



Optimizing the pediatrician's approach to addressing food insecurity

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Pediatrics



**Texas Children's
Hospital**[®]

Baylor
College of
Medicine[®]

Disclosure

- Michelle Lopez has no relevant financial relationship(s) with ineligible companies to disclose.
- Claire Bocchini is a Co-Investigator on the Pfizer SARS-CoV-2 vaccine trial for children. All of the relevant financial relationships listed for this individual have been mitigated.

Objectives



Hunger Could Be Hiding in Plain Sight
YOU CAN'T TELL IF YOU DON'T SCREEN

Millions of U.S. children live in a household struggling with food insecurity
Join AAP in universally screening for food insecurity

- Share our experience with addressing food insecurity at Texas Children's Hospital
- Outline processes we take to:
 - Optimize yield of food insecurity screening
 - Use universal screening
 - Start with ice breaker phrases
 - Provide a safe, nonjudgmental environment for caregivers to openly discuss food insecurity
 - Build partnerships with community resources
 - Integrate food insecurity resources into the office and/or hospital setting

https://frac.org/wp-content/uploads/FRAC_AAP_Toolkit_2021.pdf

Center for Child Health Policy and Advocacy

RESEARCH ARTICLE

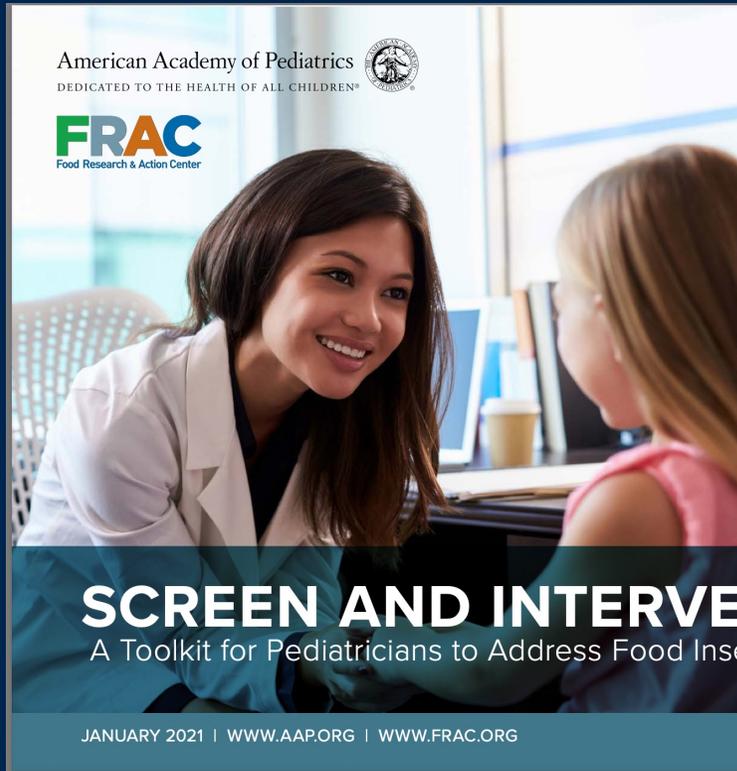
Social Needs Screening in Hospitalized Pediatric Patients: A Randomized Controlled Trial

Michelle A. Lopez, MD, MPH,^{a,b} Xian Yu, PhD,^c Rebecca Hetrick, MD,^d Shivani Raman, MD,^e Jessica Lee, MD,^c Julie Hall, MD,^f Katherine Tran, MD,^g Bryan Vonasek, MD,^h Arvin Garg, MD, MPH,ⁱ Jean Raphael, MD, MPH,^{a,b} Claire Bocchini, MD, MS^{a,b}

Next step:

- Developed a curriculum to optimize yield of food insecurity screening

Use the “Screen And Intervene: A Toolkit For Pediatricians To Address Food Insecurity”



- Prepare
- Screen
- Intervene



https://frac.org/wp-content/uploads/FRAC_AAP_Toolkit_2021.pdf

Hunger Vital Sign (HVS)

Use the AAP-recommended Hunger Vital Sign™:

1. “Within the past 12 months, we worried whether our food would run out before we got money to buy more.”

OFTEN TRUE SOMETIMES TRUE NEVER TRUE DON'T KNOW/REFUSED

2. “Within the past 12 months, the food we bought just didn't last and we didn't have money to get more.”

OFTEN TRUE SOMETIMES TRUE NEVER TRUE DON'T KNOW/REFUSED

Patients screen positive for food insecurity if the response is “often true” or “sometimes true” for either or both statements.

Document and code the administration and results of screening in medical records.

https://frac.org/wp-content/uploads/FRAC_AAP_Toolkit_2021.pdf

But how do we best use HVS?

