

FOOD AS MEDICINE 2024

An annotated bibliography reviewing western settler medicine, Indigenous practices, and local and regional food systems.



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INTRODUCTION

Food as medicine is an area of focus that recognizes and addresses the significant personal and community impacts of cultivation and harvesting of food, food access, culture, diet, nutrition, well-being, and health outcomes. This annotated bibliography was created to assess and understand the unique contributions of research within the food as medicine spectrum more fully.

While researching food as medicine, a cohort was established to help connect dots and share resources across local and regional food procurement, medicinal uses of food, and cultural practices. The research cohort adopted the Two-Eyed Seeing approach, articulated by Mi'kmaw Elder Albert Marshall, which offers an illustrative model for leveraging the synergistic potential of both knowledge paradigms for the greater good, embracing both Indigenous perspectives and Western settler interventions (IISH, 2012). This approach emphasizes the importance of integrating Indigenous and Western knowledge systems to foster comprehensive approaches to food systems informed by Indigenous knowledge and practice, availability, affordability, personal health, and health implications of dietary and culinary practices. We recognize the unique insights of the role food has in promoting wellness and healing, traditional knowledge and wisdom, and medical incentives and practices across communities. By integrating these perspectives, we are better equipped to confront the complex food- and wellness-based challenges of today's world.



In addition to these concepts of food as medicine, our research takes a specific look at the role of local and regional food systems within this context. This includes food system sectors (stated below) that occur at individual, site, community, and global scales (Long, 2023):

- Cultivation and Harvesting: Science, art, or occupation that involves cultivating land, hunting, foraging, and fishing; raising crops, feeding, breeding, raising livestock, or maritime practices.
- Processing and Transformation: Physical change of raw ingredients, physically or chemically, into a new product.
- Aggregation and Distribution: Movement of food products including the gathering and delivery to markets and buyers.
- Purchasing and Nourishment: Consumer oriented use of foods including purchase, culinary activities, and programming.
- Conservation and Stewardship: Care of natural resources to ensure access to energy, food, and water.

PURPOSE

For purposes of this paper and based on our understanding of the two-eyed seeing approach and food as medicine, we have adapted the definition of food as medicine to be: the intersection of cultivation and harvesting practices, Indigenous traditions and food ways, and western medical practices to improve personal and community wellness. Using this definition of food as medicine, the annotated bibliography is meant to showcase the extent of research and practices across food as



medicine within the United States. The annotated bibliography includes 84 resources across eight food as medicine themes in addition to sourcing locally and regionally.

There are two ways of utilizing this annotated bibliography. First, within the descriptions below of the eight types of interventions, each has been given an icon for representation within the paper. These can be viewed with each citation to showcase the cross-cutting efforts. Second, [page 6](#) provides a detailed matrix that displays each article and which intervention it addresses.

INTERVENTIONS AND THEMES

For further descriptions of the nuanced perspectives of food as medicine, we have captured both the Western settler interventions and the Indigenous practices. Western settler interventions often include approaches to food as medicine that are grounded in scientific research and healthcare systems. They emphasize the role of nutrition in preventing and managing chronic diseases, often prescribing specific dietary interventions based on medical evidence. These approaches highlight the importance of evidence-based dietary guidelines and interventions to improve public health. Indigenous practices situated in Indigenous cultures around the world have long recognized the life-sustaining and healing properties of traditional foods. Indigenous perspectives on food as medicine are deeply rooted in context-specific practices and knowledge systems. In this annotated bibliography, both western settler and Indigenous ways of understanding food as medicine are depicted within and across many of the identified themes to display how various ways of knowing are contributing to the conversation on food as medicine.



Produce Prescription Programs: These are initiatives where healthcare providers alone or in collaboration with community organizations prescribe fresh fruits and vegetables to patients as part of their treatment plan. Largely, the goal is to improve access to nutritious foods, particularly in low-income communities, and address diet-related health issues such as heart disease and diabetes.



Medically Tailored Meals: This approach involves providing customized meals to individuals with specific medical conditions. These meals are designed to meet the nutritional needs of patients and can be especially beneficial for those with inherited metabolic disorders or chronic illnesses like cancer or HIV/AIDS.



Food Pharmacies/Medically Tailored Groceries: Food pharmacies are community-based programs that provide free or subsidized healthy foods to increase food access either through a clinic-based food pantry or various other non-clinical pathways to fruits, vegetables, and other health-promoting dietary staples. Though broadly defined, these programs are generally designed to address immediate dietary needs and regularly offer nutrition education and support for long-term health improvements.



Cultural Significance and Food Sovereignty: Indigenous communities as well as those with ties to Black, Asian, Hispanic/Latinx and other non-white food systems, view food as an integral part of culture and identity. Traditional foods are often seen as nourishing the body and the spirit. The act of harvesting, preparing, and sharing traditional foods carries cultural significance and fosters community connections.



Holistic Health and Medicinal Properties of Food: Indigenous approaches to health often emphasize holistic well-being, recognizing that physical, mental, emotional, and spiritual health are interconnected. Traditional foods are believed to promote balance and harmony within the individual, the land, and the community. Many Indigenous foods are known for their medicinal properties, and Indigenous knowledge of these medicinal foods is often passed down generationally. Western scientific and medicinal properties are also explored in this section.



Sustainability: Indigenous food systems are often sustainable and respectful of the environment. Practices such as foraging, hunting, and farming are done with respect to nature, ensuring the long-term availability of traditional foods.



Policy & Financing Practices: This theme covers government actions like endorsing food as medicine, funding produce prescription programs, and state-level initiatives addressing food insecurity. It also explores challenges in implementing healthy food policies in healthcare settings, evaluation methods for food financing initiatives, and state policies promoting access to fresh foods.



Perspectives and Strategies for Implementing Food as Med Initiatives in Healthcare: This covers various aspects of integrating food as medicine initiatives into healthcare, including stakeholders' perspectives, effectiveness of tailored messages in primary care, challenges faced by healthcare providers in implementing food prescriptions, and the role of healthcare institutions in promoting healthy eating habits.



Local and Regional Food Systems: This sub-theme represents a values-based, relational, interconnected web of food-based activities through a collective effort for the development of resources and people, which extends across all sectors of the food system.

FINDINGS

The annotated bibliography is meant to showcase the existing research and the opportunity for furthering the concept and approach to food as medicine. Based on the study, we have identified the following information about each intervention.

Produce prescription programs consistently demonstrate positive impacts on health outcomes, emphasizing the importance of community involvement, pre-implementation planning, and flexibility in program design. These interventions often address specific health conditions, contribute to healthier food choices, and play a role in reducing health disparities in vulnerable populations. Challenges include sustaining retention and ensuring long-term adherence to dietary change among participants, securing adequate funding and resource infrastructure, and establishing and maintaining community partnerships.



Medically tailored meal research showcases the potential of programs to improve health outcomes, reduce healthcare utilization, and contribute to cost savings. The importance of insurance coverage, the broader applicability of these programs, and the integration of food as medicine into healthcare are key

themes that emerge across the studies. Additionally, the studies emphasize the need for comprehensive strategies to address food insecurity and its impact on various health conditions.

