

Texas MCO NMDOH Learning Collaborative

Webinar: Food-related Interventions addressing Health and Well-being

June 26, 2026

Made possible thanks
to the support of the
Episcopal Health
Foundation and the
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Foundation



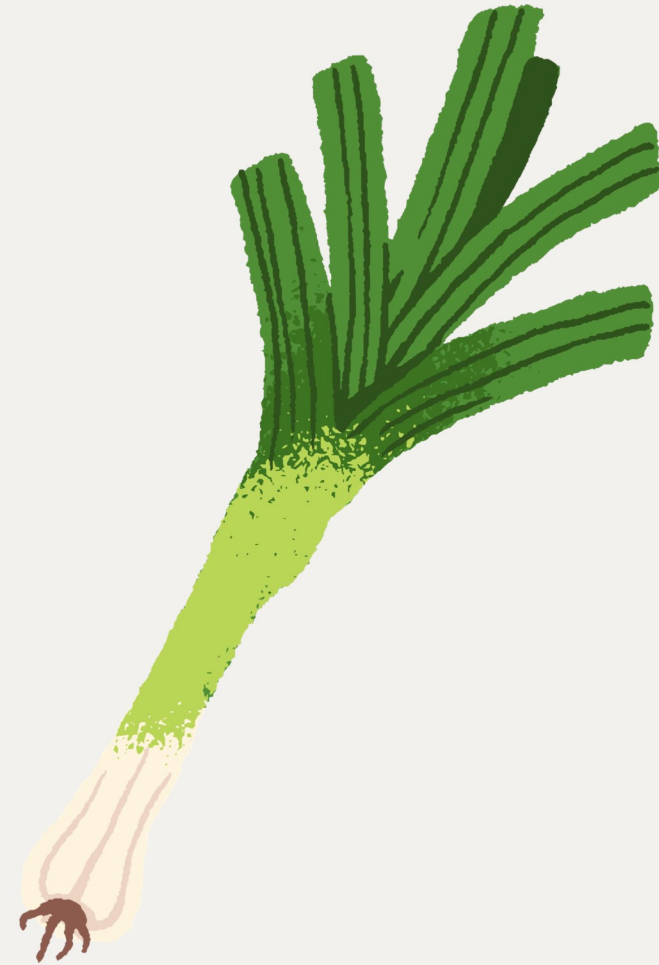
Welcome & Introductions

Michelle Harper

Principal, Treaty Oak Strategies

Connecting Texans with *nutrition support* that improves their health.

Brought to you by the Feeding Texas Network of Food Banks



Texas Context



HB 26

89th Legislature, Regular session 2025

An in lieu of services bill for Medicaid that:

- Offers **nutrition counseling** and instruction services
- Establishes a **pilot for high-risk mothers** to receive nutrition counseling + medically tailored meals + other nutrition support services

Requires HHSC to submit to the Texas Legislature:

- An annual report on all Medicaid ILOS
- One-time report on pilot ILOS

Draft proposal to include **September 2027** as target effective start date.

NOURISH TEXAS

Food Bank 101



We are a network of food banks leading a unified effort to end hunger in Texas.

Our goal is to ensure access to adequate, nutritious food for all Texans, improve the health and financial stability of the communities we serve, and engage all stakeholders in advocating for hunger solutions.

20 food banks

across 254 counties

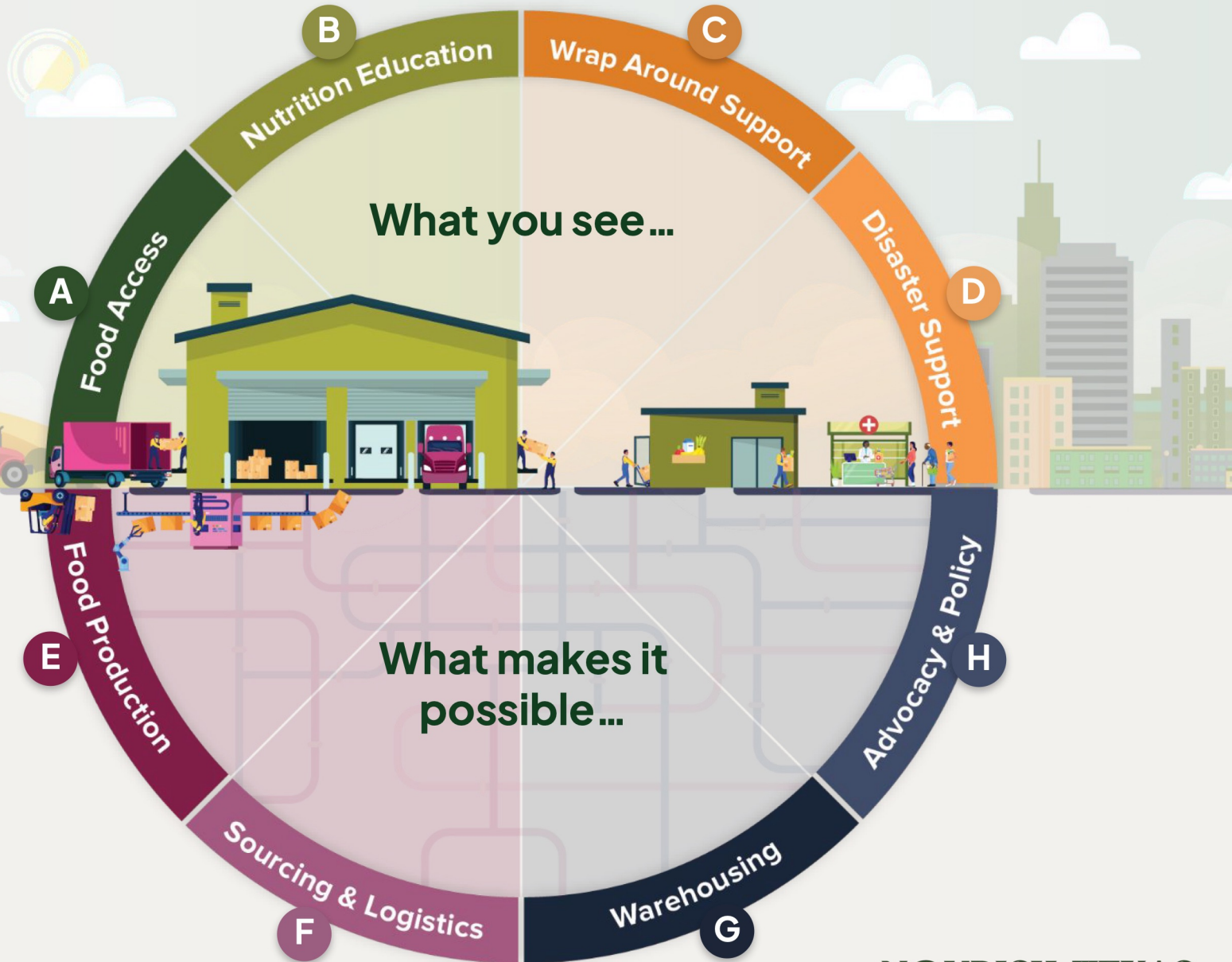
4,000 local partners

4 million Texans

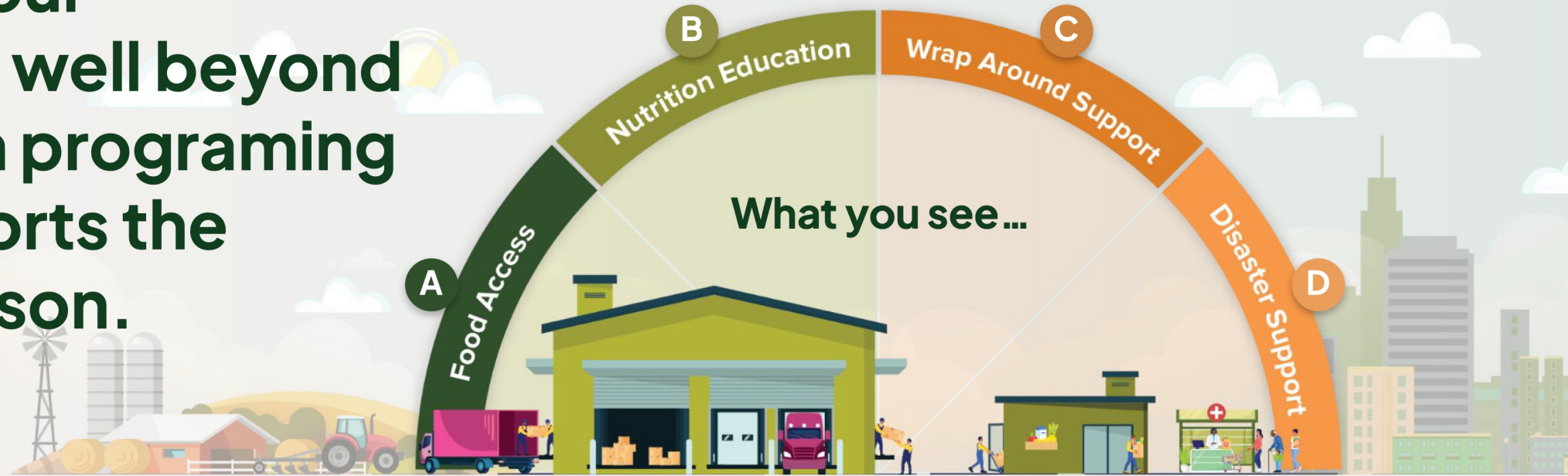
served with food and resources annually



As food banks, we serve as central nutrition support hubs that obtain, store, and distribute food on a huge scale.