- Must provide a safe, nonjudgmental environment for caregivers to openly discuss food insecurity
 - Sensitive topic – there is a stigma of FI...
- Universal screening prevents the practice team from making assumptions about which patients and families may or may not be in need
 - It may also capture those who cycle in and out of food insecurity throughout the year
- What is the most sensitive method for screening?
 - Writing or electronic format
 - In person verbal screening may elicit fewer positive screens
 - Especially if a verbal child is present
 - Keep in mind language barriers and literacy level



https://frac.org/wp-content/uploads/FRAC_AAP_Toolkit_2021.pdf



Use an “icebreaker”

- From AAP: “I’m seeing so many people who are having a hard time affording food, so I ask all of my patients a few questions about access to food. There are many community resources available that are free and may be useful to you.”
- My approach: “In Houston – many people are struggling with affording food for their families. We have some resources to help families with food. May I ask you two questions about your family’s experience with food?”

https://frac.org/wp-content/uploads/FRAC_AAP_Toolkit_2021.pdf

If a family screens positive

- Consider discussing next steps when the child is not present/ or is distracted
- Inform the parent that assistance is available and everyone needs assistance at some point in their lives
 - This will help take away the stigma
 - Post signs in your office!
- Encourage parents to seek assistance for the benefit of all family members
 - But especially for the health and well-being of their children



<https://frac.org/research/resource-library/free-healthy-food-growing-child-english-version>

If a family screens positive

- Talk positively about SNAP or WIC and be clear that you are recommending food assistance just as you would prescribe a medication
 - “SNAP will help you buy the fruits and vegetables your child needs to grow and stay healthy.”
- If you are comfortable, share personal stories about food assistance
 - “When I was a child, my family used SNAP,” or “I have other patients who use SNAP and it is really helpful”
- If patients have used nutrition programs before, ask about their experiences and any challenges faced in accessing these programs that they may need assistance with addressing
 - Identify a range of nutrition and other resources that can help families

Alimentos Saludables Gratis para su Hijo en Crecimiento

Programas de Nutrición

- WIC (menos de cinco años)
- Alimentos Escolares (18 años y menos)
- Alimentos para después de la escuela (18 años y menos)
- Alimentos de verano (18 años y menos)
- SNAP/Estampillas de alimentos (todas las edades)

APRENDA MÁS SOBRE LOS PROGRAMAS DE NUTRICIÓN
LLAME A LA LÍNEA NACIONAL CONTRA EL HAMBRE
HORAS: LUNES A VIERNES ENTRE 8 Y LAS 20 HORAS ET
1-866-3-HUNGER/866-348-6479 | 1-877-8-HAMBRE/877-842-6273

American Academy of Pediatrics
FRAC

<https://frac.org/research/resource-library/free-healthy-food-growing-child-spanish-version>

Public Benefit Use and Social Needs in Hospitalized Children With Undocumented Parents

Marina Masciale, MD, MPH,^a Michelle A. Lopez, MD, MPH,^{a,b} Xian Yu, PhD,^a José Domínguez, MD, MPH,^a Karla Fredricks, MD, MPH,^a Heather Haq, MD, MHS,^a Jean L. Raphael, MD, MPH,^{a,b} Claire Bocchini, MD, MS,^{a,b}



- Of families with undocumented parents:
 - 29% reported public benefit discontinuation because of immigration concerns
- Having an undocumented parent was associated with:
 - Public benefit disenrollment (OR: 46.7; 95% CI: 5.9–370.4)
 - Fear of deportation (OR: 24.3; 95% CI: 9.6–61.9)

Develop & nurture the conversation



Listen attentively & silently

Use facilitative responses (“*Tell me more...*”) & non-verbal behaviors to maintain & support narrative
Resist urge to jump to questions



Summarize narrative to check accuracy

Supplement with focused questions

Images courtesy of Microsoft Stock Images

Reflect & respond with empathy

- **P.E.A.R.L.S.**
 - Partnership
 - Emotion
 - Apology
 - Respect
 - Legitimization
 - Support



ACH, Marvel et al, JAMA 1999; Langewitz et al, BMJ 2002
Slide credited to Texas Children's Hospital Breakthrough Communications

Dialogue...not, monologue

“Chunk & Check”

- Ensures simplicity
- Assesses health literacy & behavioral readiness
- Maximizes adherence & recall



Dialogue...not, monologue

•A.R.T.

- Ask for patient's/family's perspectives
- Reflect/respond with empathy
- Tell/teach your perspective

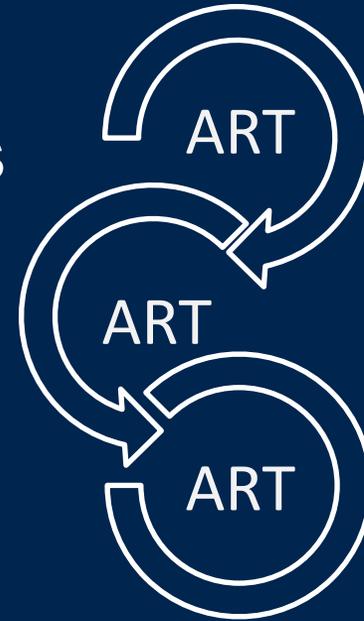


Image courtesy of Microsoft Stock Images

Slide text credited to Texas Children's Hospital Breakthrough Communications

Screening at Texas Children's

- Caregivers of hospitalized children + FI

- 6/2016-7/2017: 55/413 (13%)

- 3/2018-3/2019: 102/264 (38%)

- 3/2019-9/2019: 105/380 (28%)

- 3/2021-3/2022: 486/1012 (48%)



- Texas Children's Health Plan caregivers + FI

- Prior to 2021: 3%

- 7/2021-11/2021: 1039/3007 (35%)

Lee A. *Academic Pediatrics* 2021. Masciale M. *Pediatrics* 2021.
Lopez M, Bocchini C, et al. 2023 (in progress).

