causes of food insecurity



Awareness

Communicate available resources to ensure full utilization

20+ interventions assessed for strengths and improvements

Interventions evaluated (non-exhaustive)



Sources



Providers

Medically tailored food delivered to seniors

Food Farmacy program prescribing food

Free food/snacks during treatment

Healthy shopping, cooking, and eating demonstrations

2 days' fresh produce upon discharge

Making healthier food available in stores

Space on campus for farmers' markets

Text campaign to make members aware of SNAP

Host food pantry on site



Payers

Basic needs program providing healthy "drive-thru" meals to members

Grants to food bank to add locations to database system allowing easy access

Fund community organizations that stock food pantries



Prevention

Job education programs

Local hiring and sourcing

Housing subsidies



Interviews

Montefiore Director Research Program Development

Vicki Escarra, Former CEO Feeding America

VillageCare Director Project Management

Family Health Centers at NYU Langone



Data

USDA

American Diabetes Association

CDC

Health Affairs

National Institute of Health

Feeding America

Medical Expenditure Panel Survey

Kaiser Family Foundation

Chronic Condition Data Warehouse

American Heart Association

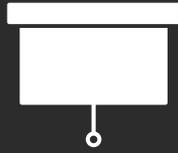
In NYS modest programs have already been launched



Food support

NYU Langone's The Table food pantry serves food to **350-400 households** per week in "client choice" model

Helps patients apply for other nutrition benefits (e.g., SNAP, WIC)



Education

Montefiore incentivizes patients to attend **healthy eating** classes and **cooking** demonstrations by distributing Health Bucks¹ to attendees

Increase Health Buck redemption by **5pts**²



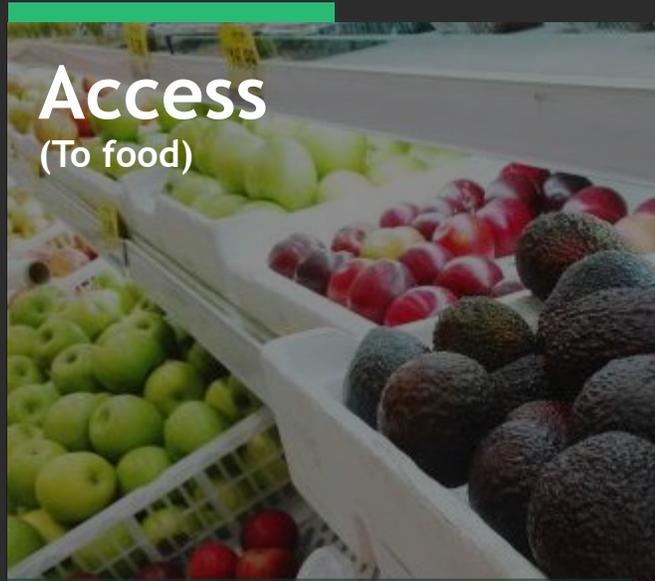
Indirect interventions

Montefiore helped **9 bodegas** earn the Shop Healthy NYC! Designation

Liaise with bodegas' wholesaler to offer **healthy food options** and help bodegas stock them

1. Health Bucks is a NYC sponsored program that distributes vouchers that can be redeemed at farmers markets for fresh produce.
2. Montefiore health buck redemption rate is 98%, 5 points higher than the baseline 93%.

Challenges programs are encountering



Access (To food)

How to determine eligibility and **inform** FI individuals

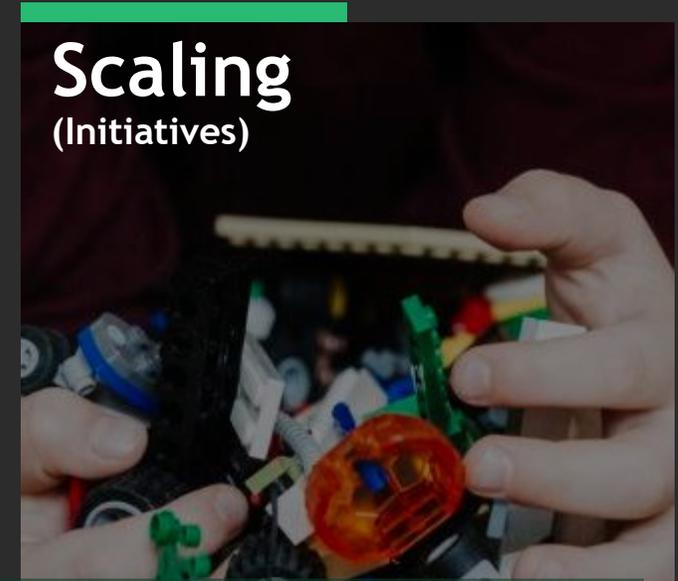
Where to find food pantries including “after work hours”