Food pharmacy and medically tailored meal studies outline their potential to address social determinants of health, improve patient wellbeing, and contribute to chronic disease management. The emphasis on patient-centered approaches, nutritional support, and addressing barriers to access highlights the importance of comprehensive strategies in tackling food insecurity and promoting healthier dietary choices.

Work focused on the implementation strategies of food as medicine initiatives into healthcare settings highlights perspectives of key stakeholders, including healthcare providers, patients, and community organizations involved in produce prescription programs. Common themes include the recognition of benefits such as improved access to fresh produce, increased patient engagement in health, and potential cost savings. However, challenges such as reimbursement issues, limited technology integration, and awareness among healthcare providers persist. It was also identified that there is a growing commitment to food as medicine initiatives through policy and financial support. The federal government's endorsement and funding of programs like produce prescriptions demonstrate a shift toward addressing food insecurity as a health concern. Challenges in implementing health-promoting foods within healthcare settings underscore the complexity of integrating such initiatives. Additionally, the studies emphasize the importance of robust evaluation frameworks for healthy food financing initiatives to measure their impact effectively. The recurring theme across this literature is the need for comprehensive, collaborative, and well-funded approaches to successfully implement and sustain food as medicine initiatives.



Cultural significance- and food sovereignty-related studies emphasize the importance of Indigenous food sovereignty initiatives, focusing on preserving traditional knowledge, revitalizing food systems, and promoting self-determination within Indigenous communities. Common themes include practical strategies, cultural revitalization efforts, and foundational elements like advocacy and partnerships. Community-based programs in particular show positive outcomes in promoting healthy habits and traditional food consumption. The findings demonstrate significance of respecting Indigenous perspectives, acknowledging holistic views of food, and fostering knowledge of Indigenous traditions.









Holistic health and medicinal properties of food delineate the vital link between Indigenous food, health, and culture. Common themes highlight the influence of localized traditional foods, historical experiences, and land access on perceptions of healthy eating. This connection challenges the conventional divide between traditional food practices and modern healthcare, emphasizing the protective role of traditional diets against Western diet-related diseases. Challenges include the need for approaches aligned with tradition, addressing historical and socio-political factors, and integrating traditional knowledge into mainstream healthcare. Overall, the studies advocate for a holistic understanding of health, promoting cultural preservation, self-determination, and the revitalization of traditional food systems within Indigenous communities.










Food systems and sustainability findings include the significance of Indigenous knowledge for sustainable and relevant food systems. Key themes include the formation of Indigenous Foods Knowledge Networks through relational accountability, community-driven initiatives, and challenges like dietary changes and resource shortages. Collaborative efforts, interven-










tions grounded in local practice, and policies supporting Indigenous food systems are recommended to address nutrition, identity, and community resilience. The research highlights the importance of respectful partnerships, practice-informed education, and values-based food procurement to tackle unique challenges faced by Indigenous populations.










The literature explored in this annotated bibliography presents a comprehensive overview of the intricate intersections of health, nutrition, and cultural considerations within the field of food as medicine. However, a notable gap exists. While many programs seek to address issues like food insecurity and other diet-related conditions, a recurring oversight lies in the tendency to address symptoms (i.e. by providing temporary access to a produce prescription) rather than confronting the root causes of these pervasive challenges. The literature points to the urgency of recognizing and delving into the social determinants and factors that underpin issues such as food insecurity and noncommunicable disease. To truly enact transformative change, future interventions must prioritize a holistic approach that treats immediate concerns while confronting the structural, economic, and cultural roots of these problems. A Two-Eyed Seeing approach should guide us moving forward: acknowledging and integrating Indigenous knowledge and prioritizing Indigenous food sovereignty and thus fostering interventions that are both informed and strategically positioned to address the underlying causes of these uneven health outcomes throughout the United States (IISH, 2012). Embracing local and regional food systems becomes paramount in this effort, ensuring that interventions resonate with the unique cultural and ecological contexts of the communities around them. Our research and cohort distinguish themselves by uniquely applying this approach to the realm of food as medicine, bridging Indigenous knowledge and Western scientific perspectives. This distinctive approach identifies the strengths of both knowledge systems and positions our research to address the root causes of health challenges, offering a transformative understanding that emphasizes local and regionally tailored solutions for enduring community wellbeing.










ARTICLE MATRIX










Year	Article									
2022	Assessment of a Fruit and Vegetable Prescription Program in the Northern...	●				●			●	●
2019	A pilot food prescription program promotes produce intake and...	●				●			●	●
2021	Food Security and Clinical Outcomes of the 2017 Georgia Fruit and...	●				●			●	●
2021	Characterizing Experiences of Stress & Food Insecurity Among...	●				●			●	
2022	A Healthy Food Prescription Incentive Program for Adults With Type 2...	●				●				●










Year	Article									
2020	Keiki Produce Prescription (KPRx) Program Feasibility Study to...	●			●	●			●	●
2022	Feasibility of a Home-Delivery Produce Prescription Program to...	●			●	●			●	●
2015	Food Rx: a community-university partnership to prescribe healthy eating on...	●							●	●
2023	Evaluation of a Produce Prescription Program for Patients with Diabetes: A...	●				●			●	●
2021	Promoting Healthy Food Access and Nutrition in Primary Care: A Systematic...	●				●			●	
2022	A Mixed-Methods Examination of the Impact of the Partnerships to Improve...	●							●	●
2019	Washington State's Fruit and Vegetable Prescription Program: Improving...	●				●			●	●
2022	Food sovereignty, health, and produce prescription programs: A case study...	●			●	●		●		●
2021	Prompting a Fresh Start for Adults With Food Insecurity and Increased BMI: A...	●				●			●	●
2022	Preliminary Impacts of a Produce Prescription Program in South Georgia	●								●
2018	Caregiver perceptions of a fruit and vegetable prescription programme for...	●				●			●	●
2019	"The coupons and stuff just made it possible": Economic constraints and...	●							●	●
2019	"You Guys Really Care About Me...": A Qualitative Exploration of a Produce...	●				●			●	●
2021	A Pilot Fruit and Vegetable Prescription (FVRx) Program Improves Local Fruit...	●			●	●			●	●

Year	Article									
2022	Implementing a Produce Prescription Program in Partnership with a...	●				●			●	●
2020	Implementation of the Navajo fruit and vegetable prescription programme to...	●			●	●			●	●
2022	Qualitative Perceptions of an Anticipated Fresh Food Prescription Program...	●			●				●	
2021	Impact of a Prescription Produce Program on Diabetes and Cardiovascular Risk...	●				●			●	●
2020	Produce Prescriptions, Food Pharmacies, and the Potential Effect of Food Choice	●		●		●				
2021	The impact of a produce prescription programme on healthy food purchasing...					●			●	●
2022	Exploring Perceptions of a Fresh Food Prescription Program During COVID-19	●	●			●			●	●
2018	Meal Delivery Programs Reduce the Use of Costly Health Care in Dually...		●			●			●	
2018	Association Between Receipt of a Medically Tailored Meal Program and Health...		●					●		
2013	Insurance coverage of medical foods for treatment of inherited metabolic disorders.		●					●		
2022	Association of National Expansion of Insurance Coverage of Medically Tailored...		●					●		
2019	Food Is Medicine—The Promise and Challenges of Integrating Food and...		●			●		●		
2019	Medically Tailored Meals as a Prescription for Treatment of Food-Insecure...		●			●		●		
2021	The food pharmacy: Theory, implementation, and opportunities	●		●		●			●	

