FY 2025 Houston EMA/HSDA Ryan White Part A Service Definition **Home Delivered Meals** Approval Date: October 2024	
HRSA Service Category Title: **RWGA Only**	**Food Bank/Home Delivered Meals**
Local Service Category Title:	**Home Delivered Meals**
Budget Type: **RWGA Only**	**Fee for Service**
Budget Requirements or Restrictions: **RWGA Only**	Unallowable costs include household appliances, pet foods, and other non-essential products.
HRSA Service Category Definition (**do <u>not</u> change or alter**): **RWGA Only**	**Food Bank/Home Delivered Meals** refers to the provision of actual food items, hot meals, or a voucher program to purchase food. This also includes the provision of essential non-food items that are limited to the following: • Personal hygiene products • Household cleaning items • Water filtration/purification systems in communities where issues of water safety exist
Local Service Category Definition:	Home delivered meals are the provision of prepared meals or food vouchers for prepared meals to clients who are homebound or require special dietary support in meeting nutritional outcomes based on dietary needs to improve and enhance their HIV care. This service includes the provision of both frozen and hot meals.
Target Population (age, gender, geographic, race, ethnicity, etc.):	Persons with HIV living within the Houston Eligible Metropolitan Area (EMA) .
Services to be Provided:	The provision of home delivered meals to eligible clients with a written referral from the client's Primary Care provider registered, licensed dietician or nutritionist. Agencies will develop a client assessment that specifies frequency, duration, and amount; and includes a written nutritional plan prepared by a licensed, registered dietician or nutritionist. The client's Primary Care provider's licensed dietician or nutritionist will approve the client assessment and review it quarterly thereafter. Home-delivered meals should be culturally representative and best meet the eligible client's traditional food options and have the ability to supply a variety of meal options with daily, weekly or on an as-needed basis delivery. The prepared meals should be nutritious and individualized to client's dietary needs, and shall be based on current federal dietary guidelines (<u>Dietary Guidelines for Americans, 2020-2025 and Online Materials | Dietary Guidelines for Americans</u>).

	The Agency must incorporate practices that honor clients' beliefs, being sensitive to cultural diversity and diverse cultural and ethnic backgrounds, including supporting clients with limited English proficiency or disabilities, and regardless of gender, sexual orientation, or gender identity. This includes fostering attitudes and interpersonal communication styles in staff and providers which respect recipients' cultural backgrounds. All meal plans must be reviewed and approved by a registered dietician.
Service Unit Definition(s): **RWGA Only**	One (1) unit of service = One (1) home delivered meal and shall include costs of food, supplies, staffing, and delivery.
Financial Eligibility:	Refer to the RWPC's approved *FY 2025 Financial Eligibility for Houston EMA Services*.
Client Eligibility:	• Persons with HIV living within the Houston Eligible Metropolitan Area (EMA) or HIV Service Delivery Area (HSDA) who are homebound or require special dietary support in meeting nutritional outcomes based on dietary needs to improve and enhance their HIV care including persons with compromised nutritional status and limited ability to prepare his/her own meals. The client is actively enrolled in primary medical care along with the referral from the client's Primary Care provider's registered dietician or nutritionist.
Agency Requirements:	Agencies shall comply with local, state, and federal food safety, sanitization, and safety regulations.
Staff Requirements:	Agencies shall receive consultation from a registered and/or licensed dietitian regarding the nutrition, caloric needs, and other dietary issues of people with HIV. Agencies shall incorporate such guidance into its home-delivered meals program. Consultations should be done on quarterly basis and must be documented.
Special Requirements: **RWGA Only**	Must comply with Houston EMA/HSDA Part A/B Standards of Care. Food vouchers/gift cards are to be restricted from the purchase of tobacco or alcohol products. No direct payments to clients are allowed.

FY 2026 RWPC "How to Best Meet the Need" Decision Process

Step in Process: **Council**		Date: **06/12/2025**
Recommendations:	Approved: Y:_____ No: _____ Approved With Changes:_____	If approved with changes list changes below:
1.		
2.		
3.		

Step in Process: **Steering Committee**		Date: **06/05/2025**
Recommendations:	Approved: Y:_____ No: _____ Approved With Changes:_____	If approved with changes list changes below:
1.		
2.		
3.		

Step in Process: **Quality Improvement Committee**		Date: **05/13/2025**
Recommendations:	Approved: Y:_____ No: _____ Approved With Changes:_____	If approved with changes list changes below:
1.		
2.		
3.		

Step in Process: **HTBMTN Workgroup #2**	Date: **04/15/2025**
Recommendations:	Financial Eligibility:
1.	
2.	
3.	

MEDICALLY TAILORED MEALS: THE PROOF

FOOD IS MEDICINE™ COALITION

This summary was compiled from peer-reviewed research studies and white papers conducted by members of FIMC for over a decade and is meant to provide a high-level overview of the types of impact that the MTM intervention has had on individuals living with severe, complex or chronic illnesses.

1 MEDICALLY TAILORED MEALS IMPROVE HEALTH OUTCOMES & PATIENT SATISFACTION

While receiving MTMs, patients report:

Improved quality of life. [1,3]

Fewer days when mental health interfered with quality of life. [11]

People who receive medically tailored meals experienced:

Improved mental health:
Study participants experienced approximately two fewer depressive symptoms and 13% of respondents reported less binge drinking once they started receiving meals[1]

Better diabetes management:
Among patients with type 2 diabetes, 47% reported an episode of hypoglycemia while they were receiving MTM, versus 64% while they were not receiving MTM. BMI decreased from 36.1 at baseline to 34.8 at follow-up.[2]

Healthier eating habits:
Recipients of MTM reported increasing fruit and vegetable intake to more than 2 times per day.[4] Saturated fat servings decreased.[3]

Improved medication adherence:
Among participants with HIV, ARV medication adherence of 95% or greater increased from 46.7% of participants at baseline to 70% of participants at follow-up.[3]

Snapshot of Key Outcomes Measured for Different Health Conditions [14]