Tracking (Those seeking support)

How to assess potential interventions over time

Whose data to collect and analyze to track initiative **outcomes**



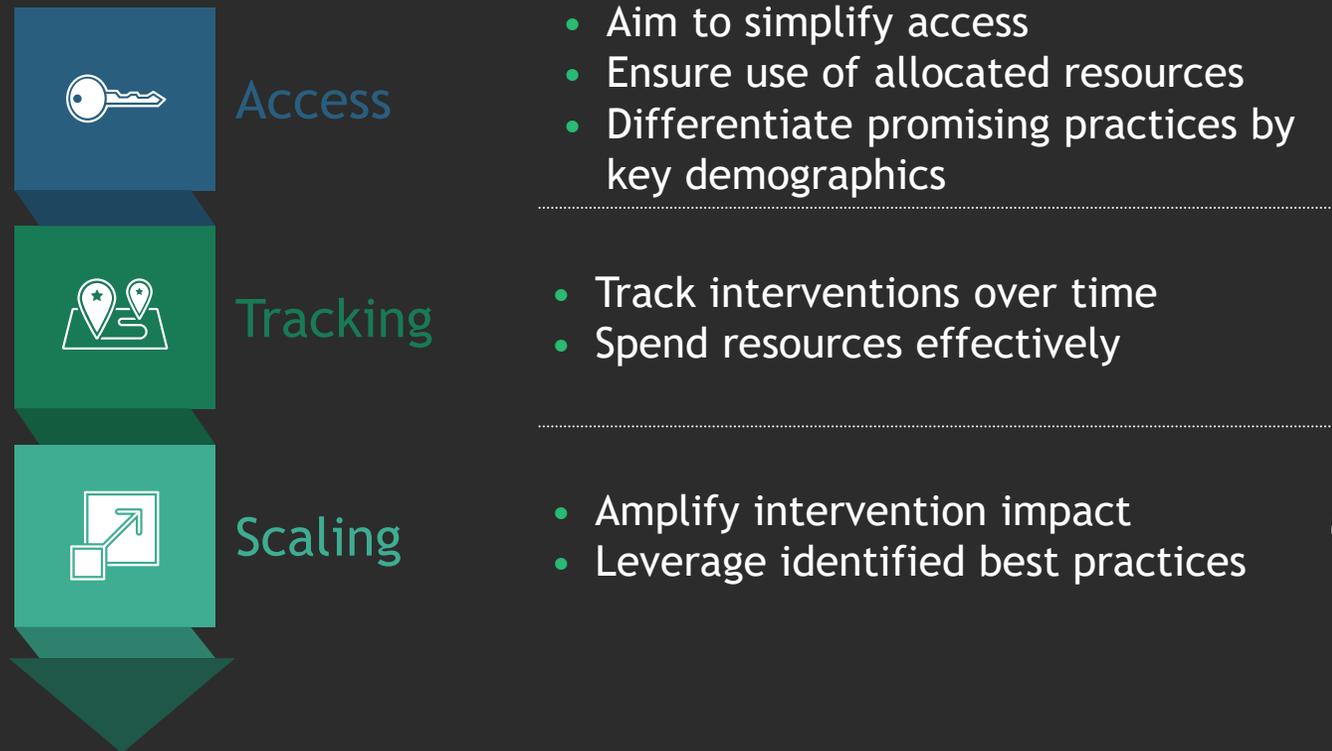
Scaling (Initiatives)

