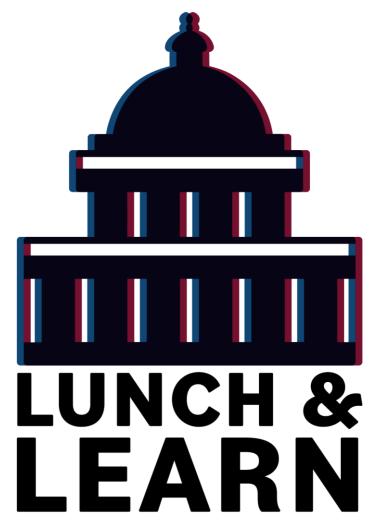




Food Prescription Programs in Texas

A Texas Research-to-Policy Collaboration (TX RPC) Project Lunch & Learn Presentation



Welcome!

- Today's room is sponsored by Representative Thompson thank you!
- About the TX RPC Project
- New Health Policy Resources: Grocery Gap, SNAP Gap, SNAP and Health Outcomes, SNAP and Economic Benefits
- Dr. Alexandra van den Berg Food Systems
- Dr. Shreela Sharma Food Prescription Programs in Texas
- Next Lunch & Learn: December 7, 2023 (Legislative Conference Center) @ 11:30 a.m.







Funding provided by:







Texas Research-to-Policy Collaboration (TX RPC) Resources





Collaboration Meetings



TX RPC Health Policy Reports



TX Child Health Status Reports



Rapid Response Requests



Center Webinars



TX RPC Newsletters



TX Legislature Bill Tracker









Texas Health Policy Resources



KEY TAKEAWAYS

- 1. More than 60% of Texas 8th and 11th graders report spending more than 4 hours in front of a screen per day. Increased screen time has been associated with sedentary behaviors, and negative physical and mental health outcomes. Despite some negative outcomes associated with screen time, social media networking has helped adolescents discuss and seek advice for mental health questions. Clinicians and researchers have also utilized digital tools to reach adolescent
- 3. Recommended policies to address screen time include helping teanagers balance the positive and negative effects of supporting research on how to best use technology to reduce health inequities and increase positive health outcomes in



Teenagers are spending increased time online. Approximately 46% of U.S. teens say they are online almost constantly. (1-4)

has increased in recent years, with 95% of teens reporting owning or having access to a smartphone in 2022, compared to 73% of students from 2015-2016. (3)

There are concerns about how technology influences adolescent lives, including contribution to lower levels of physical activity, decreased interpersonal connection skills, and increased rates of depression and anxiety, (5-7)





Approximately 46% of girls always about their body image







· Body dissatisfaction has been linked to risk-taking behaviors

Approximately 40% of adolescents say that images from social

caused them to worry about their body image or weight. (9)

As adolescents develop their own definition of the "ideal a media and other personal factors may contribute to low

feelings of depression, and the need to conform to influenc

health problems, with poor body image also preventing adole









1. When kids live in households that do not have adequate access to grocery stores or other food retailers that offer oper immunity, reduces infections, and reduces infent nutritious foods, they are more likely to get sick and miss school, which could lower academic performance and test ality. (9-11)

communities by spurring economic growth and creating jobs.

Grocery Gap is the lack of access to nutritious, affordable, and higher quality foods in many low-income communities due to a lack of grocery stores in the community. (1)

· People living in areas lacking grocery stores, also known as food deserts, are more likely to experience food insecurity. (2)

Grocery Gap

- Food insecurity is defined as the lack of consistent access to enough food for every person in a household to live an active, healthy lifestyle, (2,3)
- communities. These communities are less likely to have large supermarkets in the area, but more likely to have smaller stores with limited healthy food choices. (1)
- Lower-income zip codes have 30% more convenient their areas than zip codes with higher incomes. (1)
- which is often referred to as a "food swamp



 Lack of transportation access to many stores, especially in rural and lower-income areas, exacerbates food insecurity for many residents. Living in an area with limited public transportation forces residents to rely on their own transportation to and from