Health Condition	Outcomes with MTM	Result
Multiple health conditions	Self-reported healthier eating	↑
	Self-reported healthier status	↑
Type 2 diabetes	Healthy Eating Index Score	↑
	Dietary quality 18-item Multifactor Screener	↑
	Increased efficacy of diabetes management and awareness	↑
	Depression (Patient Health Questionnaire)	↓
	Binge Drinking	↓
	Hypoglycemia	↓
	Diabetes distress	↓
	BMI	↓
HIV/AIDS	Dietary quality (18-item Multifactor Screener)	↑
	Self-reported ART adherence	↑
	Depression Scores	↓
	Binge drinking	↓
Heart failure	Improvement in cardiomyopathy score	↑
Chronic liver disease	Improvement in quality of life metrics	↑
	Paracenteses	↓

2 MEDICALLY TAILORED MEALS LOWER HEALTHCARE COSTS

In comparison, nutrition related costs are an inexpensive medical intervention. For the same cost as 1 day in the hospital (approx. $2,419), many FIMC agencies can feed someone at home for 6 months.[5]

16% Reduction in Net Health Care Costs[7]

50% Decrease in Hospitalizations[7]

70% Drop in Emergency Department Visits[7]

Modelled nationally, in just one year, MTMs could save **$13.6B** in healthcare spending and help avoid **1.6M** possible hospitalizations.[6]

Healthcare Cost Savings:

- In a cost-modelling study, national implementation of MTMs for individuals with diet-sensitive conditions and activity limitations could annually avert 1.6 million hospitalizations; and save a net $13.6 billion in health insurance, with most savings occurring in Medicaid and Medicare.[6]
- In a study of the effect of MTM, meal delivery correlated with a reduction in health care cost of 16%.[7]
- The average monthly health care costs for recipients of MTM is 31% lower than those without MTM.[8]
- Average monthly health care costs fell 62% for 3 consecutive months after service began for individuals living with acute or chronic conditions.[9]
- Managed Care Organizations paid out $12,000 less per month than for a comparison group without nutrition intervention.[10]

Fewer Hospitalizations:

- Receipt of MTM was associated with 50% fewer inpatient admissions and 70% fewer emergency visits compared with a matched cohort that did not receive meals.[8]
- MTM was associated with 70% fewer ED visits, 50% fewer hospitalizations and 72% fewer uses of emergency transport.[11]
- Among a group of patients with type 2 diabetes, share of hospitalizations fell from 25% to 6.9%. The share of patients reporting visits to the ED fell from 31% to 13.8%.[3]
- Among a group of patients living with HIV, hospitalizations fell from 10% to 3.33%.[3]
- In a study of the effect of MTM, 93% of recipients of MTM with inpatient hospitalizations were discharged to their homes as compared to only 18% of those without MTM.[9]
- Receipt of MTM was associated with 72% fewer skilled nursing facility admissions compared to a group that did not receive MTM.[11]
- Clients receiving MTM were 20% more likely to be released from the hospital to their homes instead of an acute care facility.[10]
- For clients with heart failure – 50% reductions in hospitalizations.[12]

3 FOOD IS MEDICINE INTERVENTIONS IMPROVE FOOD SECURITY, LEADING TO IMPROVED HEALTH

A robust body of evidence links food insecurity to poor health outcomes. Recipients of MTMs report reduced food insecurity from 62% to 42% versus a matched comparison group.[11]

Snapshot of Key Outcomes Measured for Different Health Conditions [14]

Health Condition	Outcomes with MTM	Result
Multiple health conditions	Emergency department visits	↓
	Inpatient admissions	↓
	Overall health care costs	↓
	Admission to skilled nursing facility	↓
Type 2 diabetes	Food security	↑
	Tradeoffs between health care and food	↓
HIV/AIDS	Food security	↑
	Tradeoffs between health care and food	↓
Chronic liver disease	Days in the hospital	↓

Sources:
[1]Kartika Palar et al, Comprehensive and Medically Appropriate Food Support Is Associated with Improved HIV and Diabetes Health, JOURNAL of URBAN HEALTH, (2017).
[2]Seth A. Berkowitz et al., Medically Tailored Meal Delivery for Diabetes Patients with Food Insecurity: A Randomized Cross-Over Trial, J. GEN INTERN MED, (2018).
[3]January 2017 J Urban Health. Study from UCSF
[4]Kartika Palar et al, Comprehensive and Medically Appropriate Food Support Is Associated with Improved HIV and Diabetes Health, JOURNAL of URBAN HEALTH, (2017).
[5]Hospital Adjusted Expenses per Inpatient Day, AHA Annual Survey, Copyright 2019 by Health Forum, LLC, an affiliate of the American Hospital Association
[6]Hager K et al. Association of National Expansion of Insurance Coverage of Medically Tailored Meals With Estimated Hospitalizations and Health Care Expenditures in the US. *JAMA Network Open*. 2022;5(10):e2236898. doi:10.1001/jamanetworkopen.2022.36898
[7]Seth A. Berkowitz et al, *Meal Delivery Programs Reduce the Use Of Costly Health Care In Dually Eligible Medicare And Medicaid Beneficiaries*, HEALTH AFFAIRS, (2018).
[8]Jill Gurvey et al, *Examining Health Care Costs Among MANNA Clients and a Comparison Group,* JOURNAL of PRIMARY CARE & COMMUNITY HEALTH, (2013).
[9]April 2019 Study of Community Servings Clients and a Comparison Group measuring impact of home-delivered, medically-tailored meal service (and MNT) for individuals living w/ acute or chronic conditions, Published in JAMA (Same as footnote 8?)
[10]June 2013 Study of MANNA Clients and a Comparison Group measuring impact of home-delivered, medically-tailored meal service (and MNT) for individuals living w/ acute or chronic conditions, including diabetes
[11]Seth A. Berkowitz et al., Association Between Receipt of a Medically Tailored Meal Program and Health Care Use, JAMA, (2019)
[12]Hummel SL et al. Home-delivered meals post-discharge from Heart Failure hospitalization: The GOURMET-HF pilot study. Circ Heart Fail. 2018; 11(8): 3004886. doi: 10.1161/CIRCHEART-FAILURE. 117.004886; Go AS et al., Effect of Medically Tailored Meals on Clinical Outcomes in Recently Hospitalized High-Risk Adults. Medical Care. 2018; 60; 10. Pedroza-Tobias A, et al. Medically supportive food and nutrition education improves health and reduces readmissions for safety-net patients hospitalized with heart failure exacerbation: A pilot randomized controlled trial. (Presented at APHA Annual Meeting, November 6-9 2022).
[13]Elliot B Tapper, Jad Baki, Samantha Nikirk, Scott Hummel, Sumeet K Asrani, Anna S Lok, Medically tailored meals for the management of symptomatic ascites: the SALTYFOOD pilot randomized clinical trial, Gastroenterology Report, Volume 8, Issue 6, December 2020, Pages 453–456, https://doi.org/10.1093/gastro/goaa059
[14]https://www.aspeninstitute.org/wp-content/uploads/2022/01/Food-is-Medicine-Action-Plan-Final_012722.pdf