How to envision initiatives that can be scaled across the state

What a “playbook” might look like

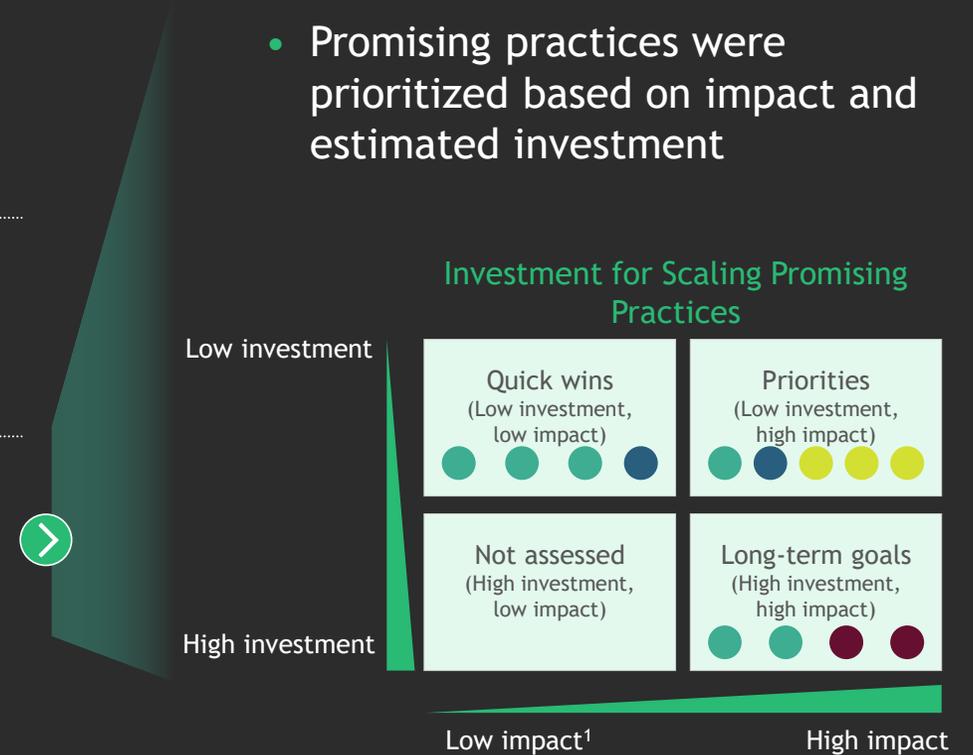
Of three identified pillars, access and tracking are foundational to effectively tackle food insecurity