Year	Article									
2020	Food is medicine: Actions to integrate food and nutrition into healthcare	●	●	●		●			●	
2023	Implementation of a Food Pharmacy into a Pediatric Diabetes Clinic			●		●			●	●
2022	Food as Medicine Clinic: Early Results and Lessons Learned			●		●			●	●
2023	Addressing Barriers to Healthy Eating Through Food as Medicine Initiatives	●	●	●						
2019	The Food Pharmacy Network: An Alternative Method for Addressing Food...			●		●			●	●
2022	Design and Implementation of a Clinic-Based Food Pharmacy for...			●		●			●	
2022	Integrating Produce Prescriptions into the Healthcare System: Perspectives from...	●							●	
1994	Improving Dietary Behavior: The Effectiveness of Tailored Messages in...								●	
2021	An Exploration of Key Barriers to Healthcare Providers' Us of Food Prescription (FRx)...	●			●				●	
2020	Beyond clinical food prescriptions and mobile markets: Parent views on the role of...				●				●	
2018	"Prevention Produce": Integrating Medical Student Mentorship into a Fruit and...	●			●				●	
2023	"I Felt Like I Had Something I Could Do About It": Pediatric Clinician Experiences...	●			●				●	
2019	Implementing a Produce Prescription Program for Hypertensive Patients...	●			●				●	●
2018	Ingredients for Success: Strategies to Support Local Food Use in Health Care...							●	●	●

Year	Article									
2022	Perspectives of Health Care Staff on Predictors of Success in a Food...	●							●	
2021	Strategies and Challenges: Qualitative Lessons Learned From Georgia...	●							●	
2015	Potential of Local Food Use in the Ohio Health Care Industry: An Exploratory Study								●	●
2022	A Case for Using Electronic Health Record Data in the Evaluation of...	●							●	
2023	Food Is Medicine Movement—Key Actions Inside and Outside the...	●			●			●	●	
2019	Implementing healthy food policies in health services: A qualitative study			●					●	
2013	Meaningful, measurable, and manageable approaches to evaluating healthy food...							●	●	
2012	Promoting healthy food consumption: a review of state-level policies to improve...					●		●		●
2014	Healthy Food Procurement Policies and Their Impact							●		
2022	An appreciative inquiry and inventory of Indigenous food sovereignty...				●			●		
2004	Understanding health and illness: research at the interface between science and...				●	●				
2019	Increasing fruit and vegetable intake with reservation and off-reservation...				●			●		
2018	Healthy Roots: Building capacity through shared stories rooted in Haudenosaunee...				●	●				●
2018	Enacting food sovereignty in Aotearoa New Zealand and Peru: revitalizing...				●	●				

Year	Article									
2019	Indigenous food sovereignty: Reclaiming food as sacred medicine in Aotearoa...				●	●				
2012	Two-Eyed Seeing. Guiding Principles.				●					
2018	Responsibilities and reflections: Indigenous food, culture, and relationships				●					
2020	Can integrating Aboriginal health content in undergraduate nutrition curricula...				●					
2022	Innovation Brief. Community Wellbeing: Food Prescriptions	●			●	●				
2015	A Native Perspective: Food Is More Than Consumption				●			●		
2018	"It's all interconnected... like a spider web": A qualitative study of the...				●	●				
2017	Gender roles, food system biodiversity, and food security in Indigenous Peoples'...				●	●	●			
2005	Indigenous Nutrition: Using Traditional Food Knowledge to Solve Contemporary...				●	●				
2020	Traditional Food as Medicine at Sioux Lookout Meno Ya Win Health Centre				●	●			●	
2022	Innovation Brief. Traditional Food as Medicine				●	●			●	
2022	Kincentricity and Indigenous Wellbeing: Food(ways) and/as Holistic Health in...				●	●		●		
2020	Indigenous perspectives on education for sustainable health-care				●	●			●	
2019	Food Diversity and Indigenous Food Systems to Combat Diet-Linked Chronic...				●	●				

Year	Article									
2009	Aboriginal Health Learning in the Forest and Cultivated Gardens: Building a...				●	●				●
2019	Building an Indigenous Foods Knowledge Network Through Relational...				●	●	●			
2015	Food system sustainability for health and well-being of Indigenous Peoples				●	●	●			
2022	Why and How to Strengthen Indigenous Peoples' Food Systems With				●	●	●	●		●
2006	Indigenous Peoples' Food Systems for Health: Finding Interventions That Work				●	●	●		●	
1996	Dietary change and traditional food systems of indigenous peoples				●	●	●	●		
2023	Food Systems Tactic Checklist. Community Food Systems Assessments.				●		●			
2021	Combining Cognitive Mapping and Indigenous knowledge to improve food...				●		●			
2020	From individual action to systems change: Instituting values-based food...				●	●	●	●		●
2017	Collaborating With Alaska Native Communities to Design a Cultural Food...				●	●	●			●
2015	Review of Indigenous Health Curriculum in nutrition and Dietics at one Australian...						●			

ANNOTATED BIBLIOGRAPHY

PRODUCE PRESCRIPTION PROGRAMS



1. Assessment of a Fruit and Vegetable Prescription Program...

Abel, D., Drucker, G., Leander, R., Huber, C., Nieto, A., Hulse, E., Kannan, N., & Rausch, J. C. (2022). Assessment of a Fruit and Vegetable Prescription Program in the Northern Manhattan Community. *American Journal of Health Promotion*, 36(6), 1014–1018.

<https://doi.org/10.1177/08901171221076778>

This study assesses a fruit and vegetable prescription program in New York City, piloted by an obesity prevention program called Choosing Healthy and Active Lifestyles for Kids and GrowNYC, a non-profit food hub. In this model, referred participants from an outpatient clinic with food security are provided a one-time voucher of \$20 and those without food insecurity with a one-time voucher of \$10 to purchase produce at a local market. The authors examine factors affecting participation, patient satisfaction, and the association between prescription redemption and food insecurity; findings indicate that prescription redeemers have higher levels of food insecurity and have elevated hemoglobin A1C levels. These results suggest that those who redeem their prescriptions are those most in need of food assistance. Barriers to redemption include distance, time constraints, and forgetting or losing the prescription. The study highlights the capability of produce prescription programs in reaching patients in need of food assistance and promoting healthier diets.



2. A pilot food prescription program...

Aiyer, J. N., Raber, M., Bello, R. S., Brewster, A., Caballero, E., Chennisi, C., Durand, C., Galindez, M., Oestman, K., Saifuddin, M., Tektiridis, J., Young, R., & Sharma, S. V. (2019). A pilot food prescription program promotes produce intake and decreases food insecurity. *Translational Behavioral Medicine*, 9(5), 922-930.