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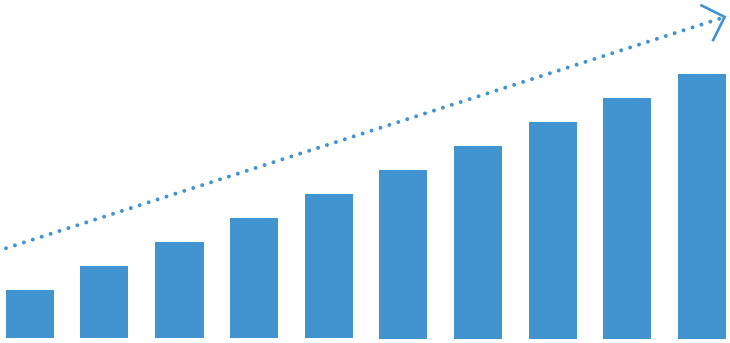
Estimated Impact of National **Medically Tailored Meal Insurance** Coverage on U.S. Hospitalizations and Healthcare Expenditures: **A Cost-Effectiveness Analysis**

Study published in JAMA Open Network by investigators at the Tufts University Friedman School of Science and Policy

https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2797397

Overview

This NIH funded research modeled the 1- and 10-year impacts of a national MTM program on hospitalizations, healthcare expenditures, and costs for Medicare, Medicaid, and private payers.



Eligible Population

US adults age 18+ covered by Medicare, Medicaid, or private payers, with at least one diet-sensitive condition (diabetes, heart disease, emphysema, stroke, non-melanoma cancer, kidney disease, and HIV) and one or more limitations in instrumental activities of daily living. This represents **6.3 million eligible Americans** nationally, including 2.6 million in Medicare, 0.7 million in Medicaid, 1.6 million dually eligible for Medicare and Medicaid, and 1.4 million covered by private payers.

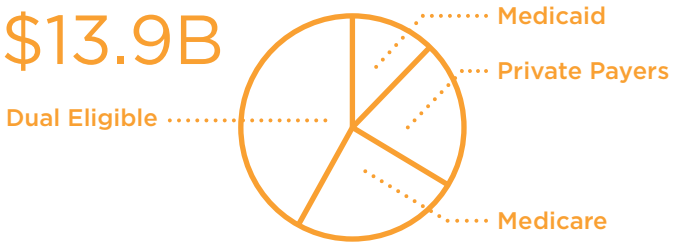
MTM Intervention

Provision of **10 nutritionally tailored meals** per week, for an average of **8 months per year**, in each year of intervention. The average total intervention cost was **$9.20 per meal** (based on 2019 contracts with health systems and payers among 11 MTM organizations).

Study Findings

If all **6.3 million eligible individuals** received MTMs, the intervention cost would be **$24.8 billion** in the first year. In one year, the intervention would prevent an estimated **1,154,000 hospitalizations** and save **$38.7 billion** in healthcare expenditures.

Overall, MTMs would produce a net cost savings of **$13.6 billion** in the first year including **$3.4 billion** in Medicare, **$1.7 billion** in Medicaid, **$5.9 billion** among Dual Eligible, and **$3.0 billion** for private payers.



Over 10 years, the MTM intervention would reduce hospitalizations by **18,257,000** and reduce healthcare expenditures by **$484.5 billion** for a net policy cost savings of **$185.1 billion** (in 2019 USD). This includes net savings of **$30.2 billion** in Medicare, **$22.6 billion** in Medicaid, **$88.0 billion** among Dual Eligible, and **$45.5 billion** for private payers.

MTM Impacts on Health Outcomes: Overview of Recent Research

The potential utility of MTMs in clinical care is now supported by studies observing improved diet quality, food security, and disease management when high-risk patients with diet-sensitive conditions receive MTMs.[1-5] These findings suggest that MTMs may improve health through multiple pathways including improved nutrition, less food insecurity, better financial wellbeing, reduced stress and anxiety, and improved medication adherence and self-management. Studies documenting improvements in health outcomes due to MTM receipt include:

1. In a recent randomized controlled trial, **600 patients** hospitalized with chronic heart failure were assigned to receive either usual hospital meals or medically tailored meal plans, nutritional counseling, and if necessary, supplemental IV nutrition. The tailored nutritional support led to a **56% reduction** in mortality at **30 days**.[6] While the tailored meals in the latter trial were provided in-hospital rather than home-delivered, this research supports the benefits of comprehensive, tailored nutritional support for high-risk patients.