Each pillar "unlocks" the next



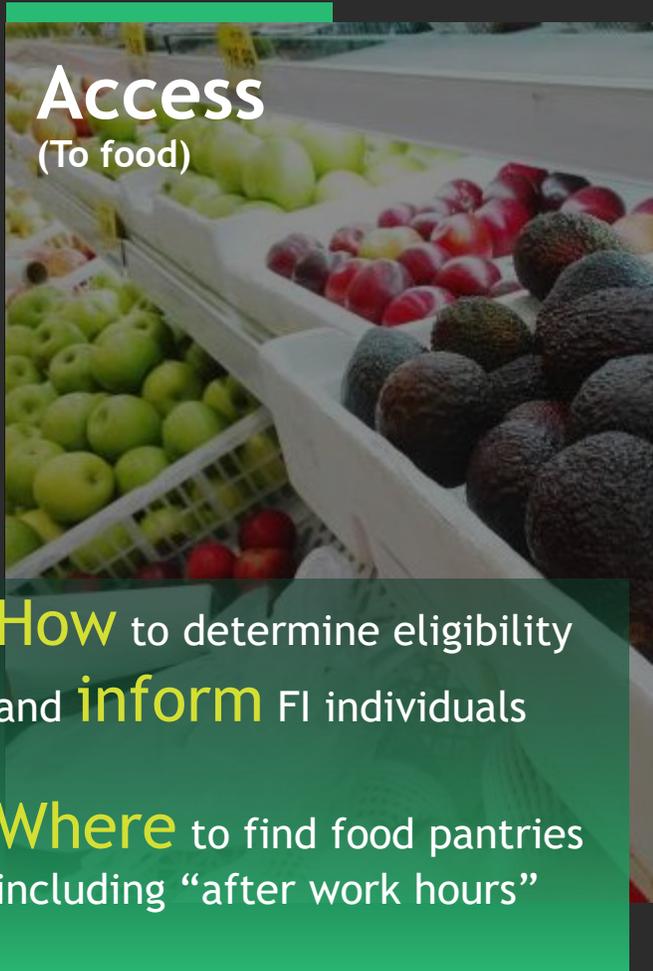
Methodology to prioritize

- Promising practices were prioritized based on impact and estimated investment



1. Daily impact on lives of food-insecure population

Strive to increase adoption and democratize access



A B C D E

Understanding eligibility | Help individuals understand if they qualify for and how much they might receive from NYS programs

A B C D E

Universal screening | Screen patients (at ER & PCP) for food insecurity to make aware of access and reduce stigma associated with getting help with food

A B C D E

Expanded coverage & hours | Ensure healthy food access¹ and cooking & healthy eating classes within a radius of each person (1 mi. urban, 20 mi. rural)

A B C D E

Digital campaigns | Across digital channels, boost initiatives and eligibility awareness (e.g., social channels)

A B C D E

Traditional awareness campaigns | Boost awareness for those less tech-savvy and with limited access (e.g., high foot traffic locations, faith centers)

Most applicable demographics

A	Adults only	B	Families	C	Seniors
D	Unemployed	E	Housing insecure		

Language Support | Awareness of interventions in multiple languages to support diverse population

1. Includes food pantries, local bodegas, markets, or grocery stores. Could also include provider prescriptions for “food as medicine”

Strive to standardize questions & tracking over time

Tracking

(Those seeking support)

How to assess potential interventions over time

Whose data to collect and analyze to track initiative **outcomes**

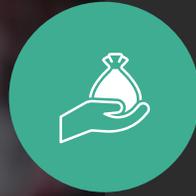
Unified surveying | Define set of food insecurity screening questions when individuals access medical centers; share best practices for data collection

Intervention tracking | Record and track interventions and food insecurity at an individual level from provider and community organization view

Data aggregation | Create unified NYS repository aggregating intervention tracking at an individual level (e.g., Pennsylvania's RISE platform)

Reporting & analytics | Analyze interventions over time to quantify outcome and impact of initiatives on individual's health conditions; share results with larger community

Promising practices to implement in the short term and medium term



Providers

- Screen all patients for food insecurity and refer to CBOs through referral platforms
- Publish results (even if preliminary) of current interventions in community benefits reports
- Smaller providers partner with larger providers for infrastructure and resources
- Assist grocery stores in accepting SNAP as payment



Payers

- Work to identify members experiencing food insecurity, and support interventions to meet their nutritional needs



State/Local Government

- Create digital survey to determine eligibility in fewer than 5 clicks for main NYS programs (e.g., SNAP, WIC)
- Set standard for food insecurity screening and tracking system; recommend adoption
- Publish SDoH reports that VBP¹ contractors are required to submit to the government



Working group of CBOs, referral platforms

- Map geographic distribution and hours of operation for key initiatives to determine where gaps in coverage are



Additional stakeholders

- Explore innovative solutions such as leveraging surplus food and involving private partners

1. Value-Based Payment

Note: Short- to medium-term target within next two years

Promising practices to implement in the long term



Providers

- Expand referral network model to monitor interventions and food insecurity that tracks at the individual or household level
- Leverage purchasing power to negotiate lower food prices from distributors; purchase from local businesses to support local economy



Payers

- Publish report on food insecurity interventions that payer supported, and publicize the associated cost savings



State/Local Government

- Study the impact of interventions on health outcomes over time
- Support expansion of preliminary HIE¹ efforts to gather and merge data at individual level
- Supplement federal nutrition benefits (e.g., SNAP) based on cost of living



CBOs

- Enable online requests by food-insecure individuals to request emergency food delivery

Food Insecurity and Health Care

Addressing Food Insecurity through the Health Care System in New York

BCG Team

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