<https://doi.org/10.1093/tbm/ibz112>

This study examines the impact of a pilot food prescription program on produce intake and food insecurity among 242 patients experiencing food insecurity across three clinics in Texas. Providers give eligible and interested patients a “Food Rx” card explaining their prescription, which is provided to patients through a local food pantry on designated days where they can pick up to thirty pounds of fruit and vegetables and up to four pre-approved nonperishable food items every two weeks for 6 months, or a total of 12 visits. Upon arrival at the food pantry, participants are able to choose varieties of fresh produce and nonperishable items from what the pantry is offering that day. Participants also receive nutrition education materials to supplement their prescriptions. Pre- and post-intervention findings indicate that the program leads to increased fruit and vegetable consumption among participants and a 94% decrease in prevalence of food insecurity. The research illustrates the potential of food prescription programs to address both nutritional and food security needs among vulnerable populations.



3. Food Security and Clinical Outcomes...

Cook, M., Ward, R., Newman, T., Berney, S., Slagel, N., Bussey-Jones, J., ... Webb-Girard, A. (2021). Food Security and Clinical Outcomes of the 2017 Georgia Fruit and Vegetable Prescription Program. *Journal of Nutrition Education and Behavior*, 53(8), 711-718.

<https://doi.org/10.1016/j.jneb.2021.06.010>

This study investigates the impact of the Georgia Fruit and Vegetable Prescription Program (FVRx) on food security and clinical outcomes including blood pressure, HbA1c, and more. The study population is primarily Black and includes 122

participants. All are recruited from six primary care clinics serving patients in Georgia who are economically disadvantaged; they are eligible for the program if they are either SNAP eligible or screen positive for food insecurity and had or were at risk for a diet-related chronic illness. The FVRx lasts 6 months and participants are offered nutrition education and cooking classes as well as \$1 per day per household member each week with an average of \$28/participant/week to spend on fruits and vegetables at a local market or at program meetings. The program is associated with improved food security status among participants and positive clinical indicators including decreased diastolic blood pressure.



4. Characterizing Experiences of Stress & Food Insecurity...

Cook, M. A., Taylor, K., Weber, M. B., Schmidt, S., & Girard, A. (2021). Characterizing Experiences of Stress & Food Insecurity Among Participants of a Clinic-Based Produce Prescription Program. *Current Developments in Nutrition*, 5(Supplement_2), 925-925.

https://doi.org/10.1093/CDN/NZAB051_013

This research explores the stress and food insecurity experiences of participants enrolled in Georgia Food for Health, a clinic-based produce prescription program for 17 African American participants. The study conducts semi-structured interviews with all participants which reveal that participants face varying degrees of food insecurity and stress, highlighting the interconnectedness of these issues. Program participants communicate that the nutrition education builds an increased ability to make healthier decisions, and state that the socializing and stress management techniques are well received in managing stress. The success of the program lies in its likelihood to mitigate food insecurity and improve dietary patterns, but it also emphasizes the need for integrated approaches that address participants' broader well-being.



5. A Healthy Food Prescription Incentive Program...

Dunn, S., Campbell, D., Beall, R., Spackman, E., Lipscombe, L., Benzies, K., McCormack, G., & Olstad, D. (2022). A Healthy Food Prescription Incentive Program for Adults With Type 2 Diabetes Who Are Experiencing Food Insecurity: Protocol for a Longitudinal Qualitative Study. *Current Developments in Nutrition*, 6(Supplement_2), 547.

<https://doi.org/10.1093/cdn/nzac072.012>

Dunn et al. outline a protocol for a longitudinal qualitative study focusing on a Healthy Food Prescription Incentive Program for adults with type 2 diabetes facing food insecurity. The incentive program consists of \$1.50 per day for each household member to use at participating grocery stores, and a pamphlet with information on healthy dietary patterns. This research utilizes qualitative interviews conducted at and after the grocery store to gather in-depth insights into how the program impacts participants' dietary behaviors, health outcomes, and overall well-being. Results are not yet published, but by investigating the interplay between food insecurity, chronic disease management, and incentive-based interventions, the study contributes to the understanding of innovative approaches to addressing nutritional challenges among vulnerable populations.



6. Keiki Produce Prescription (KPRx) Program Feasibility Study...

Esquivel, M., Higa, A., Hitchens, M., Shelton, C., & Okihiro, M. (2020). Keiki Produce Prescription (KPRx) Program Feasibility Study to Reduce Food Insecurity and Obesity Risk.

<https://semanticscholar.org/paper/24e7f51af235af79184002ae75bda26dbc30fb32>

Esquivel and colleagues present a comprehensive feasibility study of the Keiki Produce Prescription (KPRx) Program, a collaborative pediatrician-university-farmers market initiative designed to address food insecurity risk among children in Hawaii. Through pediatrician's provision of \$24 vouchers to caregivers monthly for a total of three months for purchasing fresh fruits and vegetables at three farmers markets, the program aims to improve nutritional habits and overall well-being of children aged 2-17 with poor nutrition. The study's findings reveal the technical viability of the KPRx Program and its potential

to positively impact the dietary and lifestyle choices of children and their families through increased fruit and vegetable consumption, thus addressing critical health concerns. By focusing on a specific demographic and employing a voucher-based approach with community collaboration and a focus on feasibility, the research contributes recommendations from parents and authors to the broader discussion on innovative strategies for enhancing food security through produce prescription programs.



7. Feasibility of a Home-Delivery Produce Prescription Program...

Fischer, L., Bodrick, N., Mackey, E., McClenny, A., Dazelle, W., McCarron, K., Mork, T., Farmer, N., Haemer, M., & Essel, K. (2022). Feasibility of a Home-Delivery Produce Prescription Program to Address Food Insecurity and Diet Quality in Adults and Children. *Nutrients*, 14(10), 2006.

<https://doi.org/10.3390/nu14102006>

This study assesses the feasibility of a home-delivery produce prescription program targeting food insecurity and diet quality improvement in 25 patient-families from two clinics under-resourced areas in Washington, DC. The Family Lifestyle Program (FLiP), a collaboration between a children's hospital, YMCA, and the American Heart Association, consists of biweekly local and seasonally sourced produce delivery and tailored virtual nutrition education including monthly virtual cooking classes, biweekly nutrition tips, recipe videos, and recipe cards. The research evaluates enrollment, satisfaction, participation, and retention rates as well as program outcomes. Findings indicate overall positive reception and support, despite participation barriers including competing priorities (work, childcare, housekeeping), time, and general awareness of programmatic activities. Participants report that the FLiP improves their access to food, helps them improve eating and cooking behaviors, enhances monthly budgeting, and increases bonding time and experiences with children in the kitchen despite not making significant changes in food insecurity status. The study offers insights into the feasibility and impact of home-delivery produce prescription initiatives.



8. Food Rx: a community-university partnership...

Goddu, A. P., Roberson, T. S., Raffel, K. E., Chin, M. H., & Peek, M. E. (2015). Food Rx: a community-university partnership to prescribe healthy eating on the South Side of Chicago. *Journal of prevention & intervention in the community*, 43(2), 148–162.