2. Patients with advanced cirrhosis and ascites required **fewer weekly paracenteses** and reported **improved ascites-specific quality of life** after three months of MTMs.[4]

3. Among patients with HIV receiving MTMs, **antiretroviral therapy adherence increased** and among patients with diabetes, **diabetes self-management also improved**.[1,5]

4. MTMs have been associated with **reduced depressive symptoms** and **fewer dilemmas** between paying for either food, healthcare or prescriptions.[1]

5. Among patients with recent heart failure hospitalization, 1 month of MTMs **improved clinical summary scores** on the Kansas City Cardiomyopathy Questionnaire.[3]

1. Palar K, Napoles T, Hufstedler LL, et al. Comprehensive and Medically Appropriate Food Support Is Associated with Improved HIV and Diabetes Health. J Urban Health 2017;94(1):87-99. (In eng). DOI: 10.1007/s11524-016-0129-7.
2. Berkowitz SA, Delahanty LM, Terranova J, et al. Medically Tailored Meal Delivery for Diabetes Patients with Food Insecurity: a Randomized Cross-over Trial. J Gen Intern Med 2019;34(3):396-404. (In eng). DOI: 10.1007/s11606-018-4716-z.
3. Hummel SL, Karmally W, Gillespie BW, et al. Home-Delivered Meals Postdischarge From Heart Failure Hospitalization. Circulation: Heart Failure 2018;11(8):e004886. DOI: doi:10.1161/CIRCHEARTFAILURE.117.004886.
4. Tapper EB, Baki J, Nikirk S, Hummel S, Asrani SK, Lok AS. Medically tailored meals for the management of symptomatic ascites: the SALTYFOOD pilot randomized clinical trial. Gastroenterology Report 2020;8(6):453-456. DOI: 10.1093/gastro/goaa059.
5. Berkowitz SA, Shahid NN, Terranova J, et al. "I was able to eat what I am supposed to eat"-- patient reflections on a medically-tailored meal intervention: a qualitative analysis. BMC Endocrine Disorders 2020;20(1):10. DOI: 10.1186/s12902-020-0491-z.
6. Hersberger L, Dietz A, Bürgler H, et al. Individualized Nutritional Support for Hospitalized Patients With Chronic Heart Failure. Journal of the American College of Cardiology 2021;77(18):2307-2319. DOI: 10.1016/j.jacc.2021.03.232.

Center for Health and Biosciences | Issue Brief

Food Is Medicine: A Primer on Health System Initiatives in Texas

November 27, 2023 | Shreela V. Sharma, Naomi Tice, Rebecca Mak, Jacquie Klotz, Elena M. Marks

Overview

The Texas Consortium for the Non-Medical Drivers of Health is a statewide organization that advances the integration of non-medical services into the health care delivery system to improve health outcomes and reduce health disparities. The Consortium brings together those engaged in research, policy, and practice to learn together and build a field of practice across the state of Texas.

While the Consortium is interested in all non-medical drivers of health, in our first year of operating, we are focusing on food and nutrition because of the proliferation of food-related programs sponsored by health care organizations across the state and the interest expressed by stakeholders, including government, in expanding this work.

The importance of food and nutrition in the prevention and management of health conditions is well-documented. Across the U.S. and Texas, programs incorporating food and nutrition into health care delivery are among the most common non-medical interventions implemented by providers and payers. These interventions have been described as "Food is Medicine" (FIM) programs.

The purpose of this issue brief is to identify and describe the types of FIM programs employed by health care organizations to incorporate healthy food into service delivery to impact patients' health outcomes. This will enable

the Consortium and our stakeholders to use clear and consistent terminology in our FIM work. The clarity will support expansion of FIM programs across the state, which the Consortium aims to facilitate.

To develop the Consortium's terminology, we reviewed the literature regarding the incorporation of food into health care delivery and the programs offered by health care organizations in Texas and elsewhere. Based on that review, we identified three distinct types of programs, named and described in this paper, which the Consortium will use in our work. The three program types are: medically tailored meals (MTM), medically tailored groceries (MTG), and food prescriptions (Food Rx).

A note about the scope of the Consortium's FIM focus: We know that health care organizations offer many other programs relating to food including education, counseling, food pantries, and cooking classes, often in conjunction with FIM programs. We are also aware of and applaud the many non-health care organizations using food to improve health as well as those addressing widespread food insecurity. The Consortium's focus on FIM is limited to programs in which health care organizations take an active role in getting particular foods to specific patient populations to improve their health and medical outcomes.

Introduction

Food is a need, not a want, and people must eat healthily to live well and live long. The goal of attaining optimal health and well-being appears out of reach for over 44 million Americans and 4 million Texans who are struggling with food insecurity. Food insecurity and diet are intricately linked such that those who are food insecure often resort to consuming energy-dense, nutrient-deficient foods that satisfy short-term hunger but undermine good health. Over time, this results in increased risk of diet-related chronic conditions such as obesity, diabetes, hypertension, cardiovascular disease, and various types of cancers. It is estimated that 85% of the $4.3 trillion in annual national health expenditures in the U.S. are spent on medical care for diet-related conditions, and an estimated 500,000 deaths in the U.S. are caused by diet-related chronic diseases.

Food is Medicine is an umbrella term for a number of interventions and services provided by health care organizations (health plans, health systems, clinics, and other providers) that address the critical link between access to healthy food and optimal health. The increasing interest in these programs is driven by a growing evidence base that shows the impact of these programs in improving health outcomes and in some cases, reducing health care costs. Payors of health care services, led by Medicare and Medicaid, are requiring and incentivizing providers to incorporate FIM into their service delivery.

There are an increasing number of opportunities for Texas health care organizations to develop and receive funding for FIM programs. For example, there are more than a dozen Medicare Advantage plans in Texas, and many include FIM offerings. The Texas Health and Human Services Commission also published its Non-Medical Drivers of Health Action Plan in early 2023, and named food as its top priority. And HB 1575 (88R), signed into law in June 2023, allows Medicaid to pay for screening and service coordination for pregnant women in need of nutrition support. Many Texas health philanthropies have provided grants to catalyze this work.

Texas Consortium's Terminology for FIM Programs

In each of the programs described below, health care organizations provide FIM to patients who have screened positive for food or nutrition insecurity and have a diet-related medical condition for which improved nutrition can help. Screening tools and criteria for participation vary widely by program and sponsoring organization. Health care organizations usually implement their programs by partnering with food service organizations to deliver the food.

As the field grows and more evidence is developed, we will likely see a coalescence around particular screening tools and criteria for patient inclusion in each program.

At this time, the Consortium is focused on defining the programs, accelerating adoption, and supporting research and evaluation of programs. Below we describe three distinct FIM programs and provide examples of each as sponsored by a Texas health care organization.