IDENTIFYING & ADDRESSING FOOD INSECURITY AT A HEALTHCARE SITE



<https://hungerandhealth.feedingamerica.org/explore-our-work/community-health-care-partnerships/addressing-food-insecurity-in-health-care-settings/>

Build partnerships

- Identify community partners
 - Emergency food
 - Help with enrollment in SNAP, WIC, etc.
- Host a community partner to provide on-site assistance
- Assess the capacity of your practice to implement other strategies to address food insecurity
- Start with the local Food Bank



<http://www.feedingtexas.org/about-us/our-network/>

Identify community resources

- Create your list

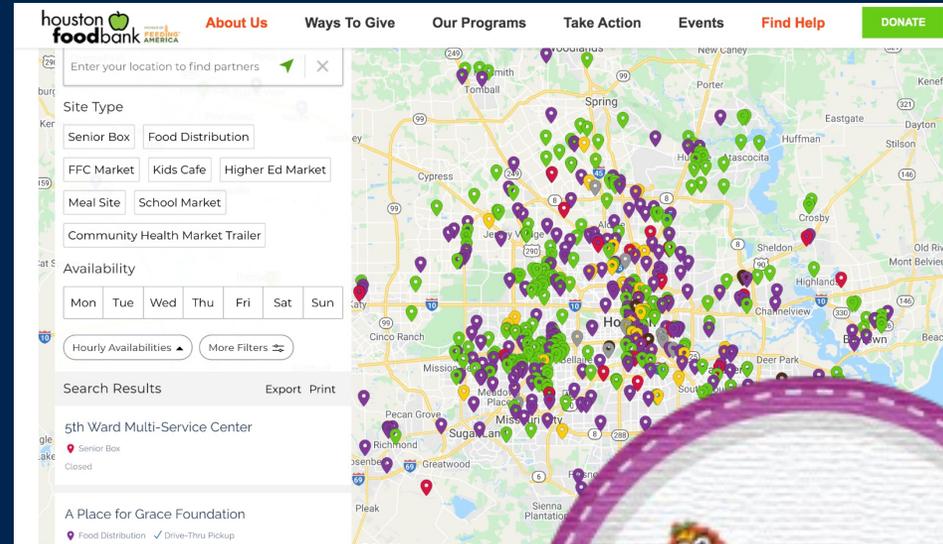
- Local food bank/pantries*

- 211 Texas

- www.findhelp.org

- Local non-profits

*Not all food pantries have healthy options. Contact your local pantries and ask them to partner with you to provide healthy food to your patients.



<http://www.feedingtexas.org/about-us/our-network/>, <https://www.houstonfoodbank.org/>,
<https://kidsmealsinc.org/>

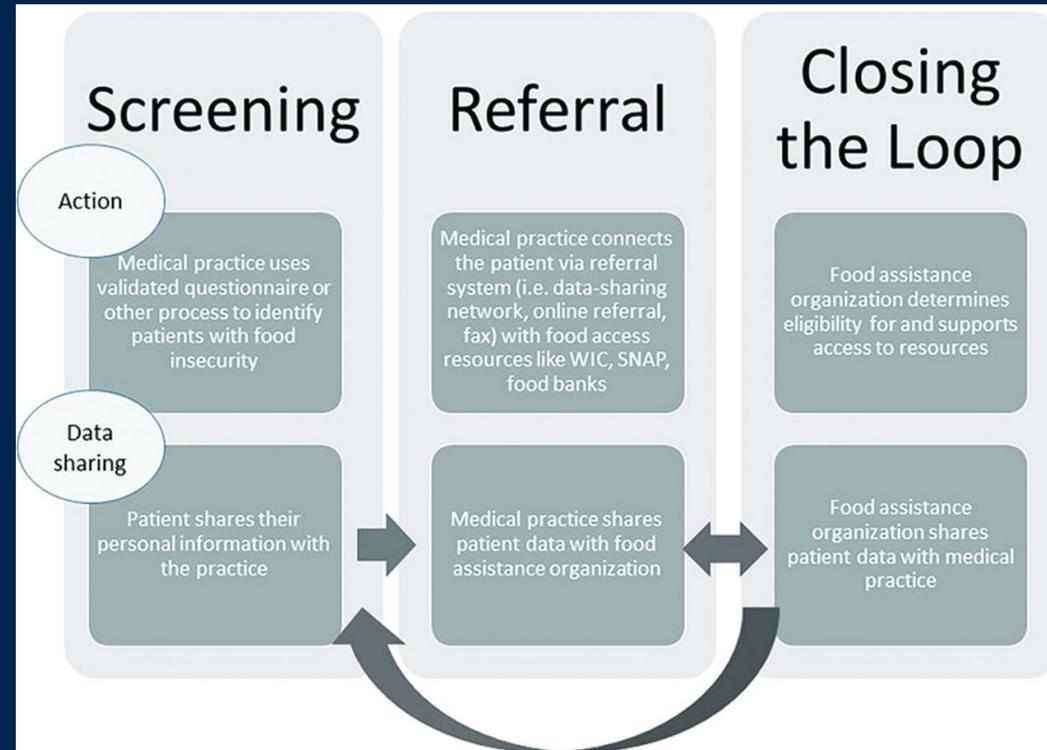
Referring families to resources

- **ACTIVE** referral when possible

- Reported to increase enrollment in resources 5 to 75%

- Types of active referrals

- Online referrals
- Patient navigator



<https://www.houstonfoodbank.org/>, Stenmark SH *Perm J.* 2018;22(18):1-7.
<https://www.jabfm.org/content/35/1/85>.