<https://doi.org/10.1080/10852352.2014.973251>

This article describes the Food Rx program, a community-university partnership aimed at prescribing a food prescription to patients with diabetes on the South Side of Chicago. The program involves collaboration between a local farmers market, a university, a drugstore, and six local health centers. This prescription program includes a physical prescription written out by a doctor with one of four dietary options checked for the patient to follow. The back of the prescription contains a \$5 off coupon at Walgreens and a \$10 voucher for the farmer's market to use to buy foods fitting in their prescribed diet. A map of Walgreens and farmers market locations is also provided as well as a nutrition education sheet. The authors discuss the development and implementation of the program, accentuating the role of each stakeholder in this multi-faceted effort. While redemption percentages are not reported, preliminary findings suggest that Food Rx shows promise as a model for an integrated community-health care approach in providing resources to support patients who otherwise have limited access to resources, demonstrating the potential of community-university partnerships in promoting healthy eating behaviors.



9. Evaluation of a Produce Prescription Program...

Hager, K., Shi, P., Li, Z., Chui, K., Berkowitz, S. A., Mozaffarian, D., Chhabra, J., Wilken, J., Vergara, C., Becker, E., Small, S., Ling, B., Cash, S. B., Folta, S. C., & Zhang, F. F. (2023). Evaluation of a Produce Prescription Program for Patients With Diabetes: A Longitudinal Analysis of Glycemic Control. *Diabetes Care*, 46(6), 1169–1176.

<https://doi.org/10.2337/dc22-1645>

In this longitudinal analysis, Hager et al conduct an evaluation of a Produce Prescription Program (PPP) designed for patients with diabetes. In this PPP in Connecticut, providers from two clinics prescribe 252 patients with diabetes a \$60 voucher each month for six months to be redeemed at local grocery stores, and are compared to 534 control patients with diabetes who do not receive the PPP to understand the impact of the program on glycemic control. Of note, the onset of this PPP coincided with the onset of the COVID-19 pandemic in the US; while an initial nutrition education session was offered prior to COVID, all in-person education events were cancelled and not offered online. Findings show that while over 90% of vouchers are redeemed for fruits and vegetables, there are no significant differences in HbA1c or any other clinical indicators including BMI, blood pressure, and hospital visits between the intervention and control groups, suggesting that this PPP alone was not associated with improved glycemic control.



10. Promoting Healthy Food Access and Nutrition in Primary Care:...

Little, M., Rosa, E., Heasley, C., Asif, A., Dodd, W., & Richter, A. (2021). Promoting Healthy Food Access and Nutrition in Primary Care: A Systematic Scoping Review of Food Prescription Programs. *Health Education & Behavior*, 48(1), 39-49.

<https://doi.org/10.1177/08901171211056584>

In their systematic review, Little et al. explore food prescription programs as a means to enhance healthy food access and nutrition within primary care settings. The authors survey and synthesize existing literature to provide a comprehensive overview of the scope, methodologies, and outcomes of such programs. The findings depict the promise of food prescriptions in positively influencing dietary behaviors (fruit and vegetable intake) and promoting better health outcomes, namely food insecurity. By suggesting areas for improvement in areas including transportation, stigma, and nutrition literacy, the study advances the understanding of food prescription programs and serves as a roadmap for further research and program development by reporting key recommendations such as the need for randomization, control groups, and validated measures to report outcomes. This review contributes to the burgeoning field of healthcare interventions by offering a foundation for designing evidence-based strategies that can potentially transform the way primary care contributes to healthier eating habits.



11. A Mixed-Methods Examination of the Impact of the Partnerships...

Lyonnais, M. J., Kaur, A. P., Rafferty, A., Johnson, N. S., & Jilcott Pitts, S. J. (2022). A Mixed-Methods Examination of the Impact of the Partnerships to Improve Community Health Produce Prescription Initiative in Northeastern North Carolina. *Journal of Public Health Management and Practice*.

<https://doi.org/10.1097/PHH.0000000000001490>

In their study, Lyonnais et al. examine the Partnerships to Improve Community Health Produce Prescription Initiative, a produce prescription program in rural North Carolina. The program collaborated with 11 food retailers, eight health promotion programs, and two food pantries. The authors evaluate the impact of this initiative on participants' local fruit and vegetable purchasing and consumption. Though only 18% of vouchers were used, research findings indicate that the produce prescription program effectively encourages healthier dietary habits among participants including increased fruit and vegetable consumption and increased visits to the farmer's market. The study was delayed due to COVID-19, causing it to start late in the growing season; subsequent programs will be run earlier in the season to account for this. By combining quantitative data with qualitative insights, the study provides a comprehensive understanding of the initiative's influence on participants' behaviors and preferences.



12. Washington State's Fruit and Vegetable Prescription Program:...

Marcinkevage, J., Auvinen, A., & Nambuthiri, S. (2019). Washington State's Fruit and Vegetable Prescription Program: Improving Affordability of Healthy Foods for Low-Income Patients. *Prev Chronic Dis*, 16:180617.

<http://dx.doi.org/10.5888/pcd16.180617>.

This study focuses on Washington State's Fruit and Vegetable Prescription Program (FVRx), an initiative by the Washington State Department of Health, public and private clinics and other organizations aiming to improve the affordability of healthy foods for low-income patients by providing a prescription for a \$10 voucher redeemable for fruits and vegetables which can be redeemed at 169 participating grocery stores. The authors examine the impact of the program on participants' access to and consumption of fruits and vegetables. The findings indicate that the FVRx program increases participants' access to fresh produce as more than half of the prescriptions were redeemed and leads to improvements in their dietary behaviors as almost 90% reported eating more fruit and vegetables. The research underscores that prescription programs can address food insecurity and promote healthier eating habits among low-income populations.



13. Food sovereignty, health, and produce prescription programs:...

Nugent, N. B., Ridberg, R. A., Fricke, H., Byker Shanks, C., Stotz, S., Chung, A. J., ... Seligman, H. (2022). Food sovereignty, health, and produce prescription programs: A case study in two rural tribal communities. *Journal of Agriculture, Food Systems, and Community Development*, 11(3), 199-217.

<https://doi.org/10.5304/jafscd.2022.113.014>

This case study examines the intersection of food sovereignty, health, and federally funded GusNIP produce prescription programs within two rural tribal communities, the Yukon Kuskokwim Delta region and the Navajo Nation. The research draws attention to the capability of these programs to enhance food sovereignty, increase fruit and vegetable access, and improve and health outcomes. The authors also discuss challenges for food access and program delivery in both locations, including high cost of living as well as limited access to transportation and climate change as warming temperatures are preventing ice roads from fully freezing. Opportunities to expand food access in this area include the existence of relevant and flexible health care, and ongoing nonprofit and governmental policy support. Five recommendations for PPR in tribal communities are posited: engage community partners, promote food sovereignty, embrace flexibility, utilize federal funding, bolster federal funding with other funding opportunities, and collect health records data electronically. Authors conclude that both locations were able to successfully implement federally funded PPR's that enhance food sovereignty and food access in their communities.



14. Prompting a Fresh Start for Adults With Food Insecurity and Increased BMI:...

Oliveira, J. B., To, L., De La Cruz, Y., & Schneider, G. W. (2021). Prompting a Fresh Start for Adults With Food Insecurity and Increased BMI: A Case Series of Four Patients in a Food Prescription Program. *Cureus*, 13(3), e13857.