We serve our neighbors well beyond food, with programming that supports the whole person.



A Food Access

- Mobile food pantries
- Home delivery
- Drive-through distributions

B Nutrition Education

- Nutrition classes
- Cooking & food safety skills
- Chronic disease programs
- Budget meal planning

C Wrap Around Support

- Benefits enrollment
- Health screenings
- Job training
- Job placement assistance
- Social services navigation

D Disaster Support

- Emergency distribution
- Water & supply coordination
- Warming shelters
- Rapid response mobile units

E Food Production

- Prepare ready-to-eat meals
- Curate menus for local populations and palettes

F Sourcing & Logistics

- Food rescue & donation collection & reallocation
- Plan logistics and routing to optimize service in areas with the highest need
- Cold storage

G Warehousing

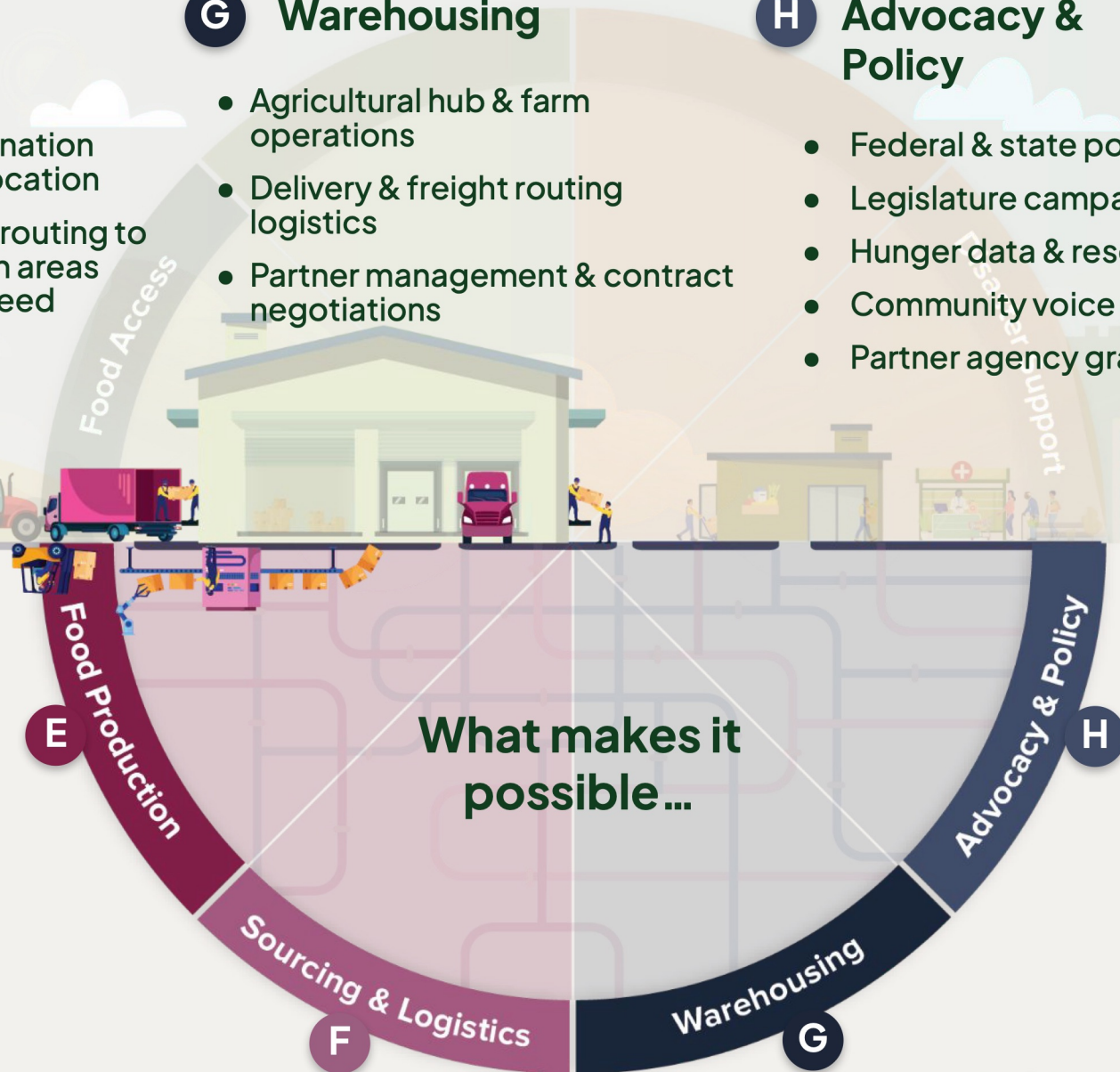
- Agricultural hub & farm operations
- Delivery & freight routing logistics
- Partner management & contract negotiations

H Advocacy & Policy

- Federal & state policy work
- Legislature campaigns
- Hunger data & research
- Community voice programs
- Partner agency grants

What's not visible?

We are experienced operators of complex food and logistics systems.



NOURISH TEXAS

**NUTRITION
LITERACY**

Attends cooking
classes

**ECONOMIC
INSTABILITY**

Joins employment
program

**FOOD
INSECURITY**

Finds food at local
pantry



**DISASTER
RECOVERY**

Stay at temporary
shelter



Maria is a 28 year old mom of two, living in San Antonio. Over the last 5 years she has turned to the food bank several times for support as she gets back on her feet.

Meet our neighbor **Maria**

Like many of our neighbors, Maria has developed a trusted relationship with our staff, connecting her to programs beyond her immediate need of food. These supports help her gain the stability she needs to support her and her family.

Serving Texans and delivering across all corners of the state every day.



Food donations managed & distributed annually

701 million pounds
71%

of our donated food is nutritious food like fruits, vegetables, lean protein, whole grains, or low-fat dairy products.

Warehouse & facility space
1.8 million sq ft.

Average meals served annually / food bank
50,400

Neighbors in nutrition class
5,204

Vehicles in our fleets
200+

Home deliveries per week
1,000+

Total territory served
268,596 sq miles

Total pounds of produce sourced and grown in Texas
17.6 million pounds

Total local partnerships
4,000

Healthcare partnerships
20+

Free clinic sites
15+

Mobile pantry pop-ups per year
10+

Neighbors served by a mobile pantry
364

Our natural evolution from food security to clinical intervention

Partnering with health systems and Medicaid plans, we leverage our distribution network and community trust to deliver nutrition-based clinical interventions where they're needed most.

What's next?

Nourish Texas is actively expanding and deepening clinical integration with MCO partners, establishing replicable program models across additional Texas markets.

Food Access

Medically supportive food delivery supplements patient diets, making whole food and nutritional foods the easy choice.

Nutrition Education

Condition-specific nutrition education is integrated throughout our programs from bite sized texts to live courses

Wrap Around Support

Leverage resources and benefits that can you help manage your diet, health and lifestyle more easily.