Collaboration with Houston Food Bank

- FIRST Link program collaboration
- Results from 1600 completed referrals
 - 85% referred families successfully applied for/ enrolled in SNAP
 - 48% were linked with food pantries
 - 34% qualified for rent/ utility assistance

FIRSTLink

What is FIRSTLink? FIRST Link (Food Insecurity Resources Screenings Trainings) is a program that connects patients to free food resources in a healthcare setting.



Why in a healthcare setting? 74% of households who need food assistance choose between paying for food and medication.*

When patients cut back on food or medicine, this makes their health worse. In a recent study, the USDA found that people experiencing food insecurity are more likely to develop chronic conditions, such as diabetes or coronary heart disease.** When payers fight food insecurity, they save money. One payer in the US saw a 27% reduction in hospital admissions and 6.9% reduction in ED visits!***

HOW DOES FIRSTLink WORK?

1. Houston Food Bank trains clinic staff about food insecurity. Together, they work to develop a process to start screening clients for food insecurity.
2. Clinic staff screens patient for food insecurity. If patient does, clinic refers patient to an on-site HFB employee who:
 - a) Helps client apply for SNAP, TANF, and Medicaid/CHIP
 - b) Refers patient to nearby food pantries
3. Follow up with patient to see if he/she has received food resource assistance.

*Hunger in America 2014, Houston Food Bank Survey
** Christian A. Gregory, Alissa Coleman-Jensen. Food Insecurity, Chronic Disease, and Health Among Working-Age Adults (italicized), ERR-235. U.S. Department of Agriculture, Economic Research Service, July 2017.
***Thomas Beaton. "How Payers Can Address Food Insecurity among Plan Beneficiaries." HealthPayer Intelligence

houston**food**bank
This institution is an equal opportunity provider.

Lopez M, Bocchini C, et al. 2022 (in progress)

Other interventions: mobile food pantries



Mobile food pantry can visit come to clinics



Consider inviting a mobile pantry after hours/ on weekends/ coordinate with flu vaccine clinic

Other interventions: onsite pantries

- Harris Health System
 - 3 onsite pantries
- Any adult who screens positive for FI can be referred to the pantry
- Weekly visits for patients with chronic medical conditions



<https://www.harrishealth.org/services-hh/population-health/Pages/food-farmacy.aspx>

Other interventions: food Rx



Food Rx

Clients receive a food prescription when referred by a designated Healthcare Partner or commit to a Community Health Program.

FI Action Plan

- Trainings (virtual or asynchronous)
- Promotional materials
- Identifying FI champions
- Develop FI interventions
- Foster relationships with community partners (local food banks)
- Collect data/ establish Quality Improvement metrics
- Apply for funding for FI work





Lopez, Michelle Ann + 1 • 1m

Optimizing the Pediatrician's Approach to Addressing Food Insecurity

FI Action Plan

Complete our Food Insecurity Action Plan! This tool is meant to help you optimize the food insecurity screening process. We would like to help you achieve your goals if you are interested, and hope this form can allow us to work together/ share resources when applicable. You will also be able to download a copy of your response for your records when you complete the worksheet.

Learn About FI



FOOD INSECURITY SCREENING IN HOUSTON AND HARRIS COUNTY: A GUIDE FOR HEALTHCARE PROFESSIONALS



PDF
Food Insecurity Report Final

♡ 0



AMERICAN FAMILY PHYSICIAN



FI Screening Resources



FRAC AAP Toolkit 2021 032122

PDF
FRAC AAP Toolkit for Pediatricians to Address Food Insecurity

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frac.org

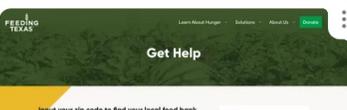
FI Intervention Resources



fns.usda.gov

Supplemental Nutrition Assistance Program (SNAP)

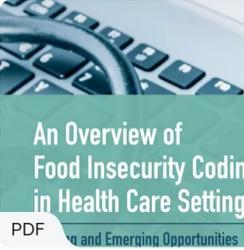
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FEEDING TEXAS

Get Help

FI Coding Resources



An Overview of Food Insecurity Coding in Health Care Setting

PDF
An-Overview-of-Coding_2.15

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USING Z CODES: The Social Determinants of Health (SDOH) Data Journey to Better Outcomes



Current progress

- FI screening across TCH system
- Goal for active referrals for all families who screen positive
- Houston Food Bank is our primary partner
 - Onsite representatives at TCH West Campus and TCH Main Campus

Thank you!!

- Please contact us with any questions at any time!!
- Claire Bocchini cb135591@bcm.edu
- Michelle Lopez malopez@texaschildrens.org



Food Is Medicine Community-Healthcare-Academic partnerships

Shreela Sharma, PhD, RDN



Food Insecurity and Diet

- **How do we as a society ensure stable availability of healthy food in FI populations?**
 - Variety of federal, state, and non-profit programs address food access in this population and have impressive reach and coverage such as SNAP, Feeding America network of food banks / food pantries etc.
 - Food access programs effectively reduce food-related hardship (including emergency food needs) but are not designed to ensure steady availability of healthy food in FI populations struggling with diet related chronic disease.
- Food Is Medicine programs leverage interactions of at-risk patients with healthcare systems as a strategy to deliver evidence-based food and nutrition interventions (Downer et al 2020). These include Medically tailored meals, medically tailored retail, and Food prescription programs

Food Rx Programs: Evidence

- Overall, the evidence is promising.....
 - Considerable evidence that these programs reduce food insecurity, increase FV intake, increase healthcare spending.
 - In a recent meta-analysis of 13 studies, investigators found clinically significant decreases in body mass index (BMI) and glycosylated hemoglobin (HbA1c) (0.6 kg/m² and 0.8% respectively)
- But should not be taken on faith
 - Sample sizes for most of these studies is small, most studies lack control groups, external validity is limited. Data on predictors of implementation success lacking.
 - Pre-post estimates of improvements in health outcomes of patients in a healthcare setting likely overestimate effects of food prescription programs, as these effect estimates include the impacts of other medical interventions targeting those outcomes. Important to have a comparison group.