<https://doi.org/10.7759/cureus.13857>

This case series explores the impact of a food prescription program, called Fresh Start Food Rx, on four uninsured adult patients of a mobile health center experiencing food insecurity and with increased BMI in Florida. Patients receive a prescription for biweekly fresh produce to be delivered to their home or picked up at a local farmer's market, and monthly nutrition education for a total of four months. The study presents on these four cases and demonstrates positive effects of the program on participants' food security, attitudes toward fresh foods, and overall well-being. Challenges include maintaining retention in the program and participant lack of familiarity with some of the produce items delivered. Despite a small sample size, the research suggests that nutrition education can increase effectiveness of food prescription programs.



15. Preliminary Impacts of a Produce Prescription Program in South Georgia...

Owens, C., Reasoner, T., & Girard, A. W. (2022). Preliminary Impacts of a Produce Prescription Program in South Georgia. *Current Developments in Nutrition*, 6(Suppl 1), 854.

<https://doi.org/10.1093/cdn/nzac065.038>

This study examines the preliminary impacts of a produce prescription program in South Georgia called the Open Hand Atlanta Cooking Matters Produce Prescription Program. As a six-week nutrition education and local produce prescription intervention, this program also includes cooking classes and research on food security, dietary patterns, and biometrics. Findings suggest that the program results in increased consumption of dark greens and non-fried vegetables, and reduced consumption of takeout and fried foods, though changes were not statistically significant among the sample for the 62 program graduates. The study provides perspective on the short-term effects of produce prescription programs and spotlights the need for further research to assess longer-term impacts.

16. Caregiver perceptions of a fruit and vegetable prescription programme...



Saxe-Custack, A., Lofton, H. C., Hanna-Attisha, M., Victor, C., Reyes, G., Ceja, T., & LaChance, J. (2018). Caregiver perceptions of a fruit and vegetable prescription programme for low-income paediatric patients. *Public health nutrition*, 21(13), 2497–2506.
<https://doi.org/10.1017/S1368980018000964>

Saxe-Custack et al examine the perceptions of caregivers regarding a fruit and vegetable prescription program for low-income pediatric patient-families in Flint, Michigan. The program began when a University of Michigan affiliated pediatric clinic moved into the second floor of the Flint Farmers’ Market, and the two collaborated to establish \$10 produce prescription vouchers that can be redeemed at the local market following each clinic visit. In this study, the authors conduct interviews with caregivers participating in the program and find that the program is well-received: caregivers report increased awareness of the importance of fruits and vegetables, improved access to fresh produce, and positive changes in their child’s dietary habits. These findings suggest that fruit and vegetable prescription programs can be effective in addressing food insecurity and promoting healthy eating among low-income families with children, though caregivers also identify barriers such as inconsistent supply of produce, lack of transportation, and desire for nutrition education. This research presents the importance of considering caregiver perspectives in the design and implementation of such programs geared toward children and families.

17. “The coupons and stuff just made it possible”:



Schlosser, A. V., Joshi, K., Smith, S., Thornton, A., Bolen, S. D., & Trapl, E. S. (2019). “The coupons and stuff just made it possible”: Economic constraints and patient experiences of a produce prescription program. *Translational Behavioral Medicine*, 9(5), 875-883.
<https://doi.org/10.1093/tbm/ibz086>

This study explores the economic constraints and patient experiences of the Produce Prescription Program for Hypertension (PRxHTN) for patients of safety net clinics living with hypertension in Ohio. The authors conduct interviews with primarily African American participants and find that even when given vouchers for produce to be used at 20 participating farmers’ markets, patients with hypertension who also experience food insecurity face economic barriers to participating in the program, including lack of transportation, unstable income, and feelings of unworthiness. The findings highlight the importance of considering the personal and financial circumstances of patient populations when implementing produce prescription programs and drive home the need for additional support and resources to ensure access to fresh produce for vulnerable populations.

18. “You Guys Really Care About Me...”:



Schlosser, A. V., Smith, S., Joshi, K., Thornton, A., Trapl, E. S., & Bolen, S. (2019). “You Guys Really Care About Me...”: A Qualitative Exploration of a Produce Prescription Program in Safety Net Clinics. *Journal of General Internal Medicine*, 34(11), 2567-2574.
<https://doi.org/10.1007/s11606-019-05326-7>

Drawing on the previous study, this qualitative study by Scholsser et. al. explores the impact of a produce prescription program, PRxHTN, for adults experiencing hypertension and food insecurity in safety net clinics in Ohio. The authors conduct interviews with participants, program providers, and farmers' market managers and find that the program has positive effects on participants' health outcomes and their perception of care. The findings suggest that incorporating produce prescriptions into safety net clinics can improve health outcomes and enhance patient satisfaction.



19. A Pilot Fruit and Vegetable Prescription (FVRx) Program...

Slagel, N., Newman, T., Sanville, L., Thompson, J. J., Dallas, J., Cotto-Rivera, E., & Lee, J. S. (2021). A Pilot Fruit and Vegetable Prescription (FVRx) Program Improves Local Fruit and Vegetable Consumption, Nutrition Knowledge, and Food Purchasing Practices. *Health Promotion Practice*.

<https://doi.org/10.1177/15248399211018169>

This nonrandomized controlled trial by Slagel et. al. investigates the impact of the Athens Pilot Fruit and Vegetable Prescription (FVRx) program on fruit and vegetable consumption, nutrition knowledge, and food purchasing practices. The program provides 6 months of aligned with preferences nutrition education aligned with preferences, health screenings, and a produce prescription to adults eligible for SNAP who live with a diet-related disease to 16 patients, with 8 controls (n = 24). This program is implemented with various community partners including a local university, farmers market, a clinic, and a Hispanic community organization. The findings reveal that FVRx participants experienced positive changes, demonstrating improved nutrition knowledge, food purchasing habits, and increased amount of fruit and vegetables purchased compared to the control group.



20. Implementing a Produce Prescription Program in Partnership...

Stevenson, L., Lucarelli, J., Stewart, S., Acosta, S., Yoakum, B., & Yoakum, C. (2022). Implementing a Produce Prescription Program in Partnership With a Community Coalition. *Health Promotion Practice*.

<https://doi.org/10.1177/15248399221081406>

This study outlines the implementation of a produce prescription program called the Pontiac Prescription for Health in Michigan, a four-month program that partnered with three clinics, a farmers' market, produce stands, a pop-up market at a hospital and a church produce market. The program aims to address food insecurity and enhance diet quality by providing participants with \$40 a month to spend at vendors along with small group health education sessions. Authors discuss the collaborative process, program components, and evaluation methods. The study draws attention to the significance of community engagement and partnership in successful program execution, offering insights on the 6 months of time it took to plan the program before implementation and details of relationship building with program partners to ensure seamless operation and participant retention. This authors recommend accounting for this time in generating a collaborative model that demonstrates the synergistic efforts between healthcare providers and community stakeholders to create an impactful intervention.