. Food deserts can be caused by a lack of public transit

Living in food deserts is frequently associated with higher rates of individuals experiencing food insecurity, and with chronic diet related diseases such as cardiovascular disease, diabetes, and



Paid Family Leave and Maternal & Infant Outcomes

Background

Enacted in 1993, the Family and Medical Leave Act (FMLA) is a federal policy implemented to support parental and family leave within the United States. The FMLA allows for 12 weeks of unpaid, job-protected leave to qualified workers with continuous health insurance coverage following the birth, adoption, or placement of a foster child. With Paid Family Leave (PFL), parents and infants have adequate time to receive postpartum medical care. Approximately 56% of workers in the U.S. qualify for FMLA, which excludes many parents who may earn lowe incomes and do not have the ability to take time off of work. (1-3)



Whom Does FMLA Impact?

The FMLA and PFL primarily benefit higher-income individuals. (1) Since the FMLA only assists by providing unpaid leave to workers who qualify for the benefit, parents who earn lower wages may not be able to take time off because they will lose wages in order to take care of a child. (1

Leave & Maternal and Child Wellbeing

roves mothers' mental health by decreasing postpartum psychological distr ners are 9% more likely to report positive mental health and 5% more likely t day demands of parenting. (5)

oves both mother's and fathers' health by decreasing their risk of being of asing their consumption of alcohol by an average of 12%. (6) ers better child-parent relationships by allowing parents time to bond regiving skills, which leads to mothers spending more time with their balt gether, or going on outings more frequently, (7-8) ves child health and development:

ases the likelihood of initiating breastfeeding, which builds

uces the likelihood of low birthweight and preterm births eases the likelihood of re-hospitalization within the first

ases timely immunizations and well-child visits for the

uces rates of physical abuse in children below age 2, (15) aces the likelihood of asthma, overweight, Attention cit/Hyperactivity Disorder (ADHD), and communication s through elementary school, (16-17)



Maternal & **Child Health**

KEY TAKEAWAYS

- 1. The quality of a mother's health before, during, and after pregnancy has life being of both mother and baby.
- 2. The maternal mortality crisis is compounded in Texas by the number of maternal 3. The best approach for preventing maternal death is ensuring adequate her after pregnancy
- 4. Midwives, doulas, home-visiting nurses, and community health workers workforce, especially in rural communities
- 5. Ensuring adequate and timely data collection and analysis of state materna

TIM

The quality of a mother's pregnancy determines the well-being of her infant and is also the time when the foundations of a child's lifelong health are built. (1)

stress hormones, or exposure to toxins are linked to disease outcomes later in life through: (a) physiologic changes that can impact either the developing fetus directly or (b) the health of the mother, which in turn affects fetal development. (2.3)

Pregnancy can also impact the health of the mother beyond the birth of her child.

- · Some women will develop medical issues like pre-eclampsia or gestational diabetes during pregnancy. (4) These issues can lead to long-lasting impacts.
- Women with these conditions see higher lifelong risks for cardiovascular disease, type 2 diabetes, and stroke. (5)
- Pre-eclampsia, a serious form of high blood pressure during pregnancy, is linked to hemorrhaging, one of Texas's leading causes of pregnancy-associated deaths, (6.7)

maternal mortality crisis in the U.S. is well documented

 The most recent data published in 2022 by the National Center for Health Statistics show 23.8 maternal deaths for every 100,000 live births in 2020, up 36% in just two years from 17.4 per 100.000 in 2018. (8)

women in the U.S. are almost three times as likely to die from pregnance

Economic and Business Benefits of SNAP

KEY TAKEAWAYS

- SNAP benefits lead to positive economic impacts at the local, state, and national levels by generating economic activity for food retailers and manufacturers and creating jobs in a variety of sectors.
- 2. SNAP participation improve health outcomes, saving states like Texas thousands of dollars per person even year through reduced healthcare costs