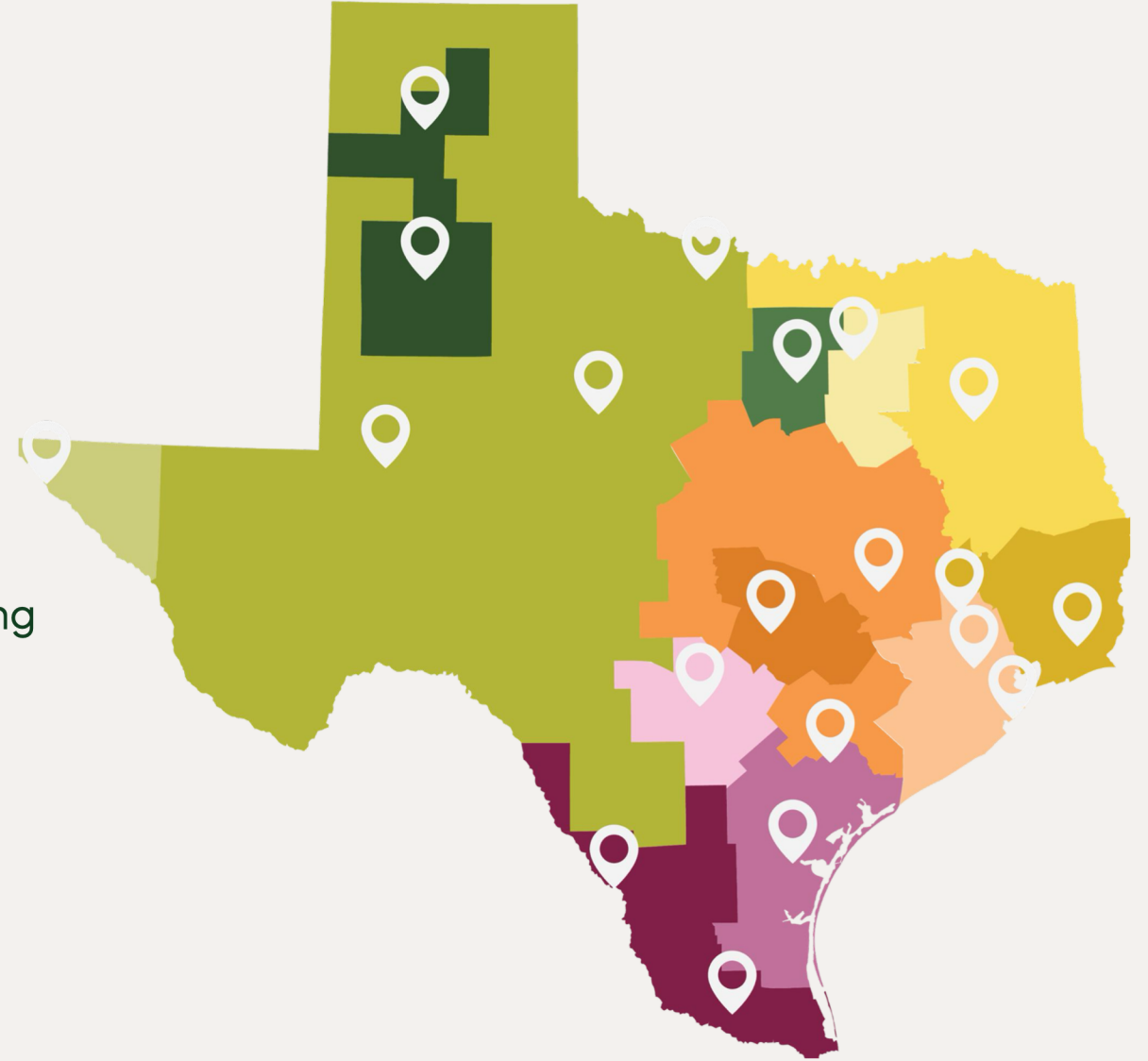
NOURISH TEXAS

Why Nourish Texas?



One end-to-end partner, rooted in the communities you serve.

- + Reduced administrative burden with simple contracting
- + Shared capabilities and learnings statewide
- + Consistent data integration and reporting



OUR VISION

Medicaid integration at scale.

WHERE WE'VE BEEN

Prove the FIM
Model

Grant Funded

WHERE WE ARE

Clinical
Intervention

PIP & Value Added Services

WHERE WE'RE GOING

Medicaid-Reimbursable
intervention at Scale

Payor Reimbursement

OUR PAST PROGRAMS

- 10+ years of...
- Emergency, crisis & short-term nutrition services
 - Grant-funded nutrition programs and healthcare partnerships

OUR FUTURE TOGETHER

- Programmatic nutrition education, food & behavior change intervention
- Value-added services tied to MCO goals
- Covered benefit
- Integrated care delivery

WHAT WE KNOW NOW

- Operational model validation
- Value of community trust & reach
- Value of reliable partnerships
- Barriers to patient engagement
- Modalities to best serve target conditions

WHAT WE CAN BUILD TOGETHER

- Clinical ROI for nutrition intervention in Texas
- Scalability of the care model
- Value case for MCO investment
- Reimbursement-grade outcomes data
- 1115 Waiver evidence base

Why Partner with Us?



1 End-to-end partner

You partner with us, and we take care of everything – from tech integration to receive referrals to food procurement and distribution, plus behavior change programming.

2 Rooted in the communities you serve

We have the **trust, relationships, and ability to reach your members.** We're dedicated to serving Texas communities for the long haul.

3 Culturally responsive by design

We source local foods when possible, and ensure menus serve a variety of cultural needs and preferences.

4 Agile and collaborative approach

We are obsessed with figuring out how to make our programs even more effective alongside our partners.

NOURISH TEXAS

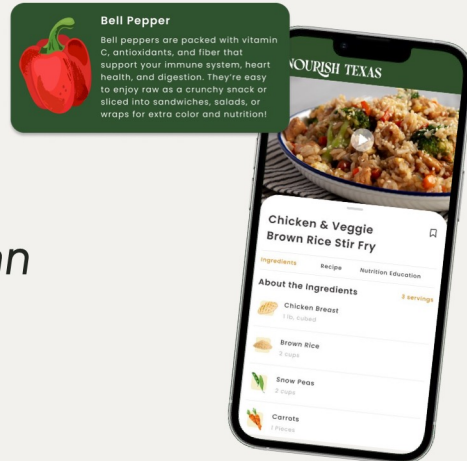
How it Works



Food plus whole patient support to drive health outcomes.

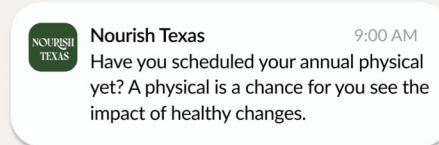
Nutrition & Disease Education

“What changes can I make to improve how I feel?”



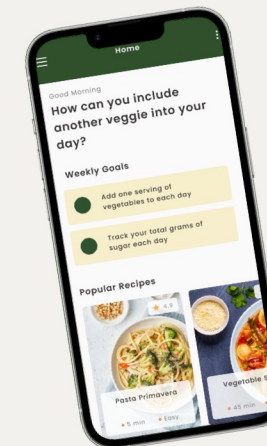
Care Engagement

“What resources do I have available through my insurance to help manage my care?”



Benefits Assistance

“How do I enroll in SNAP? What other benefits should I look into?”



Registered Dietitian Approved

“I think what I’m eating is healthy for me but I’m really not sure.”

Base Offerings at a Glance



15–30 lbs
Produce
/bi-weekly

10–20 lbs
Shelf Stable
/bi-weekly

**Medically Supportive Groceries
+ Sustained Behavior Change**

ADULTS

FAMILIES

PREDIABETES

HYPERTENSION

ELEVATED BMI

30–60% of dietary need for 6–months

Goal = Prevention



10–30 lbs
Produce
/week

5–10
Meals
/week

**Medically Supportive Meals
+ Low Prep Grocery Hybrid**

ADULTS

DIABETES

HYPERTENSION

30–60% of dietary need for 6–months

Goal = Stabilization



7–14
Meals
/week

Medically Tailored Meals

HIGH-RISK PREGNANCY

POST-DISCHARGE

CHF

UNCONTROLLED DIABETES

30–60% of dietary need for 3–months

Goal = Acute Containment

PREVENTION

EARLY DISEASE

LATER DISEASE

CRISIS

Your Costliest Conditions Are Also Your Most Nutrition-Responsive

Hypertension Most prevalent and preventable driver of CKD, CVD, and stroke (which drive inpatient spend). ADULTS PREGNANCY	Type II Diabetes Gateway to CKD, CVD, amputation, which are all preventable with nutrition management. ADULTS PREGNANCY CHILDREN	CHF Highest readmission rate of any Medicaid diagnosis. Well-documented connection between food insecurity and gap in adherence. ADULTS	CKD Fueled by Texas' high rates of ESRD, every missed early-stage intervention risks \$100K+ annually in dialysis costs. ADULTS	Obesity Obesity drives 3-4x higher Medicaid costs and is the upstream cause of your most expensive chronic conditions. ADULTS PREGNANCY CHILDREN	High Risk Maternal Health High risk maternal health (HRMH) complications are among the most expensive and preventable events. PREGNANCY
IMPACT OF DIET & NUTRITION ↓ systolic BP ↓ cholesterol	IMPACT OF DIET & NUTRITION ↓ A1C prevent medication escalation	IMPACT OF DIET & NUTRITION ↓ readmissions ↑ adherence	IMPACT OF DIET & NUTRITION ↓ dialysis initiation ↓ CKD progression in diabetic patients	IMPACT OF DIET & NUTRITION ↓ weight and BMI ↓ Type II diabetes onset ↓ blood pressure	IMPACT OF DIET & NUTRITION ↓ preterm birth rate ↓ gestational diabetes onset ↓ NICU utilization
STRENGTH OF EVIDENCE ★★★★★	STRENGTH OF EVIDENCE ★★★★★	STRENGTH OF EVIDENCE ★★★☆☆ (emerging - readmission signal strong)	STRENGTH OF EVIDENCE ★★★★☆	STRENGTH OF EVIDENCE ★★★★★	STRENGTH OF EVIDENCE ★★★★☆
SPEED OF RETURN QUICK RETURN	SPEED OF RETURN QUICK RETURN	SPEED OF RETURN QUICK RETURN	SPEED OF RETURN LONG RETURN	SPEED OF RETURN MEDIUM RETURN	SPEED OF RETURN MEDIUM RETURN (Immediate on gestational diabetes)

Lessons Learned



Food is Medicine Failure Modes

We know FIM works, but here are some common failure modes hear from MCOs and health partners when designing and implementing FIM programs.

1

THE INTERVENTION

Designing a food intervention without narrowing the target population.

Too many programs anchor to a "healthy food" frame when the clinical use case requires something much more precise.

Intervention dose, format, and length are all design variables to consider alongside the target condition and target outcomes.