Medically Tailored Meals

Description

Medically tailored meal (MTM) programs distribute prepared meals to meet patients' specific medical and nutritional needs. MTM programs are particularly important for people who do not have the ability to shop for or prepare meals. Typically, the meals are tailored to meet the macro- and micro-nutrient needs of the patient's specific medical condition. Patients receiving the meals are often provided medical nutrition therapy, nutrition education, and nutrition counseling. In most programs, nutrition professionals assess patients, oversee the preparation and delivery of meals, and provide other nutrition-related services such as nutrition counseling or other educational opportunities. Meals are either delivered to patients' homes or available for pick up. MTM is most often implemented through a partnership with a community-based organization with food and nutrition expertise. In addition to being nutritionally complete, the meals must be enjoyable to the recipient, which requires attention to the cultural preferences of recipients. The duration of MTM programs varies by patient condition and the amount of time to attain the intended outcomes, but typically patients are reassessed for need and eligibility periodically.

Example

Meals for Me: Managing Diabetes at Home is a program offered through Factor Health at The University of Texas' Dell Medical School. The program aims to improve the mental health and hemoglobin A1C levels (i.e., a measure of long-term blood glucose control) of low-income, older adults with unmanaged diabetes by delivery of meals and accompanying social check-ins by Meals on Wheels volunteers. The program is designed as a three-arm, parallel randomized trial study to ensure that the impact of the MTMs is appropriately measured.

Medically Tailored Groceries

Description

Medically tailored groceries (MTG) programs involve an assessment and individualized planning process under a nutrition professional's supervision, similar to MTM. Instead of meals, MTG provides minimally prepared groceries that meet the patient's nutritional and medical needs and require preparation by the patient. Typically, the groceries constitute at least one meal a day and are delivered or available for pick up on a regular basis. Participants in MTG programs must be able to prepare healthy meals with groceries, unlike MTM recipients. These programs may include nutrition education and cooking classes to support recipients in using the groceries, and like MTM, attention to cultural preferences is critical. MTG programs generally last for several months and are often used as part of long-term disease management.

Example

UT Physicians offers an MTG program known as Brighter Bites Produce Rx through its pediatric clinics. The program aims to improve diet quality, food security, and physical and mental health outcomes among families with children ages 5–12 years who are overweight or obese and on Medicaid. As part of the program, participating families receive a card (similar to a debit card) that is loaded with money on a monthly basis and can be used to purchase fresh produce at participating grocery retail stores. Families also receive robust nutrition education through the Brighter Bites nonprofit. The program is designed as a three-arm, comparative effectiveness randomized controlled trial to assess the impact of this approach as well as that of home delivered produce boxes on prevention of diet-related chronic conditions starting early in life.

Food Prescriptions

Description

In these programs, health care providers offer patients prescriptions, usually in the form of vouchers or debit cards, that allow them to procure prescribed food items, usually for a prescribed period of time. Most often the prescribed foods are fruits and vegetables, although some food prescription programs include whole grains, lean protein, and low-fat dairy.

There is a significant variation in the procurement mechanisms of this food. In some programs, the provider has food onsite for prescription fulfillment; in other cases, patients use their prescriptions at food banks/food pantries. Other programs may allow patients to opt for home delivery of a produce box at consistent time intervals, while still others may allow patients to use their prescriptions at participating grocery stores. In some programs, patients choose their food from the prescribed selection, while other programs offer pre-prepared food boxes for pick up. Food prescriptions may also include services to further encourage healthy eating behaviors, such as nutrition education and culinary classes. They typically last for six months and may be extended if appropriate, depending on patient outcomes.

Example

Harris Health System's Food Farmacy provides prescriptions for its patients with uncontrolled diabetes to receive 30 pounds of fresh fruits and vegetables and other nutritious food every two weeks for an initial six-month period. The food is available at three clinic locations. Over 6,000 patients have participated in the program, and an evaluation of the program revealed a clinically meaningful drop of one percentage point in hemoglobin A1C levels for enrolled patients as compared to non-enrolled patients. The program offers nutritional guidance from nurse educators, registered dietitians, and community health workers, in addition to assistance in qualifying for external social service programs.

Next Steps for the FIM Movement in Texas

Increasing Investment in FIM Programs

Health care organizations must take advantage of the emerging state and federal requirements relating to screening of and referral for food-insecure patients to develop FIM programs. For example, CMS is increasing its expectations of health care providers participating in Medicare and Medicaid to screen for and address the non-medical needs of their patients. Likewise, HEDIS is incorporating standards relating to non-medical needs into their quality measurements, which are used by government, businesses, and individuals to rate health insurance plans.

And the Texas Health and Human Services Commission now has a Non-Medical Drivers of Health Action Plan. In addition, the Texas Legislature just passed a bill requiring screening and referral for pregnant women in Medicaid in need of food and other non-medical services. We urge plans and providers to accelerate their investment in FIM as these requirements advance.

Expanding the Evidence Base in Support of FIM Programs

Texas health care organizations have responded to the food security need in our region with a plethora of food-related programs. However, the programs vary in dosage, reach, and implementation, and many lack sufficient evaluation. The effectiveness and cost-effectiveness of these programs using stringent research designs, including a comparison group remains sparse. This research is essential to determine best practices and advocate for increased investment. Partnership with research and academic institutions will allow for building the evidence base to inform FIM programs and accelerate the movement to add food as a covered health benefit.

Building Financial Sustainability for FIM Programs

We must use all available levers to incorporate sustainable funding from the health system to underwrite successful FIM programs. Many of the current programs were funded by philanthropy and initiated by nonprofit organizations to achieve health equity. Philanthropy is an important funding source but cannot and should not have to pay for these efforts when there is $4.3 trillion invested in our national health system. There are current opportunities for funding FIM programs in Medicare and Medicaid, and Texas should take advantage of these. There are additional opportunities through Medicaid waivers that are being used successfully in other states to fund FIM programs.

How Should Not-For-Profits and For-Profit Organizations Participate in the FIM Movement?