Overview of SNAP

The Supplemental Nutrition Assistance Program (SNAP) is a federal nut administered by each state. SNAP provides benefits that supplement the nutritional quality for eligible adults and children. (1)

- . More than 41 million U.S. residents (12% of the U.S. population) and 3.4 million Texans (11% of the state's population) received SNAF henefits in 2022 (2)
- · More than 79% of SNAP participants in Texas were families with children, and around 27% of recipients were families with older adults or people living with a disability (3)
- SNAP enrollment and utilization of benefits boost local economies and create jobs, creating an economic stimulus for communities. (4,5)
- · SNAP is associated with reduced healthcare costs and improved health people with disabilities, resulting in healthcare savings. (3)

SNAP Boosts Local and Farm Economies

- SNAP benefits are considered one of the most direct and effective forms of e . For every \$5 in SNAP benefits spent at local grocery stores or farm stand
- the surrounding community. (6) Every \$1 billion of SNAP benefits distributed creates about 15,000 full-
- are lost with each \$1 billion cut in SNAP funding. (6)

Every \$1 billion of SNAP benefits distributed













Social-Emotional Learning 4-7



Building Responsible and

irritable and display anger

Learning (SEL) can help to develop responsible and resilient youth.

Resilient Youth

What is the problem? 1-3



autcomes, develop empathy for others, recognize supportive relationships, and engage in responsible decision-

SEL also teaches children about civility and citizenship. Asking students how they think they want to be treated and





Children who experience behaviors that negatively impact relationships, such as bullying

This can lead to a cycle, as students who exhibit frequent outbursts, anger, and spiraling emotions are more likely targets for bullies. In other words, bullying leads to emo dysregulation which triggers further bullying.

manipulation, and rumor-spreading, are more likely to have emotional outbursts, be



help students learn what is making them sad or angr

Playing games that encourage mindfulness and movement activities, such as the <u>Calm</u>

app or GoNoodle.com

















Rapid Request Responses

- Legislators complete the <u>Rapid Response</u>
 Form
- TX RPC Project team will conduct research and prepare report based on requested topic
 - Reports reviewed by TX RPC researchers, UTHealth Government Relations
- Provide requested information to legislator

College Students and SNAP Utilization

Student Demographics [1]

Most of roday's college and other post-secondary students, about 71%, are considered "non-traditional" students. They may be financially independent from their parents, work full time, are enrolled part-time, are careakers, or do not have a traditional high school diploma. The average age of college enrollment is 21, but 26 is the average age for all college students. More than one in five (22%) college students reponted being parents or caring for a child dependent, with 14% stating they are single parents.

Food Insecurity Impacts Education [1-3]

According to a 2020 survey, more than a flith of research university students (22%) reponted food insecurity. Students who are under 21 are less likely to report food insecurity, but students over 30 are more likely to be hungry. Despite these high rates of food insecurity, even before COVID-19, while more than one in six (18%) college students were eligible, only 3% of college students were receiving Supplemental Nutrition Assistance Program (SNAP) benefits.

In a 2016 study

- Nearly a third (32%) of food insecure students believed hunger impacted their education
- More than half (55%) reported that hunger kept them from buying textbooks
- A quarter (25%) of students who reponed food insecurity also reponed dropping a class.
- More than half (53%) of students reported missing class in 2016 due to hunger

The Policy Landscape [4]

In December 2020, the US House passed the Consolidated Appropriations Act (CAA). This act carved out an exception for higher education students enrolled at more than half-time, who were previously inedigible to receive Supplemental Nutrition Assistance Program (SNAP) benefits if they mer centain criteria: They must be eligible for Federal Work Study and have an expected family contribution of \$0. This exception will be in effect through the end of the declared COVID-19 Public Health Emergency (PHE), which is currently set to end on October 13, 2022, though it has been extended multiple times.

b D----lb-

Summary of Search Results

Based on a preliminary search for legislation related to college students and SNAP, the TX RPC project team identified four states that have proposed or passed relevant legislation. Three states (Louislana, Connecticut, and California) enacted laws related to this issue. One state (West Virginia) had Senate and House companion bills that appear to have stalled in committee.