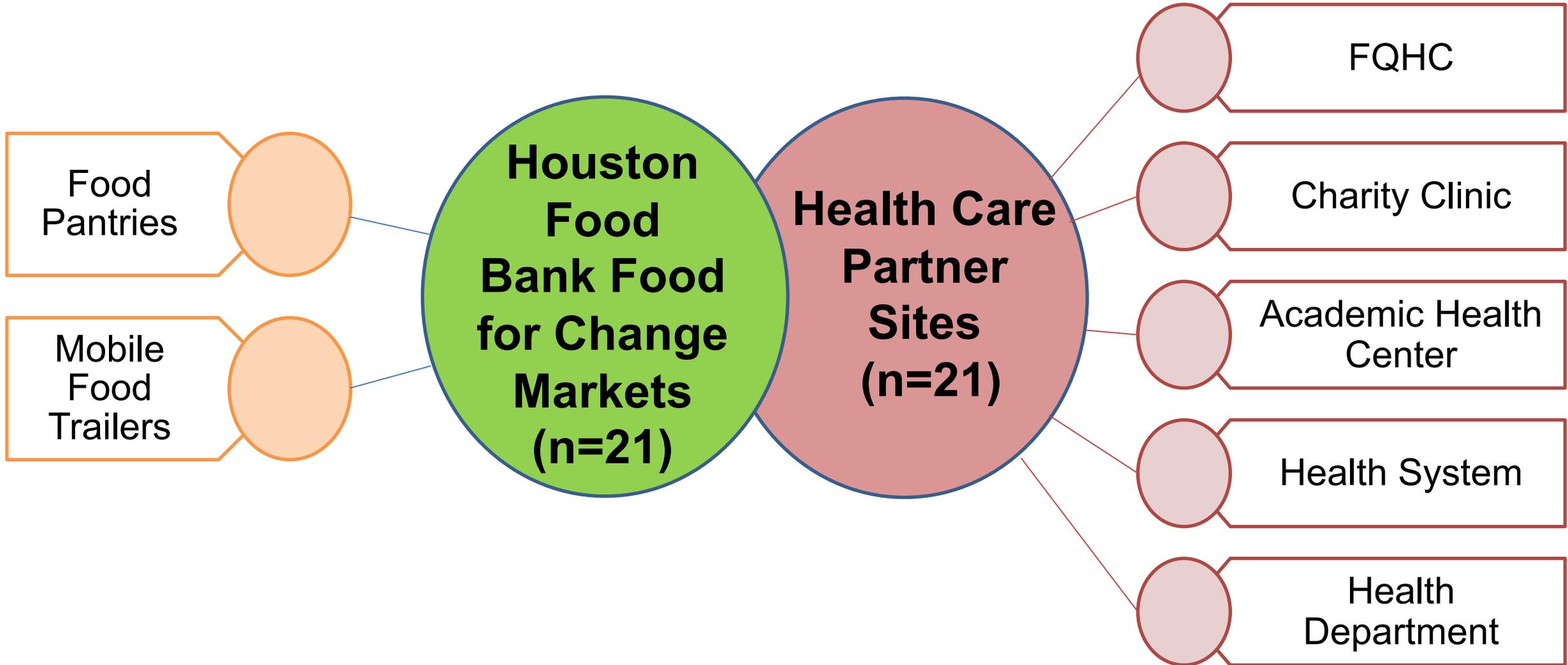
Houston Food Bank + UTHealth Houston School of Public Health



Assessment. Design. Capacity-building. Monitoring. Evaluation
TRUST

Our partnership

- The Houston Food Bank (HFB) the largest food bank in the US, serving over 800,000 individuals each year through 1500+ partnerships across 18 counties in southeast Texas.
- In 2015-2017, as part of a larger Harris County BUILD collective impact initiative in North Pasadena in Houston region, the HFB partnered with UTHealth SPH in implementing and evaluating a food prescription program across three clinics serving the North Pasadena community.
 - First implementation of food prescription in our region
 - Results showed a 94% decrease in food insecurity among patients (172 adults, food insecure)
 - Small sample size, no comparison group, no health outcomes.
- In 2020, UTHealth was funded by the Rockefeller Foundation to evaluate HFB's Food Rx program to conduct a:
 - 360 degree evaluation including clinical effectiveness, cost effectiveness, qualitative studies, and systems and process analysis



HFB Food Rx Program

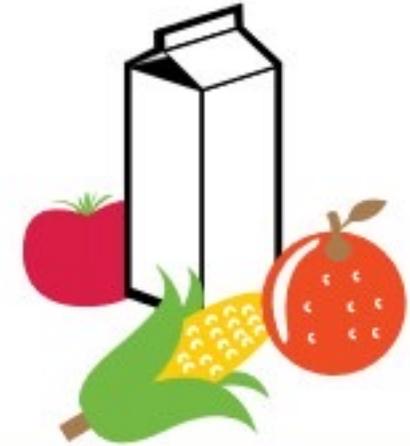
How does it work?