2

THE ACQUISITION FUNNEL

Assuming patients will sign up without planning for acquisition.

Just because a program is free to patients doesn't mean patients will see value immediately.

Design an engagement strategy that touts the goals and expected benefits to the patient. Leverage structured referral pathways to convert the highest-need, highest-cost patients.

3

THE ACCESS BARRIERS

Under-serving the barriers to patient access.

It is critical to understand what might stand in the way of patients successfully utilizing a FIM program.

Do patients have transportation? Reliable internet service and tech? Make sure to consider access constraints to reduce friction and increase chances of adoption.

4

THE ENGAGEMENT CHALLENGE

Under-estimating what it takes to keep patients engaged.

Two table stakes considerations for FIM programs: quality food patients want to eat and nutrition education that is easily integrated into their everyday life, so they do not drop off from program engagement.

Design for a patients lack of time and integrate education in bite sized ways to promote ease of engagement.

5

THE DEFINITION OF SUCCESS

Not knowing what success looks like before you build.

Be clear on the metrics that matter most to program success, before program design is locked. Pressure-test your decisions against them as you build.

Clinical outcomes matter, but they're slow to move and often hard to attribute. Program-level metrics and participant stories are what help you learn fast, adapt, and explain why outcomes lagged or exceeded expectations.

Thank you.



NOURISH TEXAS

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BlueCross BlueShield
of Texas

BCBSTX Food As Medicine Program

June 2026



Nutrition Insecurity Impacts

Structural inequities increases food insecurity and the risk of diet-related chronic diseases for nutritionally underserved populations.

Efforts to improve nutrition security also improve inequities; health nutrition is a leading cause of illness in the U.S.

85% of health care spending is related to diet-related chronic disease and 600,000 Americans each year die due to diet related diseases such as Obesity, Diabetes, and Heart Disease.

Diet related chronic diseases disproportionately impact historically underserved population and hit hardest in communities with high food insecurity.

Racial and ethnic minority households experience food insecurity at triple the rate of white households

What is Food as Medicine?

Food As Medicine Defined:

The use of evidence-based nutrition interventions – such as medically tailored meals, personalized nutrition education, and population health policies – as a clinical tool to prevent, manage, and treat diet-related clinical conditions and food insecurity in an integrated, holistic manner. Goal is to enhance preventative care, reduce healthcare costs, and align with value-based care models by leveraging culturally relevant and sustainable practices tailored to population needs.



Nutrition
Security
Programs



Pop. Health
Policies &
Programs



Education &
Nutrition
Literacy



Nutrition
Coaching
& Dieticians



Recipe,
Nutrition &
Grocery Apps



Produce
Prescription
& Food Boxes



Medically
Tailored
Meals



OTC Cards &
Food Discount
Programs



Partnerships
i.e. Community, FQHC,
Vendors, Grocers

Stakeholder Value Proposition:

Members	Improved access to nutritious food, reduced reliance on medications and enhanced quality of life through better disease management
Providers	Improved outcomes through access to resources, and greater member education
Population	Reduced disparities in health outcome and stronger partnerships between healthcare organizations and local food systems
BCBSTX	Reduced medical and drug costs; improved quality and outcomes

Clinical Studies:

Food as Medicine is backed by a growing body of clinical evidence...

- [*Medicaid Nutrition Supports Associated With Reductions In Hospitalizations And ED Visits In Massachusetts, 2020–23*](#)
- [*Estimated Impact Of Medically Tailored Meals On Health Care Use And Expenditures In 50 US States*](#)
- [*Exploring the impact of providing Healthy Foods on Adherence and Clinical and Economic Outcomes*](#)

BCBSTX Food as Medicine Initiative Overview

National Presence, Local Care

MISSION:

Transforming healthcare from Sick-Care to Well-Care:

BCBSTX is committed to driving whole person health, fostering preventative wellness and creating food access opportunities for our members and communities through Food as Medicine Initiatives. We will work at the local level to improve access to resources, empower our members with healthy options, and innovate care delivery models.

GUIDING PRINCIPLES:

- Empowering whole person health with compassion and innovation
- Addressing NMDOH Food Insecurity
- Serving Culturally Sensitive, Population relevant
- Collaborating in Community to Close Gaps in Care
- Delivering Health Literacy Education & Tools for Permanent Change
- Prevention led multimodal experience

VALUE COMPACT:

Growth Improve Effectiveness Quality, Outcomes & HEDIS: • Reduce HbA1c • Reduce Stage 1 Hypertension • Control Blood Pressure • Improve Lipid Levels • Sustain Weight Loss 	Affordability Improve Efficiency Medical Cost Reduction • Hospitalizations/Readmits • Chronic Condition Mgmt • Prescription Mgmt. • Outpatient UM 	Operating Model Improve Experience Stakeholder Experience • Improve Provider Experience • Improve Member Access • Address non-medical drivers e.g. Food Security 
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Mobile FARMacy Collaborative Program Goals

- Goals of the Program:
 - Address NMDOH (Food Insecurity)
 - Address members with Open Care Gaps
 - Address members With Chronic Conditions
 - Provide additional needed resources/education
 - SNAP Benefit Counseling
 - Nutrition team support – recipes and health cooking tips



Program Considerations

Define shared goals

```
graph TD; A[Define shared goals] --> B[Establish partner roles and responsibilities (MCO, Provider & CBO)]; B --> C[Staffing considerations to support the program]; C --> D[Outreach to members for gap closure & food distribution]; D --> E[Parking accommodations for the mobile unit];
```

Establish partner roles and responsibilities (MCO, Provider & CBO)

Staffing considerations to support the program

Outreach to members for gap closure & food distribution

Parking accommodations for the mobile unit

Pilot Overview

Scope – BCBSTX partnered with 2 FQHC's (People's Community Clinic & Lone Star Circle of Care) to outreach members with open HEDIS Gaps and administer NMDOH assessments. Those who screened positive for NMDOH were enrolled into the food insecurity pilot program.

BCBSTX Population Health Responsibilities

- Identify Members with the following HEDIS GAPS
 - Diabetes – HBD, EED, KED, SPD, SSD, BPD,
 - High Blood Pressure – CBP, SPC
 - Screenings – BCS, CCS, COL, AAP, CIS, WCV, WCC
- Perform outreach to Texas Medicaid members to secure appointments for HEDIS gap closures and schedule members for Mobile FARMacy appointments,
- Provide BCBSTX support to assist with the Mobile Farmacy shopping experience

FQHC/Provider Responsibilities

- Scheduling all appointments
 - For HEDIS Gap Closure
 - For Food Distribution
 - Providing outcome results
 - Staffing support during events
 - Open communication with CTFB & BCBSTX

CTXFB Responsibilities

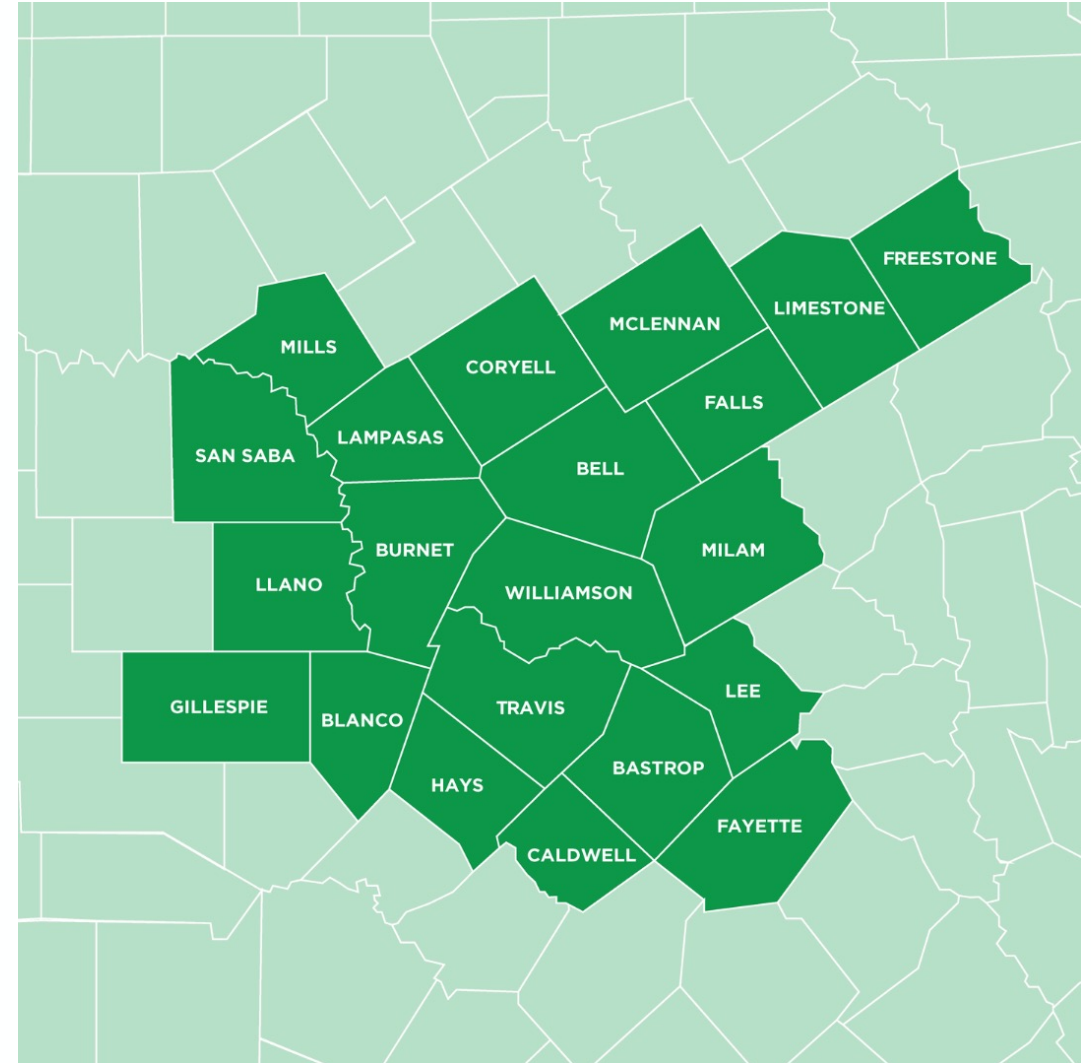
- Provision of Mobile FARMacy onsite at FQHC
- Providing outcome results
- Open communication with FQHC & BCBSTX