21. Implementation of the Navajo fruit and vegetable prescription...

Sundberg, M. A., Warren, A., VanWassenhove-Paetzold, J., George, C., Carroll, D. S., Becenti, L. J., ... Shin, S. (2020). Implementation of the Navajo fruit and vegetable prescription programme to improve access to healthy foods in a rural food desert. *Public Health Nutrition*, 23(4), 669-678.

<https://doi.org/10.1017/S1368980019005068>

In their study, Sundberg et al. delve into the implementation of the Navajo Fruit and Vegetable Prescription Program (FVRx), aimed at enhancing access to nutritious foods for families at risk for diet related disease in a rural food desert in Navajo Nation. The FVRx includes substantial pre-implementation strategizing to understand community needs, and engagement with local stakeholders to decide on an appropriate intervention. Once introduced to healthcare providers, families with a

child aged 3-6 with a high BMI or a pregnant/postpartum parent with diabetes are recruited to the program, which involves 6 months of nutrition education and vouchers for fresh or frozen produce to be redeemed at local stores and trading posts within the community. The authors reinforce the program's success in maintaining core programmatic principles of reducing gaps in diet-related conditions, maintaining flexibility and local ownership, and using a patient-centered approach through their community-driven design informed by community members for community members.



22. Qualitative Perceptions of an Anticipated Fresh Food Prescription Program...

Thomson, S., Ugwuegbu, J., Montez, K. G., Langdon, S. E., Best, S., Sostaita, D., Franklin, M., & Zimmer, R. (2022). Qualitative Perceptions of an Anticipated Fresh Food Prescription Program. *Health Behavior and Policy Review*, 9(1), 37-45.

<https://doi.org/10.14485/hbpr.9.1.5>

Thomson et al. present a qualitative study conducted to inform the development of a future Fresh Food Prescription Program (FFRx). To do this, the authors examine how Black and Hispanic patients at risk for food insecurity in the southeastern US perceive the impacts of a potential FFRx in their lives. Through semistructured interviews in each of four focus groups, the viewpoints of potential FFRx recipients regarding the expected outcomes and benefits of the program are organized into three major themes: ability to obtain fresh food, cooking behaviors, and maintenance of health and wellness. Facilitators and barriers are outlined for each of these themes; participants respond well to the idea of a weekly produce box delivery and to online or in person cooking classes, and worry about lack of knowledge, transportation, and time constraints. By focusing on anticipated perceptions, the research contributes to understanding the factors influencing program engagement and effectiveness.



23. Impact of a Prescription Produce Program on...

Veldheer, S., Scartozzi, C., Bordner, C. R., Opara, C., Williams, B., Weaver, L., Rodriguez, D., Berg, A., & Sciamanna, C. (2021). Impact of a Prescription Produce Program on Diabetes and Cardiovascular Risk Outcomes. *Journal of Nutrition Education and Behavior*.

<https://doi.org/10.1016/j.jneb.2021.07.005>

Veldheer et al. investigate the impact of a produce prescription program called Veggie Rx for 97 adults with type 2 diabetes on diabetes and cardiovascular risk outcomes for referred patients of a community hospital clinic in Pennsylvania. The program provides 7 months of diabetes education and monthly vouchers ranging from \$28-\$140 (determined by household size, \$1/household member/day for up to 5 household members) to be redeemed at participating farmers markets. The authors explore how participation in the program influences health outcomes related to diabetes and cardiovascular health including A1c, body mass index, and blood pressure. Findings indicate that participants had a significantly lower HbA1c at the end of the program compared to baseline and that nutrition knowledge surrounding farmers markets significantly increased as well. By focusing on specific health conditions and risk factors, the research explores the benefits of such interventions in improving health outcomes and reducing the burden of chronic diseases.



24. Produce Prescriptions, Food Pharmacies...

White, N. (2020). Produce Prescriptions, Food Pharmacies, and the Potential Effect on Food Choice. *Health Education & Behavior*, 47(3), 384-392.

<https://doi.org/10.1177/1559827620915425>

This article examines the idea of food is medicine through a review of the potential impact of produce prescription programs and food pharmacies on dietary habits and patterns. It outlines how both of these interventions have been understood and implemented, and explores how such programs can influence participants' food preferences, purchasing habits, and dietary behaviors. Findings from reviewed literature indicate that produce prescriptions can encourage healthier food choices,

particularly among individuals whose income is below the poverty line, by improving availability and affordability of fresh produce options. Similarly, reviewed literature suggests that food pharmacies can also improve access to fresh produce and improve nutrition education. This paper spotlights the possibility of these two endeavors to improve current barriers to healthy eating and identifies funding sources for further expansion of these concepts on the federal level.



25. The impact of a produce prescription programme on healthy food...

Xie, J., Price, A., Curran, N., & Østbye, T. (2021). The impact of a produce prescription programme on healthy food purchasing and diabetes-related health outcomes. *Public Health Nutrition*, 24(12), 3945–3955.

<https://doi.org/10.1017/S1368980021001828>

This study examines the impact of a produce prescription program on healthy food purchasing and diabetes-related health outcomes for 699 patients with food insecurity, 353 of which who also have type 2 diabetes. The program, entitled Durham Produce Prescription Program, is conducted in North Carolina and gives enrolled patients \$40 a month to use on fruits and vegetables at a participating major grocery store chain for up to one year. Participants are primarily Black (81%), elderly (52% over 60), and female (72%), and were recipients of the Supplemental Nutrition Assistance Program prior to enrollment. Authors evaluate the program's effects on participants' fruit and vegetable consumption, glycemic control, and other diabetes-related health indicators. The findings suggest that the produce prescription program is associated with increased purchasing of fruit and vegetables and improvements in diabetes-related health outcomes.



26. Exploring Perceptions of a Fresh Food Prescription Program...

Zimmer, R., Strahley, A., Weiss, J., McNeill, S., McBride, A. S., Best, S., Harrison, D., & Montez, K. G. (2022). Exploring Perceptions of a Fresh Food Prescription Program during COVID-19. *International Journal of Environmental Research and Public Health*, 19(17), 10725.

<https://doi.org/10.3390/ijerph191710725>

In this study, Zimmer et al. explore experiences of a Fresh Food Prescription Program (FFRx) in North Carolina during the early COVID-19 pandemic through semistructured interviews and bimonthly surveys among members of a community-based health plan. The program includes seven months of weekly home-delivery of a locally-sourced produce box and premade meals as well as a newsletter, recipes, and optional nutrition coaching. The authors investigate how participants and stakeholders perceive the program's impact on food access and eating habits. Findings reveal that participants feel like the FFRx improved their overall wellbeing, their motivation to eat healthy food, and their access to healthy food. Participants also suggest ways to improve the FFRx, including through additional nutrition education and increased awareness of Indigenous tradition in language and recipe suggestions. By examining perceptions in the context of a global crisis, the research contributes to understanding the adaptability and effectiveness of food prescription initiatives.

MEDICALLY TAILORED MEALS



1. Meal Delivery Programs Reduce the Use of Costly...

Berkowitz, S. A., Terranova, J., Hill, C., Ajayi, T., Linsky, T., Tishler, L. W., & DeWalt, D. A. (2018). Meal Delivery Programs Reduce the Use of Costly Health Care in Dually Eligible Medicare and Medicaid Beneficiaries. *Health Affairs*, 37(4), 535–542.