Screened by
Healthcare
Partner/
Stay in Community
Health Program



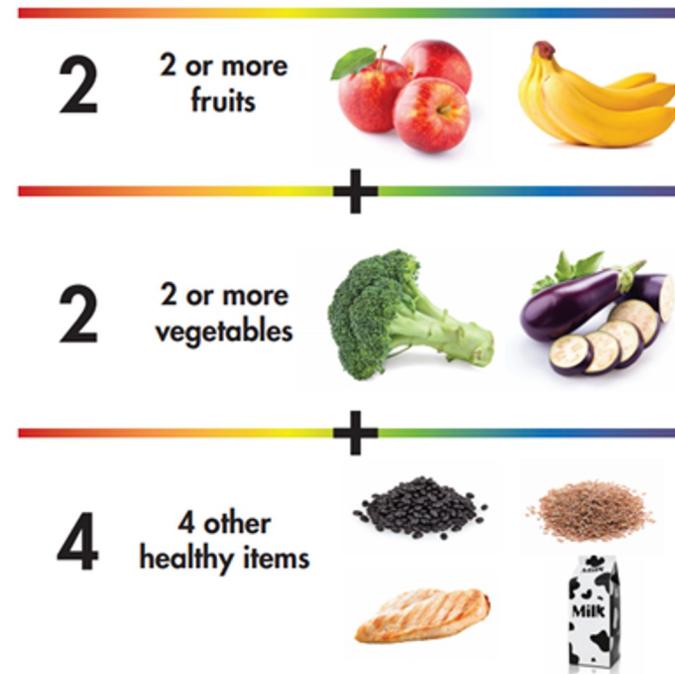
Get **FoodRx**
card



Get groceries
from
Food for Change
Market

HFB Food Rx Program

- **Amount**: Up to 30 lbs of produce + 4 healthy items
- **Frequency**: Twice a month
- **Client choice model** at FFC Markets (pantry)



Primary Aims

The purpose of our study was to conduct a comprehensive evaluation of the functioning, outcomes, and cost-effectiveness of the food prescription (Food Rx) program implemented by the Houston Food Bank.

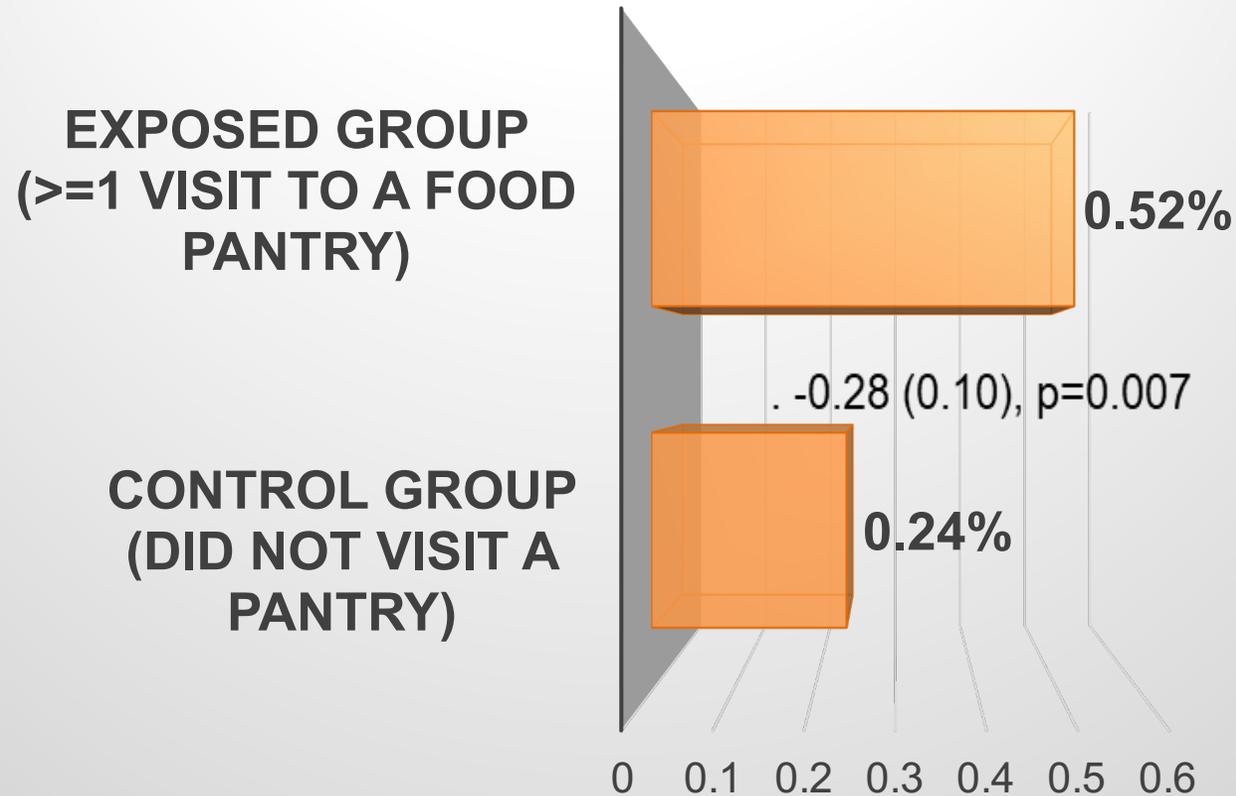
Examined **clinical (cardio-metabolic) outcomes** among patients who utilized the program as compared to those who did not.