Member Outcomes

- HEDIS Gap Closure, improved dietary behaviors, better chronic disease management (A1C, blood glucose, bp-control, weight loss) connections to long-term resources and increased engagement in care.

Who We Are

- We are the largest hunger-relief organization in Central Texas and a member food bank of Feeding Texas and Feeding America.
- Founded in 1981, CTFB provides food and grocery products through a network of nearly 250 nonprofit community partners and direct-service programs, serving about 610,000 people every year.
- Headquartered in Austin, CTFB serves 21 counties in Central Texas.



Programs and Services

CHILDREN

- After School Meals
- Back Pack Program
- Summer Meals
- School Pantries
- College Pantries

FAMILIES

- Mobile Pantry + Food Fairs
- Partner Agency Network
- Home Delivery
- Military Pantries

OLDER ADULTS

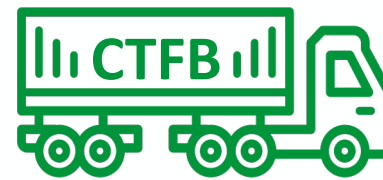
- CSFP – Senior Food Box
- HOPE – Healthy Options for the Elderly
- Golden Harvest

HEALTH + WELLNESS

- Nutrition + Garden Education
- Mobile FARMacy
- Healthcare Pantries
- Food is Medicine Initiatives, including Medically Tailored Meals

EMPOWERMENT

- State Benefits Assistance
- Onsite Pantry
- Helpline
- Workforce Training
- Employment Resources



Individuals | Corporate Partners |
Retailers | Food Manufacturers |
Local Farms | Foundations | USDA



Partner Agencies | Mobile Food Pantry
| Programs | Social Services

Neighbors In Need

Food is Medicine at CTFB

PROGRAMS

- Medically tailored meals and meal kits
- Mobile FARMacy
- Onsite healthcare pantries
- Home delivery
- Wrap-around services: SNAP enrollment, nutrition education, and workforce programs

CUSTOMERS AND PARTNERS

- Federally qualified health centers
- Community health centers
- Rural health nurse
- Mental health centers
- Payers
- Health systems



Mobile FARMacy

Healthcare providers “prescribe” fresh foods, which patients can access right outside their clinic in our air-conditioned Mobile FARMacy.

- Fresh produce, lean proteins, and dry goods
- Dignified grocery store experience
- Nutrition education with samples & recipes

14 distribution sites with ~22 distributions a month across Travis, Williamson, Hays, Bastrop, and McLennan counties



In Fiscal Year 2025:

- Distributed 295,4255 pounds of food to 3,356 households (unduplicated)
- Distributed 2,300+ pounds of organic produce from CTFB's garden

People's Community Clinic

- Founded in 1970
- Serving over 21,000 patients annually
- Providing adolescent, adult, pediatric, and women's health services
- Federally Qualified Health Center since 2012
- Patient-Centered Medical Home designation since 2014



People's Mobile FARMacy: Design & Workflow

- **Key staff to involve:** population health, community health workers, clinical operations, front desk, facilities, executive/leadership team
- **Event prep:** setup the space (parking!), patient outreach, confirm staff, establish communication strategies
- **Day-of event activities:**
 - 1) Facilitate grocery shopping,
 - 2) Review/close care gaps,
 - 3) Complete PRAPARE screener,
 - 4) Remind patients of upcoming medical/dental appointments and Mobile FARMacy dates
- **Post-event:** pop health data analysis and chart reviews



People's Mobile FARMacy: Patient Engagement

Total individuals served across all 6 events: 364

People's Epic chart-reviewed data as of 3.25.2026

Event Outcomes	# Patients					
	30-Sep	4-Nov	2-Dec	6-Jan	3-Feb	3-Mar
# Patients Served on Event Day	56	50	54	74	83	72
# Non-PCC Patients Served	3	6	1	3	2	1
# Care Gaps Closed	94	41	96	61	80	70
# BCBS Patients Served	13	14	31	31	27	19
# BCBS Care Gaps Closed	33	19	87	25	32	31
# PRAPARE Screeners Completed on Event Day	3	26	18	20	24	20
# PRAPARE Screeners Previously Completed	18	13	27	42	38	37
# Patients Who Need to Complete PRAPARE Screener	31	8	10	12	21	14

People's Mobile FARMacy: Clinical Outcomes

People's org-wide vs MF cohort quality outcomes over time: Sept 2025 vs March 2026

People's Azara data as of 4.8.2026

Measure	People's Org-Wide Rate Sept 2025	People's Org-Wide Rate March 2026	People's Org-wide % Improv't	MF Cohort Rate Sept 2025	MF Cohort Rate March 2026	MF Cohort % Improv't
Childhood Immunization Status	48.4%	48.8%	0.4%	36.4%	40.0%	3.6%
Child Weight Assessment / Counseling for Nutrition / Physical Activity	86.0%	86.5%	0.5%	92.6%	93.9%	1.3%
BMI Screening and Follow-Up 18+ Years	84.1%	87.1%	3.0%	91.7%	95.5%	3.8%
Hypertension Controlling High Blood Pressure	75.4%	72.6%	(2.8%)	75.7%	85.0%	9.3%
Diabetes A1c or GMI > 9 or Untested	27.1%	29.2%	2.9%	35.5%	21.9%	(13.6%)
Depression screening	74.0%	77.4%	3.4%	82.3%	82.8%	0.5%
Colorectal cancer screening	55.1%	55.3%	0.2%	71.9%	72.4%	0.5%
Cervical cancer screening	78.5%	79.7%	1.2%	87.6%	91.4%	3.8%



People's Mobile FARMacy: Patient Stories



- A mother of 2 BCBS children came back to clinic for another Mobile FARMacy event, and now her children are up to date on their well-child visits
- A 4-year-old boy standing in line outside the Mobile FARMacy with his mother kept pointing energetically at the pictures of fruit on the van, saying things like “let’s get some apples!”
- A 41-year-old woman, a returning Mobile FARMacy attendee, said she was excited to see us again

A Note of Thanks and Recognition

The People's Community Clinic is grateful for the partnership and collaboration of Blue Cross Blue Shield of Texas and the Central Texas Food Bank. Through the Mobile FARMacy program, our patients gained access to nutritious food while engaging more fully in their medical care – creating meaningful, health-promoting experiences for our community.



Contact Information

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Evaluation of the impacts of the HFB Food Rx on high-risk pregnant mothers

UTHealth Houston School of Public Health
Community Health Choice
Houston Food Bank

Funding: Episcopal Health Foundation



About Community Health Choice

Community Health Choice is a local, nonprofit, managed care organization committed to helping improve the health and well-being for Texas residents.

Launched in 1997 by Harris Health System, our region's public academic healthcare system, we began by offering STAR Medicaid coverage to low-income children.

Our mission is to improve the health and well-being of all Texans, particularly the underserved, by opening doors to healthcare and health-related services.