It is important to note that no states have made the exception permanent because the rules about SNAP eligibility and college enrollment are set at the federal level and cannot be expanded at the state level.

















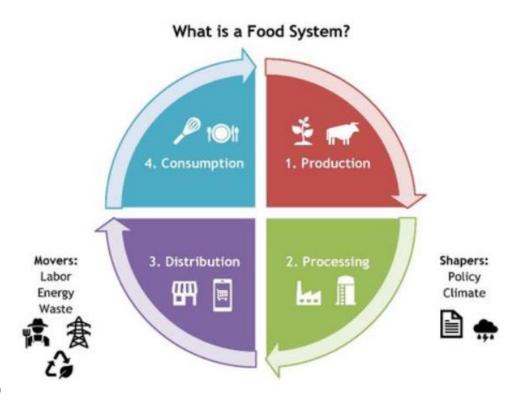
Food Systems and Food Insecurity

Alexandra van den Berg, PhD, MPH Professor, UTHealth Houston School of Public Health in Austin

Associate Director, Michael & Susan Dell Center for Healthy Living

Food systems - what are they?

Food systems refers to all the elements and activities that are related to producing and consuming food, including economic, health, and environmental outcomes.



Sustainable Food Center. What Makes Up a Food System? Breaking it Down Into 4 Parts. 2020







Food systems and food insecurity

Flawed or broken food systems impact food insecurity

<u>Drive food prices up</u>, lowering number of people who can afford nutritious food

Prevents farmers from profiting from crop growth



35% increase in expected global food demand by 2030

World Food Programme. Food Systems. 2021







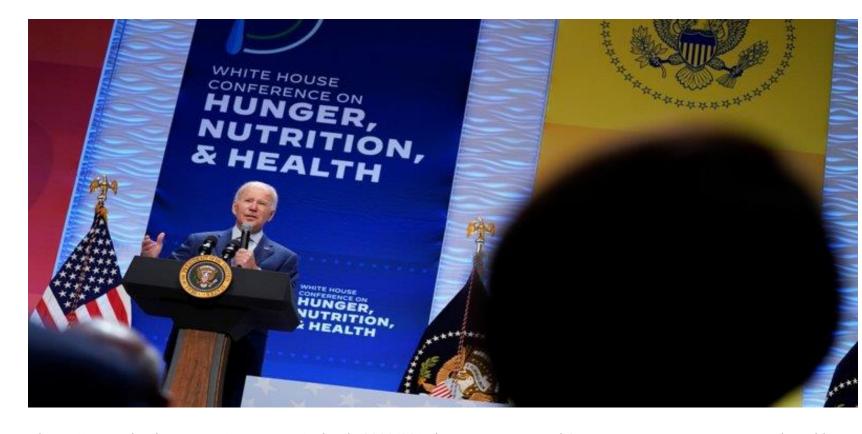




Food Prescription Programs in Texas

Shreela Sharma, PhD, RD, LD
Professor & Vice Chair of Epidemiology
Director, Center for Health Equity
Michael & Susan Dell Center for Healthy Living
UTHealth Houston School of Public Health

We are in an unprecedented time of opportunity to end hunger in America by increasing healthy eating.