Conducted a **cost-effectiveness analysis** to estimate the incremental costs and quality adjusted life years (QALYs) of HFB's Food Rx implementation over standard medical care.

Obtained and evaluated qualitative data describing **perceptions and experiences** of the HFB program from patients, healthcare partner staff, and food pantry staff.

Food Pantry Visits and A1c Change

Magnitude of decline in %A1c, by exposure status



Probability of >0.5 decline in %A1c, by number of visits



[Clinical outcomes of a large-scale, partnership-based regional food prescription program: results of a quasi-experimental study.](#) Nalini Ranjit, Jennifer N. Aiyer, Jack D. Toups, Esther Lie Kenia Way, Henry Shelton Brown, John Wesley McWhorter and Shreela V. Sharma
Citation: BMC Research Notes 2023 16:13

Other A1c Results

- % HbA1c improvement directly related to number of visits ($b= 0.03$, $p=0.005$)
- % HbA1c improvement directly related to frequency of visits (visits per month) ($b= 0.12$, $p=0.009$)
- % HbA1c improvement not significantly affected by baseline severity of disease
- Cost effectiveness analysis showed that at a cost of \$180 for 6 months of redemption, Food Rx costs less per QALY added than a number of other health interventions

Systems and processes study

- Mapped communications and data flow within and across agencies and clients, and looked for possible opportunities for process improvement
 - Set and communicate brand values that focus on connections between healthy eating and diabetes
 - Prescribed methods for improving existing communication pipelines and strategies for warm referral
 - Provided recommendations on how to maintain continued post-clinic contact with patients, to increase both redemption rates, and rate of return to clinics for follow up visits
 - Identified opportunities to enhance and reinforce health-focused nutrition education, for example, by training pantry staff, and by using text-based messaging
 - Proposed strategies to expand reach and hours of food pantries, such as by allowing online ordering and local pickup.

Summary of Main Findings

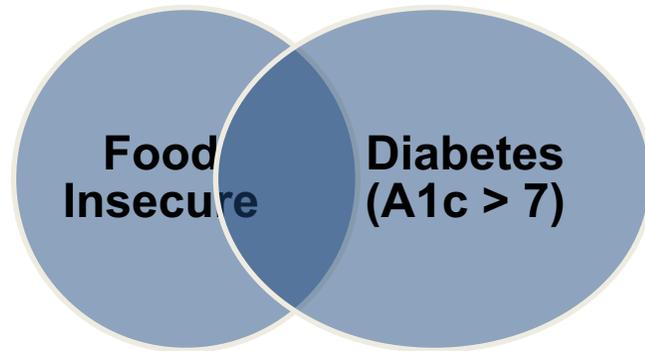
- Voucher redemption is associated with improvements in A1c levels over a 6-month period. (effect of any redemption, 0.28, $p=0.007$) A dose-response effect of number of visits was apparent.
 - Results were robust across different specifications of exposure and outcome

Multi-institutional Food Rx programs involving partnerships across multiple clinic systems and multiple food bank affiliated food pantries can be complex but are feasible

Relatively small changes to implementation strategies and structures have the potential to significantly improve program uptake and reach

A PRESCRIPTION FOR HEALTHY LIVING

A POPULATION HEALTH MODEL FOR FOOD, NUTRITION & CHRONIC DISEASE MANAGEMENT



Integration of food insecurity support within chronic disease management ($A1c \geq 7$) through:

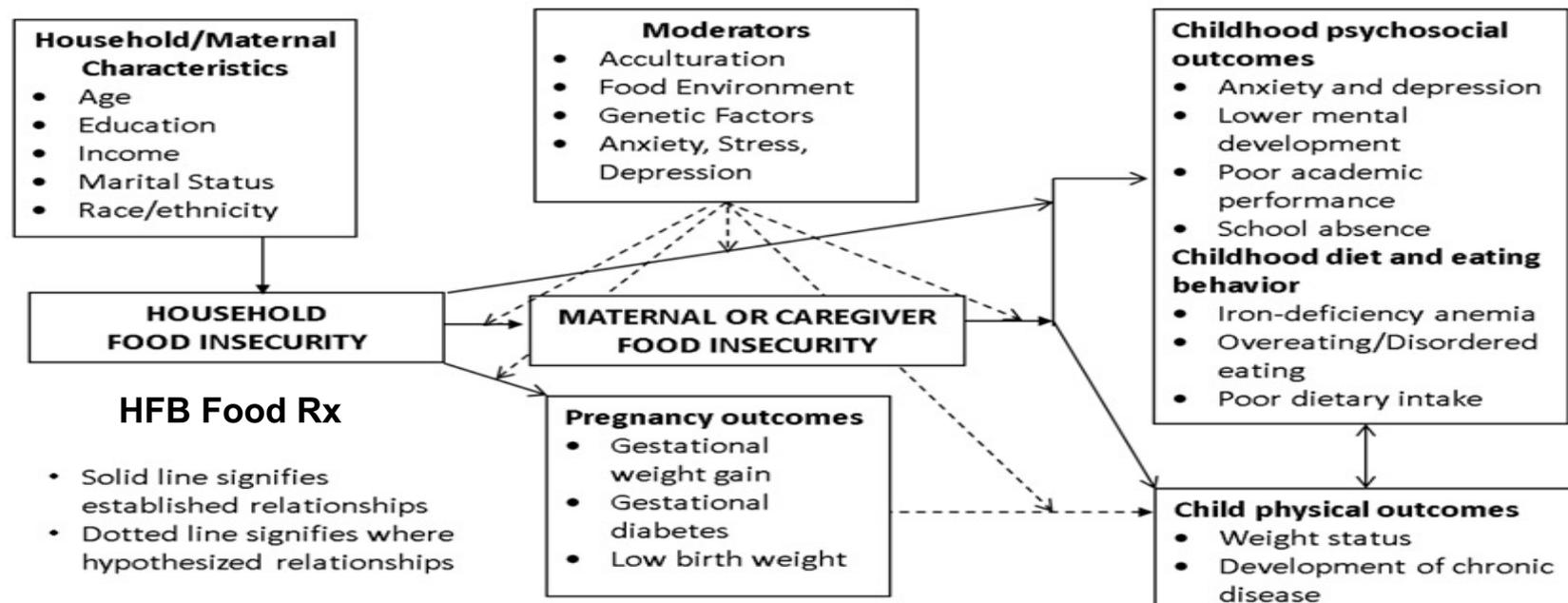
- Biweekly redemption of 30 lbs of fresh produce
- Navigation to related benefits (e.g., SNAP, TANF)
- Patient activation in culinary medicine & chronic disease management self-efficacy
- Graduation to community-based support systems