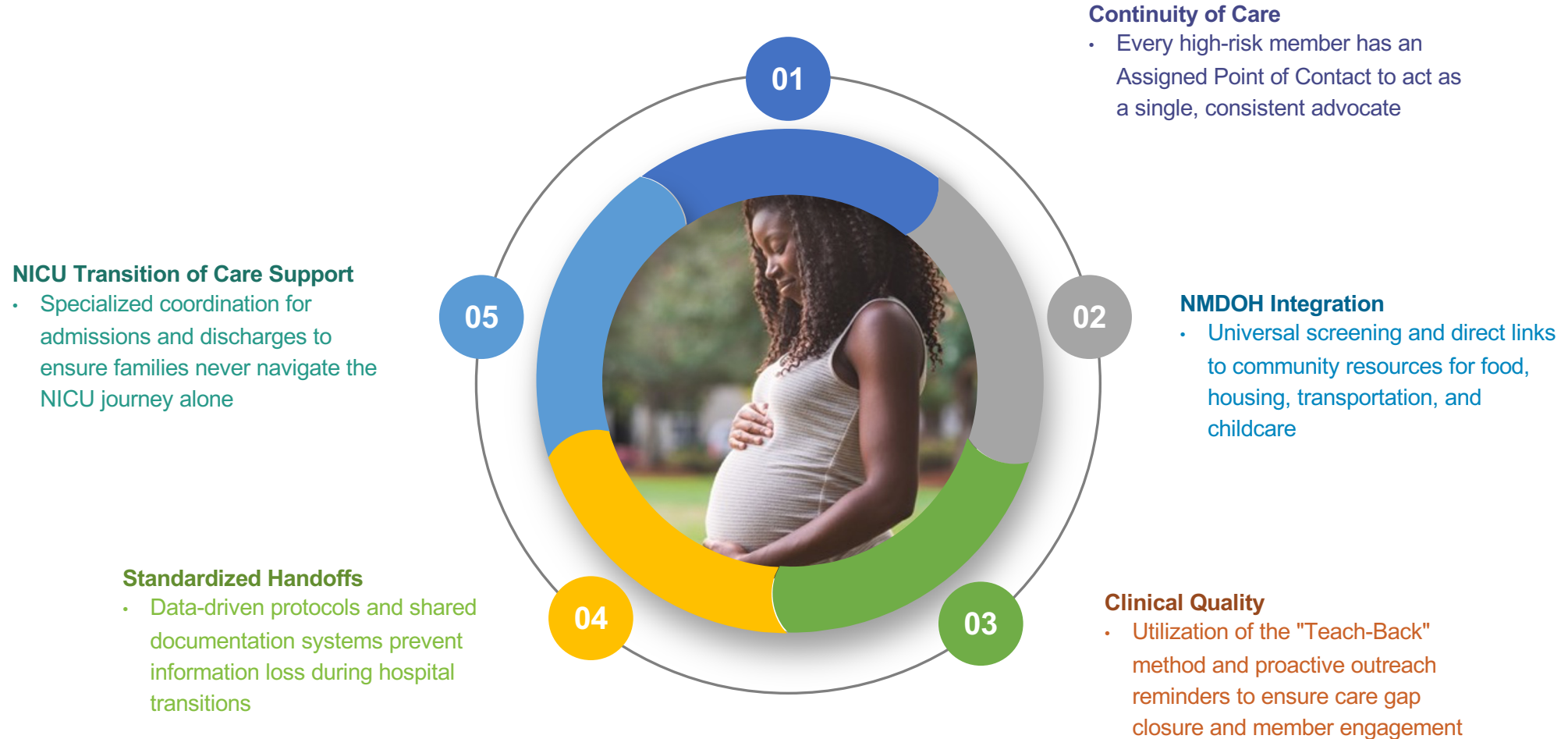
Our Lines of Business



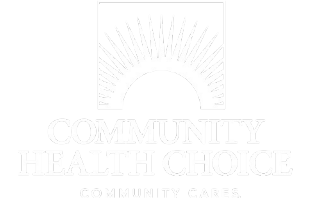
Our Service Area



A Seamless, Whole-Person Journey



Integrated CHW Pathway Support



Grounded in the Community Health Worker (CHW) model, this integrated set of services delivers comprehensive, community-based care that proactively supports health promotion and management, expands access to care, and encourages proactive prevention.

Outreach aimed at improving checkup and immunization adherence and addressing barriers to preventive care

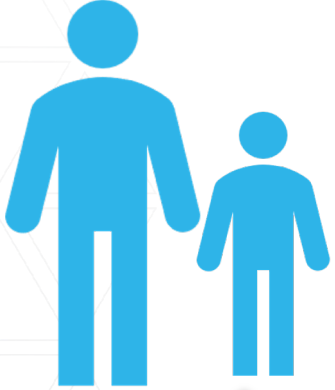
Specialized ER diversion services to support at-risk members (includes NMDOH screening & referral management)

Connecting high-risk pregnant beneficiaries with community programs to bolster engagement and improve outcomes

Home visit services to engage difficult-to-reach and high-risk populations and ensure they receive necessary care management support

Our Commitment to the Non-Medical Drivers of Health

Community's Pillar Based Programs



Addressing health and well-being means going outside the clinic walls and investing in health-related factors found in one's living and working conditions.



ECONOMIC
STABILITY

+



HOUSING

+



EDUCATION

+



SOCIAL

+



FOOD &
NUTRITION

Rationale

FOOD INSECURITY DURING PREGNANCY



Pregnant women are at particular risk for food insecurity.

- nutrient demands are higher,
- the effort required for food preparation may be more challenging,
- pregnant women maybe obliged to leave the workforce, especially in later pregnancy, which leads to financial strain

Food insecurity and poor diet quality during pregnancy may be associated with multiple pregnancy complications. E.g.

- low birth weight,
- excess weight gain
- gestational diabetes

Both the risks and outcomes of food insecurity in pregnancy are exacerbated among low income women

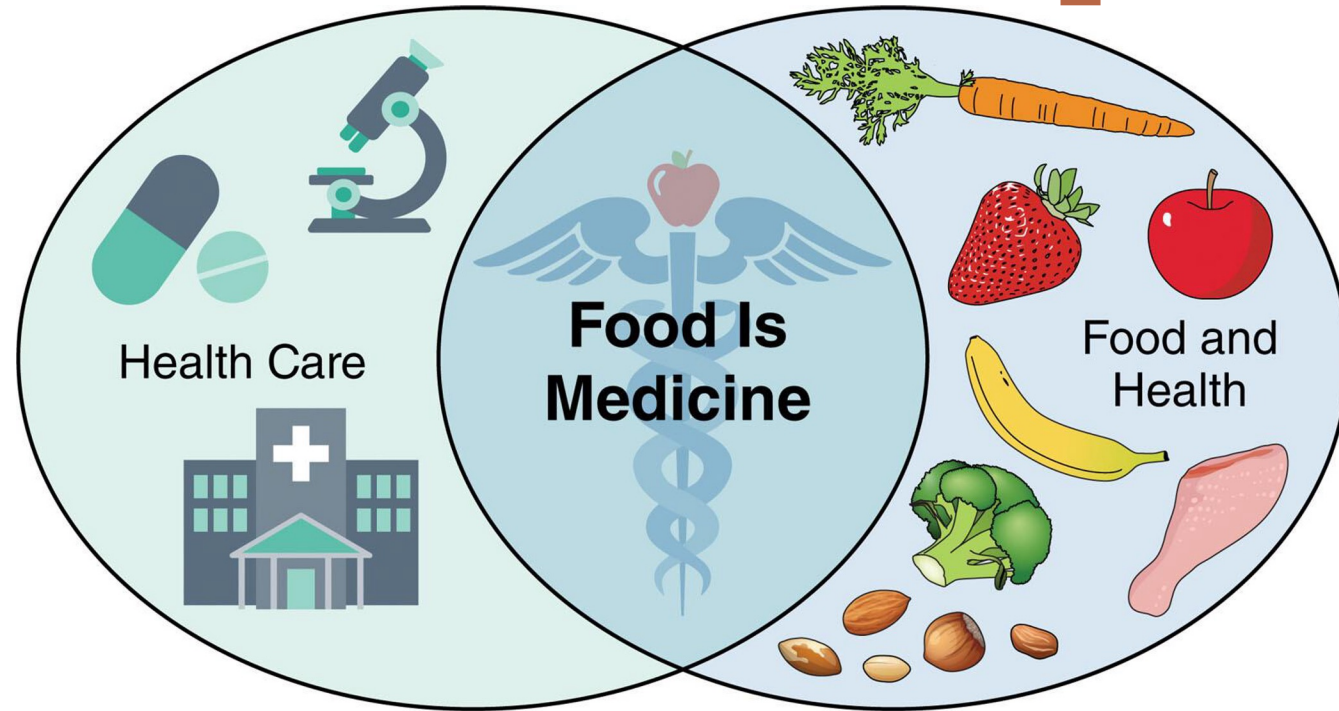
Addressing food insecurity in pregnancy among low-income women could be a viable and potentially cost-effective prevention strategy to improve maternal morbidity and mortality.

Food Is Medicine

Food Is Medicine (FIM) is the provision of healthy food to prevent, manage, or treat specific health conditions in a way that is integrated with your doctor's clinic and/or hospital system.

- ❑ Medically Tailored Meals*
- ❑ Produce Prescription Programs*
- ❑ Medically Tailored Groceries*
- ❑ Culinary medicine

Nutrition education and connection to other resources such as SNAP/WIC are effective.