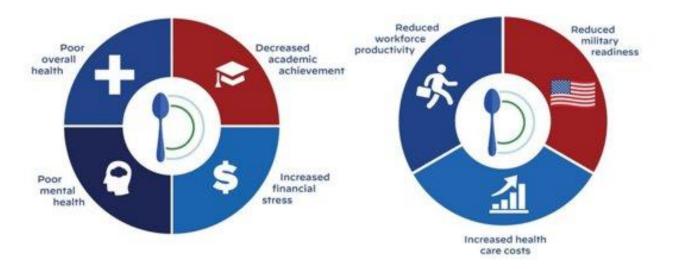


https://www.whitehouse.gov/wp-content/uploads/2022/09/White-House-National-Strategy-on-Hunger-Nutrition-and-Health-FINAL.pdf





Impacts of Food Insecurity & Diet-Related Diseases: Individual and Societal Costs 10





8% of Global GHG Emissions



21% of All Freshwater*



19% of All Fertilizer*



18% of All Cropland*



21% of Landfill Volume*

Environmental Impact of Food that is Produced But Never Eaten







White House Strategy - Hunger, Nutrition, & Food Insecurity

Pillar 1

Improve food access and affordability

Pillar 2

 Integrate nutrition and health Pillar 3

Empower all consumers to make and have access to healthy choices

Pillar 4

Support
 Physical
 Activity for
 All

Pillar 5

Enhance
 Nutrition
 and Food
 Security
 Research







"I mean, honestly, there's times that we all struggle at some point. Right? And we just want to have something to rely on"

"Because of my health, I was trying to get the right food so that I could stay healthy, so I wouldn't have to be a burden and take so much medication..."

-Patients with uncontrolled diabetes experiencing food insecurity in Houston, Texas







Why are we here? Food for thought

90% of \$4.3 trillion in annual healthcare costs in the U.S. are spent on medical care of diet-related chronic conditions. We are a region of high need with large disparities for these conditions.

Can healthy food be a covered benefit?

Food Is Medicine refers to a spectrum of programs, services, and other interventions that recognize and respond to critical link between nutrition and health.

Nexus to the healthcare system









FOOD IS MEDICINE PYRAMID



For healthy food to be a covered benefit we need to establish effectiveness and cost-effectiveness of Food Is Medicine programs.















Adults: Food Prescription Programs in Texas

Impacts of a Large-Scale, Partnership-Based Regional Food Prescription Program among persons with diabetes

- The Houston Food Bank (HFB) is the largest food bank in the U.S.
 - Serves over 800,000 individuals each year
 - 1500+ partnerships across 18 counties in Southeast Texas
- HFB Food Rx Program is a partnership between 21 health care partners and 28 affiliated food pantries or food markets.
- In 2020, UTHealth initiated evaluation of three-year implementation of HFB's Food Rx program on adult diabetes outcomes among predominantly uncontrolled diabetics.







Food Prescription Programs in Texas: Houston Food Bank Food Rx Formula

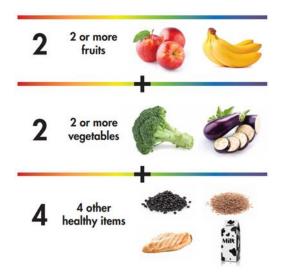
How does it work?







CLIENT CHOICE MODEL



Can be redeemed 2x/month for 6 months (up to 12 times) across food pantry and food trailer locations







Food Prescription Programs in Texas: Houston Food Bank Food Rx Results

As compared to those who did not redeem their food prescriptions, those participating in Food Rx:



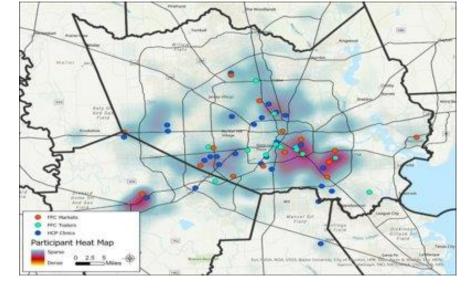
Had a clinically meaningful <u>decrease in glycosylated</u> <u>hemoglobin</u>, a marker of long-term glucose control over 6-months of exposure among those who redeemed produce prescriptions as compared to those who did not.



Dose matters, higher redemptions of food prescriptions were associated with greater improvements in glucose control.



Is cost-saving and cost-effective leading to increased qualityadjusted life years (QALYs) and averted medical costs







How do these findings compare nationally?