Next steps: Prospective

- 2022-2025
- Houston Food Bank + Managed care organization
- Food prescription program in high risk pregnant mothers (n=620)

Figure 1: Conceptual Framework of the influence of Household and Maternal Food Insecurity on Childhood Health Outcomes



BRIGHTER BITES PRODUCE RX PROGRAM WITH UT PHYSICIANS

 UTHealth[®] Houston
McGovern Medical School

 **brighter**bites[®]

 UTHealth[®]
Houston
Cizik School of
Nursing

 UTHealth[®]
Houston
School of
Public Health

Study overview

- Evidence base on impact of food prescription programs in pediatric populations is sorely lacking.
- Clinically evaluate the feasibility and effectiveness of two different produce prescription strategies in improving obesity-related outcomes and dietary behaviors among a cohort of Medicaid-eligible children aged 5-12 years old using a comparative effectiveness randomized control trial (CE RCT) study design.

Intervention Components

- **Group 1: Home delivered Produce Boxes**

- Home delivery via DoorDash
- 16 deliveries, every 2 weeks



- **Fresh Produce Card**

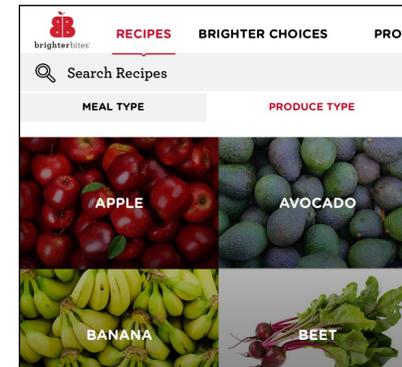
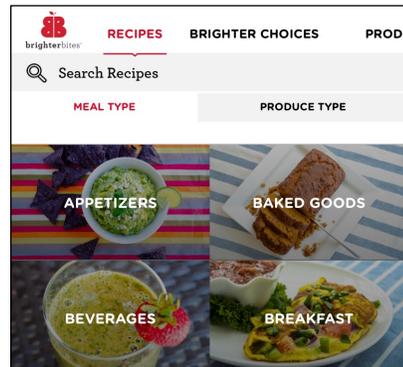
- Plastic physical gift card
- \$25 for fresh produce
- 16 reloads, every 2 weeks
- Expires June 30, 2023
- 6 Retailers:
 - Kroger
 - Walmart



- Randall's
- Walgreens
- CVS
- Dollar General

- **Brighter Bites Programming**

- **Nutrition Education**
 - Printed Handbook
 - Brighter Bites app



Measurement Instrument/ Data source	Components Measured	Data
Brighter Bites pre/post survey	Child dietary intake	Child FV intake
	Parent dietary intake	Parental FV intake
	Parent feeding behaviors	<ul style="list-style-type: none"> • frequency of preparing foods from scratch • use of nutrition facts label to make purchasing decisions • eating meals with their referent child
Clinic records	Health outcomes	BMI, weight, blood pressure, hemoglobin A1c, AST ALT, and lipid panels (standard for children with a BMI>85 th percentile)
	Food insecurity/SDOH	Food insecurity/SDOH
Focus groups with parents	Program satisfaction Acceptability Program improvement	<ul style="list-style-type: none"> • insight into the experience of families receiving produce vouchers or fresh produce boxes • identify possible strategies for program improvement • understand how parents perceive that the intervention activities impacted their families.

A Final Word

Change moves at the speed of trust –
Stephen Covey

- ▶ Factors such as our race, ethnicity and socioeconomic status should not play a role in how healthy we are or how long we live. Unfortunately, for many of us, they do.
- ▶ Social determinants of health needs cannot be addressed by any single agency and lends itself to collaboration and partnership.
- ▶ One shoe does not fit all – a menu of SDOH solutions subsumed within a broader ecosystem of care coordination are needed to meet people where they are at.
- ▶ Our call-to-action for research is building the evidence-base towards this menu for reimbursable pathways, re-imagining our data systems, and systems science to ensure that collaboration is just part of who we are and what we do.

Thank You

Contact: Shreela.V.Sharma@uth.tmc.edu



Questions?

Please insert your questions into the chat!