FIM programs anchored in health care organizations have traditionally relied on community-based, nonprofit, food-related organizations as partners in providing food to patients. However, as the movement grows, for-profit organizations have entered the FIM space, especially as more opportunities to earn revenue from FIM programs, particularly MTM programs, emerge. In the future, we will need to understand how best to take advantage of both kinds of organizations to meet the health-related food needs of Texans.

Call to Action: Join the Texas Consortium for the Non-Medical Drivers of Health

The Texas Consortium is the only statewide organization devoted entirely to accelerating the integration of non-medical services into the health care delivery system. The Consortium has brought together hundreds of researchers, practitioners, and policymakers across the state to learn together about this burgeoning field. Our website holds recordings of the many related webinars hosted during 2023 as well as a searchable Program Index that catalogs health care organizations' non-medical drivers of health programs in Texas. If you are interested in FIM and other non-medical programs, the Consortium is the place for you. For more information, please visit our website or contact Jacquie Klotz, program manager, at jk90@rice.edu.

Selected Resources on FIM Programs

Food is Medicine Coalition

Food as Medicine Collaborative

Center for Food as Medicine

Food is Medicine Massachusetts

National Produce Prescription Collaborative

Harvard University's Center for Health Law and Policy Innovation's Food is Medicine

Gretchen Swanson Center on for Nutrition

Gus Schumacher Nutrition Incentive Program

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Food is Medicine Research Action Plan

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Food is Medicine Research Action Plan

The United States faces an unabating chronic disease epidemic, leading to skyrocketing health care costs and devastating effects for individuals, communities, and the nation. The connection between chronic disease and nutrition is undeniable; nutrition not only plays a role in the onset of disease but also its prevention, management, and treatment. Efforts that involve a health care response to the need for better nutrition fall under the umbrella term "Food is Medicine." An emerging body of research demonstrates the enormous promise of Food is Medicine interventions across a range of health conditions in improving health and quality of life, while also curbing health care costs.

In order to build on these findings and strengthen the case for widespread integration into the health care system, health care providers, academic researchers, insurance providers, and policymakers alike want more purposeful research. The Food is Medicine Research Action Plan answers this call with a comprehensive set of recommendations for creating an evidence base that will advance health care integration, build a holistic understanding of effectiveness, and engage communities, providers, and researchers.

The Action Plan is written for:

- Researchers
- Funders
- Food is Medicine program implementers
- Advocates for increasing access to Food is Medicine interventions

In the Action Plan, Food is Medicine interventions include the following two components:

(1) the provision of food that supports health, such as medically tailored meals or groceries, or food assistance, such as vouchers for produce; and (2) a nexus to the health care system. Section III elaborates on this definition, as well as the existing interventions that it encompasses.

The result of an 18-month process of stakeholder engagement and guidance from experts in the field, the Research Action Plan contains:

- Key considerations for Food is Medicine research (Section IV)
- An overview of the published, peer-reviewed foundational research on the health outcomes associated with food insecurity, as well as the health outcomes associated with key federal food support programs (Section V)
- A discussion of the existing published, peer-reviewed research on Food is Medicine interventions, specifically medically tailored meals, medically tailored groceries, and produce prescriptions (Section VI)
- Concrete recommendations for future research (Section VII),with respect to
  - Ensuring that research is conceived, designed, executed, implemented, and disseminated using equity principles
  - Identifying key considerations for ensuring that research designs are robust and appropriate for yielding the most valuable and actionable information
  - Funding the most valuable research in the field
  - Identifying the most urgent questions that have yet to be explored

With the U.S. federal spending on health care nearing 25 percent of GDP, identifying how dietary interventions can meaningfully influence individual and population health is a national priority. This Action Plan is not meant to stand in for, replace, or undermine plans for broader systemic change in our health and food systems. It is instead intended to be complementary to such plans.

Existing and Forthcoming Research

The research on Food is Medicine builds upon a large and robust body of evidence that links food insecurity to poor health outcomes, both physical and mental. Research repeatedly demonstrates that food insecurity is associated with increased health care use and spending.

Food is Medicine interventions have grown exponentially in recent years. Section VI of the Action Plan provides the most comprehensive analysis to date of research on medically tailored meals, medically tailored groceries, and produce prescriptions. Section VI focuses exclusively on published, peer-reviewed research, because that is the research most often cited by those making key decisions about Food is Medicine program design, implementation, and funding. Peer-reviewed research is, however, only one part of a larger body of research that includes forthcoming studies, gray literature, and program evaluations.

Ongoing and forthcoming research indicates that the volume and rigor of research will continue to increase. These studies excitingly are beginning to fill some important gaps by focusing on health conditions and patient demographics that are underrepresented in the current literature. The greatest challenge—and starting point for this Action Plan—is how to propel rigorous, high-impact, translatable research that can quickly bring necessary reforms to our health care and food systems.

Key takeaways of current and forthcoming research include:

- Food is Medicine interventions—medically tailored meals, medically tailored groceries, and produce prescriptions—are not only replicable and scalable but also effective.
- All three interventions are associated with reduced food insecurity, improved dietary intake, and improved participant mental health.
- The medically tailored meals literature is the most well-developed, with rigorous study designs and results that pertain to clinical outcomes and health care utilization and spending. Medically tailored meals are associated with improvements in health outcomes for HIV/AIDs, type 2 diabetes, heart failure, and chronic liver disease, as well as reduced health care utilization and spending for people who are seriously ill.
- The medically tailored groceries literature is still emerging, but it represents significant innovation in connecting people with foods that support health. Programs are sometimes co-located in health care facilities or accessible at locations within the community, such as food pantries. Medically tailored groceries are associated with improvements in blood pressure and some type 2 diabetes-specific health outcomes.
- The produce prescription literature is also still emerging. It is the most voluminous and expansive, representing a wide range of program designs. The research demonstrates improvements in food security and dietary intake for a variety of participant populations, and is just starting to explore impacts on clinical health outcomes.