- •In Bhat et al (2021) meta-analysis of Food Rx interventions, the average change in HbA1c% across five included studies was -0.81.
 - These were smaller studies and many did not have a comparison group.

•In Seligman et al (2015), prepacked boxes of diabetes-appropriate foods were distributed 1-2x/month through food pantries to 687 clients with diabetes over six months. Overall decline in A1c was 0.15% among those with >7.5 A1c at baseline.







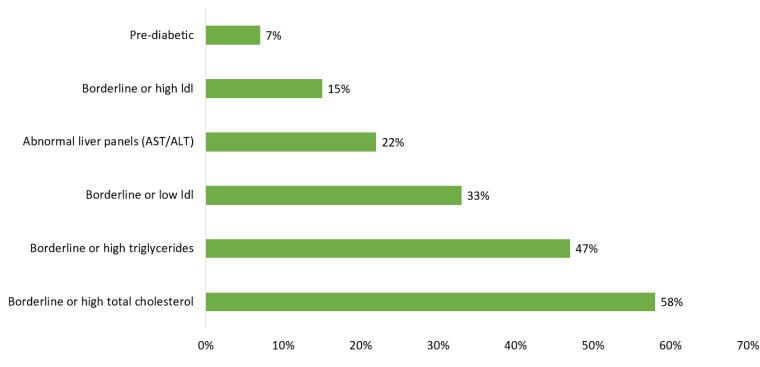






How is the health of our Texas children who are struggling with food insecurity?

150 food insecure children at-risk for obesity receiving standard medical care at UTPhysicians





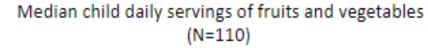


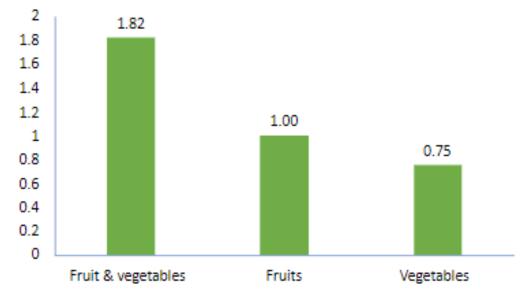


Daily Child Fruit and Vegetable Consumption

Self-reported by parents using the National Institutes of Healthy Eating America's Table Study (EATs) All-Day Screener

	mean (SD)	median	min	max
Fruit & vegetables	3.92 (5.23)	1.82	0.10	31.97
Fruits	2.12 (3.23)	1.00	0.00	20.00
Vegetables	1.76 (2.92)	0.75	0.00	18.21













Brighter Bites Produce Rx for at-risk children and their families





THE BRIGHTER BITES FORMULA – Tried & Tasted

Produce Distribution (50 servings/week)



Nutrition Education



Fun Food Experience (recipe tasting)

all three done consistently

Fill the Plate



Bring fresh produce to where kids already are.

Educate



Teach kids and families healthy ways to use the food.

Make it Great



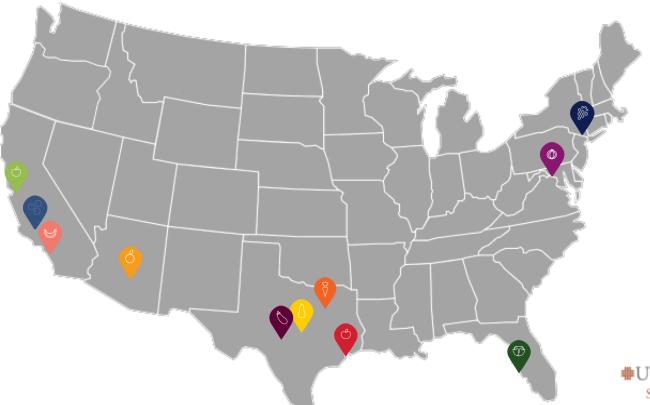
Create a fun food experience for everyone involved.