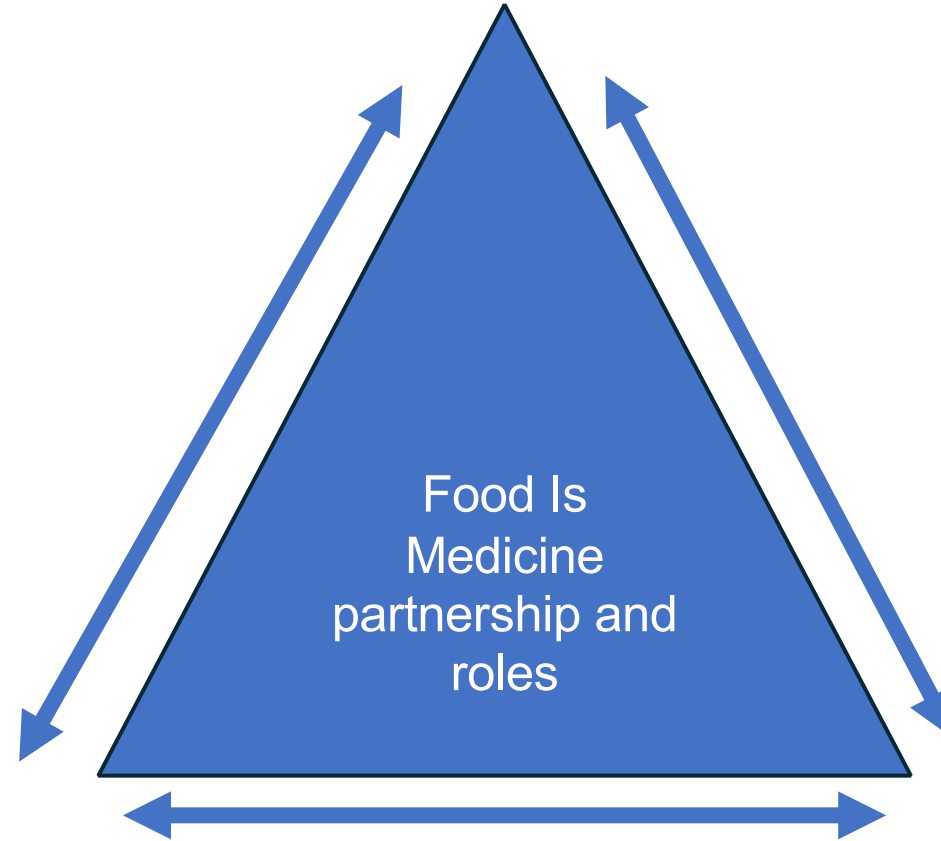


Volpp, K, Berkowitz S, Sharma SV., et al. Circulation. Food Is Medicine: A Presidential Advisory From the American Heart Association, Volume: 148, Issue: 18, Pages: 1417-1439, DOI: (10.1161/CIR.0000000000001182)

HFB FoodRx for CHC high-risk pregnant members

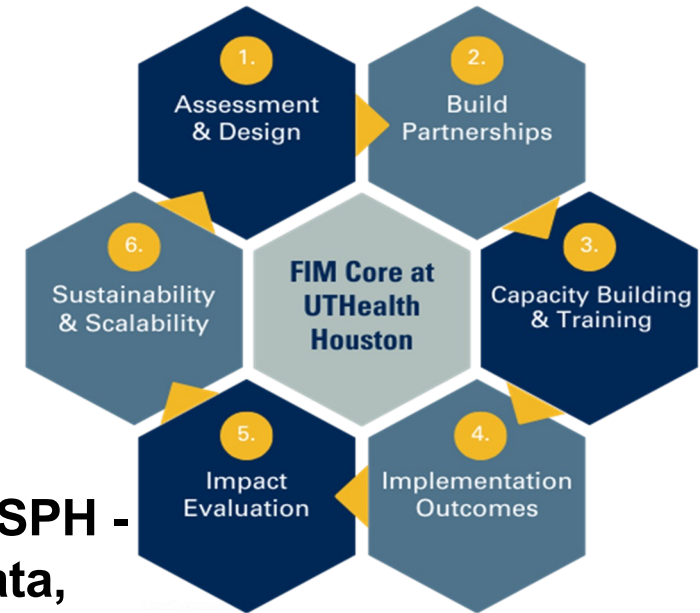
Community Health Choice
Managed Care
Organization

Screening, referral, care
coordination, data
sharing



Houston Food Bank
FIM Program Provider –
Enrollment, Healthy Food
Provision)

UTHealth Houston SPH -
Coordination, Data,
Evaluation, Reporting



FoodRx

In partnership with houston  foodbank

How does it work?



Screened by
Healthcare
Partner/
Stay in Community
Health Program



Get **FoodRx**
card



Get groceries
from
Food for Change
Market

FoodRx participants may redeem benefits 2x/month at Food for Change Markets, where they receive nutritious food and access to nutrition education resources.



Objectives

- Quasi-experimental study to examine the impacts of a real-world implementation of HFB FoodRx on selected incident pregnancy and birth outcomes, as well as 3-month or 6-month change (with pre- and post- measures) in various dietary outcomes, among high-risk pregnant women who are Community Health Choice (CHC) members. We also compared our overall pregnancy and birth outcomes findings to the state and national averages in the same time period.

Process Assessment: Are we implementing as planned?

Redemption rates

Participant's experience with redemption process

Reasons for incomplete redemption

Satisfaction with food provided through FoodRx

Usage of food provided through FoodRx

Redemption rates

Limited to 186 women who were eligible for at least one home delivery

	Range	Median (IQR)
Number of eligible redemptions	11-22	15 [13,17]
Number of completed redemptions	0-17	4.5 [1,8]
Food redemption rate (%) – completed / eligible	0-94%	31 [9, 53)

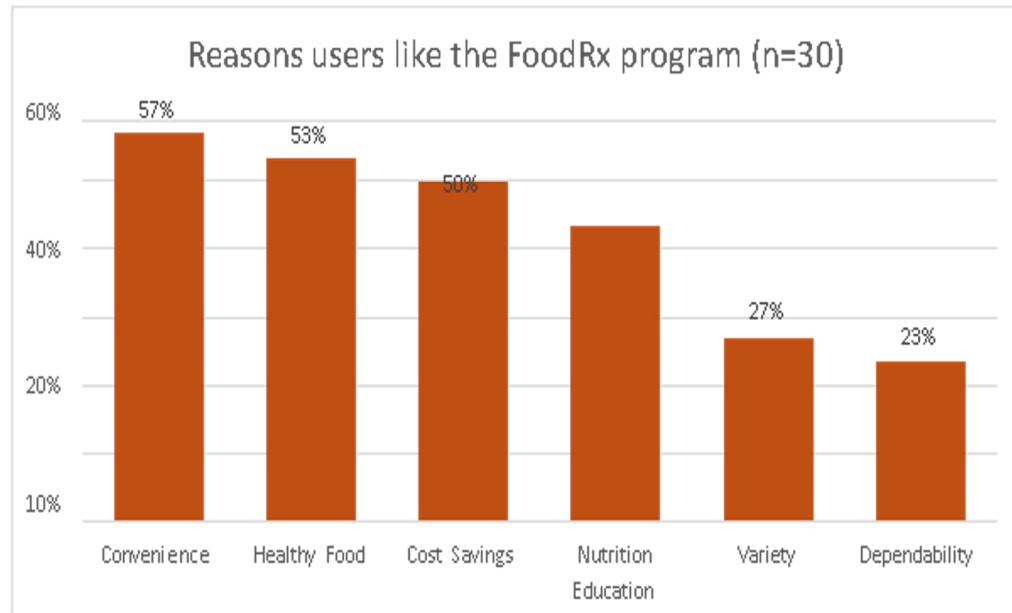
27/186 (14.5%) participants did not claim their delivery or visit a food pantry even once.

Satisfaction and food consumption (n=30)

Satisfaction

Overall, do the food items available in the Food Rx delivery meet your needs and preferences?

Not satisfied	10%
Somewhat satisfied	53%
Completely satisfied	37%



Proportion of box consumed:

% of fruits consumed	78%
% of vegetables consumed	76%
% of other items consumed	72%

Sharing behavior:

- Of the food that was consumed, approximately 65% was consumed (on average) by the participant, and the remaining 35% by family members.

Almost all participants agreed that the food was healthy, that they needed the food, that they liked the kind of food that was being provided.

Hypotheses examined for behavior and health outcomes:

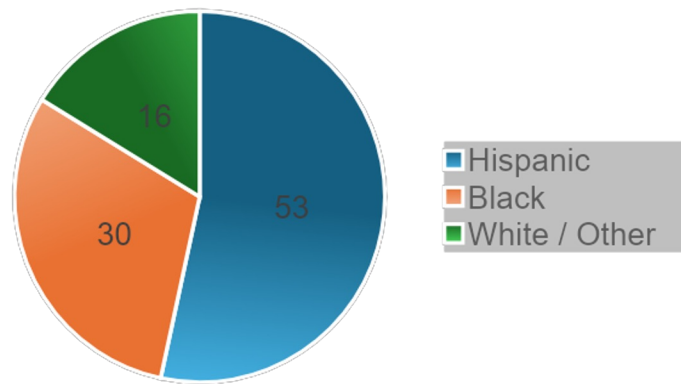
Does exposure to a biweekly home food delivery program

- improve pregnancy outcomes (incident GDM, HTN, low birth weight, macrosomia, and C-section)
- result in positive changes in dietary behaviors
- improve self-rated health.

Is strength of response dose-dependent

- Does number of redemptions impact self-rated health, pregnancy outcomes and dietary behavior.