Recommendations for the Future of Research

The proliferation of Food is Medicine interventions and their increasing use within health care has been mostly ahead of the research, driven in large part by nonprofits and advocates who have developed creative programs to meet the nutrition-related needs of people living with chronic illness. But, particularly within the past five years, health care integration of Food is Medicine interventions is increasingly common. A new wave of interest and investment in exploring the full impact of these interventions offers opportunities to sustainably support and scale access to the most effective interventions.

Photo Credit: DC Greens

To inform the next decade of Food is Medicine research, the recommendations in this Action Plan:

- Offer concrete guidance on how to embed equity throughout the Food is Medicine research continuum;
- Identify key considerations to ensure that research designs are robust and appropriate for yielding the most valuable and actionable information;
- Identify the most urgent questions that have yet to be explored; and
- Describe how funders can support the most valuable research in the field.

Alignment with the core principles that inform these recommendations—equity, attention to research design and potential for translation, purposeful investment of resources, and contextualization of Food is Medicine within broader systems and institutions—should advance a future in which:

- Effective, appropriate Food is Medicine interventions are integrated into the US health care system, providing access to a wide range of proven interventions.
- All Food is Medicine research centers equity throughout the research continuum, in order to ensure that interventions truly empower individuals and communities and are effective across demographic groups.
- Everyone has the food that will allow them to live a healthy, dignified life.

ACTION PLAN RECOMMENDATIONS AT A GLANCE

EQUITY THROUGHOUT THE FOOD IS MEDICINE RESEARCH CONTINUUM

1. Understand the diverse experiences and broader context of the population that will receive or has already received the intervention.
2. At all stages of the research, plan to include the perspectives of potential study participants and the broader population that will receive or has already received the intervention.
3. In addition to including the perspectives of individuals with lived and/or local experience, researchers and funders should seek out perspectives and potential partnerships with community-based organizations that either provide similar services or support the study's target population in other ways.
4. Investigate the composition of the research team, including the team's perspectives and potential biases. Fully engage all team members in planning and decision-making.
5. Monitor study recruitment and retention.
6. All Food is Medicine researchers and funders should encourage academic research institutions to change policies that inhibit equity-centered research.
7. Research funders and researchers must ensure they adjust timelines and funding amounts to reflect the additional effort and investment of resources that may be required to do research that is truly equity-centered.
8. Whenever possible, qualitative research should be used to complement quantitative data.
9. Food is Medicine research design should reflect the reality of household composition and household equipment, with particular attention to the household member who buys and prepares most of the household's food.

THE FUTURE OF FOOD IS MEDICINE RESEARCH: CONSIDERATIONS IN RESEARCH DESIGN

10. Research should be appropriately powered to meaningfully evaluate the primary outcomes.
11. Researchers should prioritize rigorous study designs with a combination of qualitative and quantitative approaches, balancing the pursuit of rigor with the reality of Food is Medicine interventions.
12. Research should always report process and engagement metrics.
13. Researchers should carefully consider whether the intensity and duration of Food is Medicine intervention is likely to influence outcomes of interest.
14. Multi-sector stakeholders, including individuals in the target intervention demographic, should be convened to identify meaningful metrics across the Food is Medicine field. Metrics for specific health conditions should be developed in collaboration with primary care and specialist clinicians.

THE FUTURE OF FOOD IS MEDICINE RESEARCH: THE NEXT PHASE OF EXPLORATION

15. Research should evaluate components of multi-pathway interventions, such as food plus education versus only food, or food plus navigation assistance for broader social needs versus only food.

16. Leverage the insights of existing Food is Medicine research on health care cost and utilization to drive integration into health care.

17. Research must consistently explore the value and impact of Food is Medicine interventions beyond impact on health care cost and utilization.

18. Food is Medicine research should investigate the impact of interventions on health conditions where risk is associated with food insecurity and nutrition is key to the treatment or management of disease.

19. Research should explore the potential of Food is Medicine interventions to aid in prevention.

RESEARCH FUNDING: SUPPORTING THE NEXT PHASE OF INQUIRY IN THE FOOD IS MEDICINE FIELD

20. The National Institutes of Health should invest significantly more in Food is Medicine research.

21. A federal agency or federally appointed entity should be formally tasked with coordinating efforts across federal agencies to explore the impact of Food is Medicine interventions in many populations and geographies.

22. The Centers for Medicare and Medicaid Services (CMS), along with state Medicaid agencies, should capture data on Food is Medicine interventions from natural experiments generated by program policy changes. Evaluation of these impacts should be a priority for research funding.

23. Private funders should partner with each other and government agencies to enable more—and more ambitious—Food is Medicine research while ensuring that research aligns with equity principles.

FOOD IS MEDICINE INTERVENTIONS IN CONTEXT: BROADER RESEARCH THAT WILL SUPPORT TRANSFORMATIVE CHANGE

24. Research should explore the health impact of changes to food and nutrition support programs, especially recent developments in SNAP and WIC.

25. Research should examine the impact of income support programs on food insecurity, nutrition insecurity, and health.

26. Research should examine the impact of Food is Medicine interventions beyond the individual and household.

Health

Doctors Prescribe Healthy Meals to Keep Patients Out of the Hospital

By: Christine Vestal - October 12, 2022 12:00 am

Rita Scanlon, 92, talks to a Meals on Wheels driver at her home in Rhode Island. A handful of states are gearing up to provide similar meals through Medicaid for people with diabetes, congestive heart disease and other chronic illnesses. David Goldman/The Associated Press

Meals on Wheels had been delivering healthy meals to thousands of older adults in Portland, Oregon, for more than 50 years when a local hospital asked whether the group could cook similar meals for patients leaving the hospital after acute bouts of diabetes, heart disease and other chronic illnesses.

The answer was a resounding yes, according to Suzanne Washington, CEO of the local organization Meals on Wheels People. The group signed on with that Portland hospital five years ago and later agreed to provide meals for two others in the area.

Three years ago, data from the first hospital showed that patients with diabetes, congestive heart diseases and other chronic illnesses who received what are known as medically tailored meals were half as likely to be admitted to the hospital compared with those who didn't receive meals, and the total cost of their care was substantially lower.

But medically tailored meals prescribed by hospital dieticians are still only a small fraction of the more than 8,000 meals the Portland nonprofit delivers daily.