Measure Outcomes to Determine Impact



Brighter Bites - A data-driven scalable model from Texas to the nation

Texas-based non-profit.
60 million pounds of fresh produce plus nutrition education distributed to over 600,000 children and families across 11 U.S. regions.













Schools – Clinics – Community www.brighterbites.org

Brighter Bites + UTPhysicians in Houston, TX

- 150, 5-12 year old children on Medicaid, at-risk for diet-related chronic conditions receiving care at UTP
- Group 1: Home delivered Produce Boxes
 - Home delivery in partnership with DoorDash
 - o 20 lbs, 8-12 unique items in each box
 - o 16 deliveries, every 2 weeks for 32 weeks
- Group 2: Fresh Produce Card
 - Plastic physical gift card
 - \$25 for fresh produce
 - 16 reloads, every 2 weeks
 - 32 weeks
 - 6 Retailers











Food Prescription Programs in Texas: High Risk Pregnant Mothers

It is important to understand the factors moderating the impact of food insecurity on pregnancy and birth outcomes.

In one study, women living in a food insecure household had three times greater odds of severe pre-gravid obesity relative to women living in a food secure household.

No studies have been conducted that evaluate Food Rx impact on pregnancy and birth outcomes using a statistically powered design with a comparison group.

Food Insecurity during Pregnancy Increases Risk of:



Gestational diabetes



Birth defects
such as cleft palate & dtransposition of the great
arteries



Excess weight gain



Increased risk of low birth weight





Food Rx Evaluations in Pregnant Mothers

COHORT COHORT Community Health Choice & Houston Food Bank Texas Children's Health Plan & About Fresh High- risk pregnant women who are receiving High-risk pregnant mothers receiving care through Texas Children's Health Plan care through Community Health Choice clinics Food prescription: retail card with \$100 to Food prescription redeemed through home purchase produce at local retail stores delivery or food pantry pick up Food Rx Frequency: Card loaded monthly Food Rx Frequency: Bi-weekly COHORT Harris Health Systems, Brighter Bites & Planet Harvest High risk pregnant mothers receiving care at Harris Health Systems Food prescription: home delivery of 20-25 pounds of 8-12 different varieties of fresh produce Food Rx Frequency: Bi-weekly

UTHealth Houston School of Public Health is currently leading evaluations to determine the impact of three comprehensive food prescription (Food Rx) program strategies on gestational weight gain, other pregnancy and birth outcomes, and food and nutrition security in low-income, ethnically diverse, at-risk women in Houston, TX.

The studies will evaluate 1200+ pregnant mothers across 3 cohorts.

All women will receive food prescription incentives starting in early pregnancy through 60 days post-partum.

The outcomes of interest are:



Weight gain during pregnancy



Food security



Nutrition security & diet quality



Diagnosis of gestational diabetes



Diagnosis of pregnancy-induced hypertension



Pre-term birth



Program implementation costs

Final thoughts

Health is not just the absence of disease. Factors such as socioeconomic status should not play a role in how healthy we are. Unfortunately for many of us, they do. Healthy Texans are the economic engine of our state.

Food prescription type of programs cannot be implemented successfully by any single agency and lends itself to collaboration and partnership.

One shoe will not fit all - we will need a menu of programs that are evidence-based with established impact that meet our communities, patients and clients where they are. One of the biggest barriers to food insecurity is transportation in Texas.









QUESTIONS?







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Acknowledgements

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Legislative Initiative Resources

TX RPC Resources

go.uth.edu/RPCresources

Texas Child Health Status Report

go.uth.edu/TexasChildHealth

Texas Legislative Bill Tracker

go.uth.edu/RPCBillTracker

TX RPC Newsletter Archive

go.uth.edu/RPCnewsletter

Michael & Susan Dell Center Webinar Series

go.uth.edu/CenterWebinars

Scan to view our Legislative Initiatives











Thank you!