Race/ethnicity

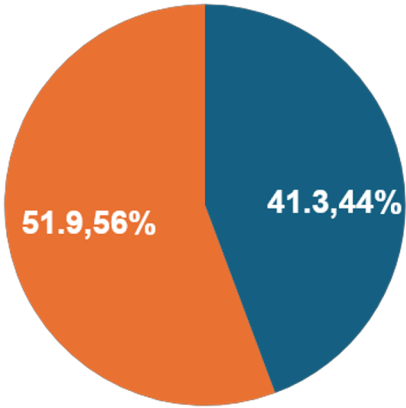


Prior Medical History	%
% Gestational diabetes	9%
% Pregnancy hypertension	12.9
% Preterm birth	14.2
% Low-birth weight baby	7.1
% None of the above	60

Baseline health indicators (n=186)

Self-rated health

Poor or Fair
Good / Very Good / Excellent



Daily fruit intake in cups (median [IQR])	0.84 [0.62, 1.18]
Daily vegetable intake in cups (median [IQR])	1.22 [1.06, 1.47]
Protein intake, times/week (median [IQR])	2.00 [0.62, 3.50]
Whole grain intake, times/week (median [IQR])	2.20 [0.62, 3.50]
Milk intake, times/week (median [IQR])	3.50 [0.62, 5.50]

Does exposure to FoodRx improve pregnancy and birth outcomes

We calculated the incidence rates of selected pregnancy and birth outcomes in the FIM-exposed groups

- gestational diabetes, pregnancy hypertension and birth outcomes (low birth weight and macrosomia)

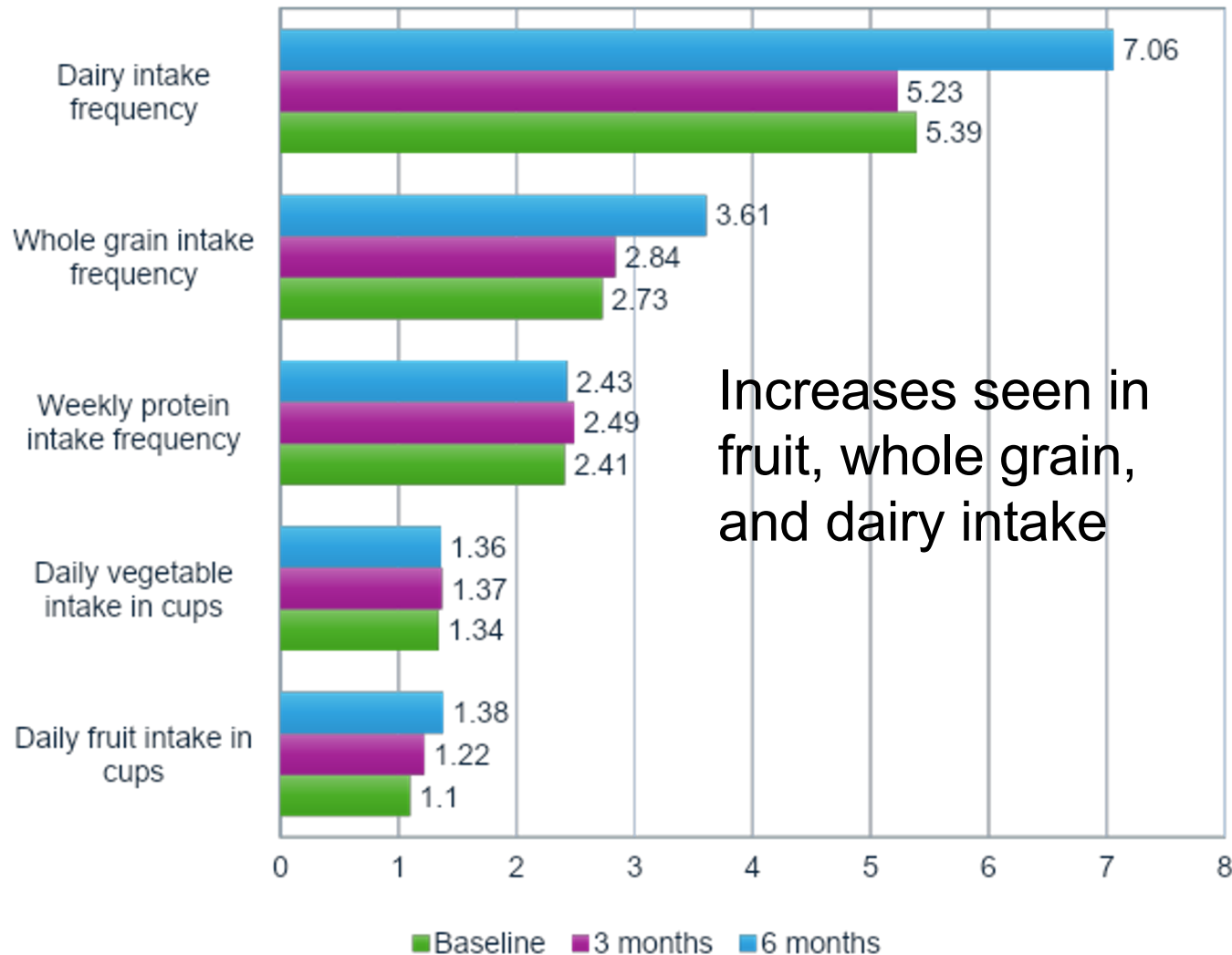
In the absence of a control group, we compared these calculated rates to incidence rates in comparable populations that were not exposed to FIM interventions, using a one-sample binomial test.

- Incidence rates for comparable populations were obtained from published data for the state of Texas.

Race/ethnicity	Hispanic	Black	White / Other	Overall
n of participants	102	54	22	186
Incidence rate of GDM in our sample (%)	12.7	3.7	9.1	9.7
<i>Prevalence of GDM (%) in Texas women</i>	8.6	5.6	6.1	7.6
<i>Prevalence of GDM (%) in a Medicaid population</i>	No race-specific data available			14.0
Incidence of HTN in our sample (%)	11.8	14.8	36.4	15.1
<i>Prevalence of HTN (%) in Texas women</i>	9.1	12.7	10.9	9.9*
<i>Prevalence of HTN (%) in a Medicaid population</i>	No race-specific data available			17.7

Race/ethnicity	Hispanic	Black	White / Other	Overall
n of participants	102	54	22	186
Incidence of LBW in our sample (%)	5.9	5.6	9.1	6.5
<i>Prevalence of LBW (%) in Texas women</i>	<i>No race-specific data available</i>			8.6
<i>Prevalence of LBW (%) in a Medicaid population</i>	7.3	15.5*	9.3	11*
Incidence of macrosomia in our sample (%)				4.8
<i>Prevalence of macrosomia (%) in US women*</i>	<i>No race-specific data available</i>			8.1
<i>Prevalence of macrosomia (%) in a Medicaid Population</i>	<i>No race-specific data available</i>			6.5
Incidence of C-section in our sample (%)				34.9
<i>Prevalence of C-section (%) in Texas women</i>	<i>No race-specific data available</i>			34.5

6-month changes in dietary intake:



Other covariates associated with dietary intake:

- Black race/ethnicity (significantly higher fruit consumption than Hispanics)
- SNAP/WIC enrollment, associated with higher dairy consumption
- Age, household size, food insecurity, nutrition insecurity did not predict dietary intake

Dose-response impacts on dietary intake

	Coefficient	p-value
Fruit intake	0.048 (0.021)	0.016
Vegetable intake	0.026 (0.012)	0.031
Protein intake	0.126 (0.071)	0.075
Whole grain intake	0.128 (0.093)	0.171
Dairy intake	0.844 (0.259)	0.001

SELF-RATED HEALTH

Participants had increased likelihood of reporting good, very good, or excellent health after three months of program participation.

- Conditional logistic regression showed a significant increase in the odds of reporting good/very good/excellent health after 3 months of exposure to FIM (OR (95% CI) = **3.18 (1.62, 6.26)**.
 - Self-rated health (5-point scale), a measure of subjective well-being, is known to predict mortality, future functional status and outcome of treatment across multiple subgroups. Well correlated with various inflammatory and metabolic markers, and mental health.

Summary of impact evaluation



Overall, rates of GDM, HTN, LBW, and macrosomia were lower in the FIM-exposed sample as compared to the Medicaid population

Suggests that exposure to the FIM program may have resulted in some improvements in rates of adverse pregnancy and birth outcomes.
No dose-response effect



Impact on dietary behaviors in this population, apart from a slight increase in fruit intake, were minimal.

However, strong indication of dose-response effect, with larger improvements seen in those with greater numbers of redemptions.



Significant improvement in self-rated health in the participants over the course of the intervention.

No dose-response effect

Thank you

We would like to acknowledge and thank the members of our Community Advisory Group of mothers in Houston, TX that have been providing input on FIM research and practice efforts since March 2024.

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The background features abstract geometric shapes in various shades of blue. A large, dark blue rounded rectangle is positioned on the right side, partially overlapping a light blue rounded rectangle on the left. Above the dark rectangle is a medium blue semi-circle. Below it is a light blue semi-circle. At the bottom, there is a medium blue square and a light blue rounded rectangle. The text 'Q&A' is written in white on the dark blue rectangle.

Q&A