The federal government's recent approval of Oregon's request to modify its Medicaid program, the joint federal-state health insurance program for people with low incomes, could change that.

Oregon and other states have dabbled in Medicaid nutrition programs aimed at improving patients' health in non-clinical, non-pharmaceutical ways, said Oregon Health Authority Director Patrick Allen in an interview with *Stateline.*

"But never have those efforts become a defined benefit in Medicaid that everyone who qualifies is entitled to receive," he said. "This is a really big deal."

In the past decade, about a dozen states have cobbled together Medicaid and other funding to offer medically tailored meals and other nutrition programs on a limited basis. But none has made nutrition services available to substantial numbers of patients, as new efforts in several states would do.

Oregon's .1 billion, five-year program will be available for youth with special needs and people experiencing homelessness. Along with housing and other social supports, the program will offer three medically tailored meals per day for up to six months for people with, or at risk of, diet-related illnesses.

Massachusetts also received federal approval under a wide-ranging $67 billion, five-year Medicaid waiver to provide food vouchers and medically tailored meals, as well as housing for children, pregnant women and women who have given birth in the past 12 months.

The Massachusetts waiver is groundbreaking because it allows Medicaid to pay for meals for the entire family — not just the patient, said Katie Garfield, director of whole person care at Harvard Law School's Center for Law and Policy Innovation.

It's well known that parents who receive medically tailored meals will share their food with children and older adults living in the household, reducing the effectiveness of those meals at healing the patient's chronic condition, Garfield said.

"Allowing Medicaid to supply meals for the entire family is a major step forward," she said.

Later this year, New York and Washington state are slated to receive approvals from the federal government for similar nutrition programs.

Food Is Medicine

A regular diet of fruits, vegetables and other nutritious food has long been shown to stave off and treat chronic illnesses and promote healing after surgery. And unlike pharmaceuticals, nutritious food does not have side effects.

It's also well established that a deficit of nourishing food is a major cause of health disparities among people with low incomes and people of color, who suffer disproportionately from heart diseases, diabetes and other deadly and debilitating illnesses.

Local nonprofit groups have been providing healthy meals and reporting improved health outcomes since the mid-1980s, when groups in New York and San Francisco began providing meals for HIV patients to boost weight gain and help manage their symptoms.

But with few exceptions, Medicaid, which covers nearly 90 million people, has failed to allow large-scale coverage of healthy meals as a way of preventing and managing chronic disease. That's despite numerous studies showing that medically tailored meals cut both prescription drug and hospitalization costs.

A handful of states are working to change that. And they're counting on big savings in their health care budgets in the process.

In addition to Oregon and Massachusetts, California, Colorado, Georgia, Maryland, Minnesota, New Jersey, New York, North Carolina, Pennsylvania and Washington are among the states that have experimented with a variety of Medicaid programs to help residents get the meals they need to prevent and treat diet-related diseases.

The Biden administration's new emphasis on nutrition and health is expected to spur an expansion of limited Medicaid nutrition programs in states that already have them and encourage development of new food programs in states that don't.

As part of a national strategy announced last month at a White House Conference on Hunger, Nutrition and Health, the Biden administration vowed to work with Congress to provide funding for medically tailored meals under Medicare, nutrition education and other nutrition programs under Medicaid, and improved access to nutrition and obesity counseling under both health care programs.

Cost Cutting

A major driver of health care costs, chronic diseases account for 81% of all hospital admissions, 91% of all prescriptions and 76% of all doctor's visits, according to figures cited by several leading medical groups. More than half of Americans suffer from at least one diet-related chronic disease.

Research compiled by the Food is Medicine Coalition, a research and advocacy group, shows that only six months of dietary interventions such as medically tailored meals can reduce overall medical costs by 16%, or $220 per month per patient. That's a result of 58% fewer emergency department visits, 49% fewer hospital admissions and 72% fewer nursing home admissions.

According to the research, only 1 in 10 adults are meeting Department of Agriculture dietary standards for fruits and vegetables. That's primarily because millions of people either can't afford healthy food or live in neighborhoods where it isn't available. Many also lack the education to know which foods should be included in a healthy meal and don't have adequate kitchens to prepare them in, food and nutrition experts say.

Alissa Wassung, executive director of the Food is Medicine Coalition, said nonprofits in the field are "feeding people who are the sickest of the sick, who are driving a lot of the health care costs that we're trying to address."

It makes sense that using medically tailored meals to avoid costly prescription drugs and frequent emergency department visits would save millions in health care spending, Wassung said.

But despite the mounting evidence, only a tiny fraction of those who could benefit from food assistance are getting it, advocates say.

In addition to meals, some states have encouraged local health care providers to write fruit and vegetable prescriptions for diet-related conditions, providing vouchers physicians can give patients to purchase the food they need. Other states contract with local nonprofits to deliver fruit and vegetable boxes to families, along with instructions on preparing healthy meals.

In California, where a Medicaid waiver for healthy food programs was approved in 2021, more than 14 million people are covered by the federal-state program; 15% of them have diabetes.

"They could be on insulin for the rest of their lives, or we could reduce or eliminate the need for medication through food-based interventions," said Katie Ettman, food and agriculture policy manager for the social justice nonprofit, the San Francisco Bay Area Planning and Urban Research Association, or SPUR.

"When we think about the scale of the opportunity to improve health through food interventions," Ettman said, "it only works when we have funding through the health care system." She and other advocates want Medicaid and other public and private insurance carriers to make nutrition services a part of their basic coverage, equal to pharmaceuticals and clinical care.

Another missing link, said Harvard's Garfield, is a health care infrastructure that includes dietary screening procedures, diagnosis and billing codes and staff protocols for prescribing diet interventions. Once that's established, she said, food interventions could become as commonplace as prescribing medications or performing surgeries to treat chronic conditions.

Next, Garfield said, a network of local food providers must be established to work with the health care system like drug stores that fill prescriptions.

In Oregon, Meals on Wheels People stands ready to cook and deliver thousands more medically tailored meals every day as soon as the Medicaid program is ready to pay for them, Washington said.

New York
Oregon
United States