<https://doi.org/10.1377/hlthaff.2017.0999>

In this article, the authors investigate the effectiveness of medically tailored meals and non-tailored food delivery programs in improving health outcomes and cost savings in patients eligible for federal health insurance. The medically tailored meal delivery includes 5 days of lunch, dinner, and snacks with foods specifically designed by a registered dietitian to meet the

patient's needs, while the non-tailored food delivery similarly provides five days of nonspecific but nutrient-dense lunches and dinners to the patient's home. The study presents data on the reduction of healthcare utilization as a result of providing meal delivery services to this specific population, specifically emergency department visits, inpatient admissions, and use of emergency transportation. The authors find that when compared to individuals who do not receive the interventions, both the tailored and non-tailored meal interventions are associated with reduced utilization of all costly health care services that are measured. These findings contribute to understanding the potential benefits of meal delivery programs in improving patient health and reducing healthcare costs, particularly for vulnerable populations.

2. Association Between Receipt of a Medically Tailored...

Berkowitz, S. A., Terranova, J., Randall, L., Cranston, K., Waters, D. B., & Hsu, J. (2019). Association Between Receipt of a Medically Tailored Meal Program and Health Care Use. *AMA Internal Medicine*, 179(6), 786-793. <https://doi.org/0.1001/jamainternmed.2019.0198>

In this publication by Berkowitz et al, the authors again examine the correlation between participation in a medically tailored meal (MTM) program and healthcare utilization, this time through a retrospective cohort study of 1020 participants, 499 who receive medically tailored meals and 521 matched nonrecipients. Those in the MTM group are referred by a provider if they have substantial barriers to obtaining food and a condition that requires specific nutritional consulting, and receive 10 meals each week, selected by a registered dietitian to meet their specific dietary needs. Findings show that these participants have fewer admissions to both inpatient and nursing facilities than the non-MTM group. This study adds to the findings of the previous study by expanding out to a broader section of the population beyond Medicare/Medicaid beneficiaries, showing that a wider range of vulnerable populations could benefit from this programming.

3. Insurance coverage of medical foods for treatment...

Berry, S. A., Kenney, M. K., Harris, K. B., Greene, C. L., Lloyd-Puryear, M. A., & Boyle, C. A. (2013). Insurance coverage of medical foods for treatment of inherited metabolic disorders. *Genetics in Medicine*, 15(10), 817-822. <https://doi.org/10.1038/gim.2013.46>

In this article, Berry et al investigate the extent to which medical foods, which are specially formulated products for managing inherited metabolic disorders (IMDs) that involve enzymatic deficiency and prevent normal metabolism, are covered by insurance. The study involves surveying families with children who have an IMD and includes questions on diagnosis, medical foods, supplies, insurance, out of pocket payments and more. The authors find that of the 305 families who responded to the survey, 99% have some type of health insurance, but rarely does that insurance cover all necessary supplies, supplements, and foods, often leaving families with significant out of pocket expenses. The findings reveal differences in insurance coverage that can potentially affect the health and well-being of individuals with inherited metabolic disorders. This study highlights the need for insurance coverage to ensure appropriate access to essential treatments for individuals with rare genetic conditions.

4. Association of National Expansion of Insurance Coverage of...

Hager, K., Cudhea, F. P., Wong, J. B., Berkowitz, S. A., Downer, S., Lauren, B. N., & Mozaffarian, D. (2022). Association of National Expansion of Insurance Coverage of Medically Tailored Meals With Estimated Hospitalizations and Health Care Expenditures in the US. *JAMA Network Open*, 5(10). <https://doi.org/10.1001/jamanetworkopen.2022.36898>

In this finance modeling study, the authors examine the potential cost-saving benefits of providing insurance coverage for specialized meals designed to address diet-related diseases. The study uses a population simulation model with over 6 million eligible US adults with public or private insurance who have both a diet-related condition and at least one limitation

in daily life (doing laundry, preparing meals, etc) to receive 10 medically tailored meals per week for a mean of 8 months each year. The study presents data on how this expansion of coverage would cost \$24.8 billion, but could mitigate 1.5 million hospitalizations and save \$38.7 billion in healthcare expenditure in just one year, thus saving over \$13.5 billion annually. This economic modeling contributes to understanding the potential benefits of expanded insurance coverage for such interventions in enhancing patient health outcomes and reducing healthcare expenditures.



5. Food Is Medicine—The Promise and Challenges of...

Mozaffarian, D., Mande, J., & Micha, R. (2019). Food Is Medicine—The Promise and Challenges of Integrating Food and Nutrition Into Health Care. *JAMA Internal Medicine*, 179(6), 793-795.

<https://doi.org/10.1001/jamainternmed.2019.0184>

Mozaffarian et al explore the paradigm of “Food Is Medicine” and delve into the cost savings and health benefits of various medically tailored meal (MTM) interventions associated with integrating food and nutrition within healthcare, and argue for the need to integrate this style of programming into private and public insurance policies. The authors highlight the few examples by private insurers in including food is medicine programming in their policies; Geisinger Health in Pennsylvania funds a 10 week produce prescription program to patients with diabetes, John Hanock Vitality includes \$600 per year to purchase healthy food, and the federal government invested \$25 million in a new Produce Prescription Program initiative to incorporate dietary interventions into medical practice. With a focus on finance, the study sheds light on the multifaceted nature of using food as a therapeutic tool and its potential to limit healthcare spending.



6. Medically Tailored Meals as a Prescription for Treatment of...

Rabaut, L. J. (2019). Medically Tailored Meals as a Prescription for Treatment of Food-Insecure Type 2 Diabetics, *Journal of Patient-Centered Research and Reviews*, 6(2), 179-83.

<https://doi.org/10.17294/2330-0698.1693>

In this study, Rabaut investigates the use of medically tailored meals as a prescription for treating individuals with living with food insecurity and Type 2 diabetes. The author discusses food insecurity in the US, specifically detailing how living with food insecurity can impact the health status of individuals with Type 2 diabetes and the exorbitant costs of both food insecurity and diabetes on the American healthcare system. The author argues that the US does not currently offer healthcare resources to directly address food insecurity, and reflects that the programming that does exist (including the federal Supplemental Nutrition Assistance Program and individual produce prescription programs) is not sufficient. Thus, Rabault advocates for medically tailored meals as an effective means of decreasing food insecurity and decreasing healthcare costs, citing recent studies that demonstrate the financial and health-based benefits of programs that have been rolled out thus far.

FOOD PHARMACY / MEDICALLY TAILORED GROCERIES



1. The food pharmacy: Theory, implementation,...

Donohue, J. A., Severson, T., & Martin, L. P. (2021). The food pharmacy: Theory, implementation, and opportunities. *American Journal of Preventive Cardiology*, 5, 100145.

<https://doi.org/10.1016/j.ajpc.2020.100145>

The authors use a narrative literature review to describe food pharmacies as a component of the idea of food as medicine, specifically as “...an umbrella term for programs designed to increase public access to fruits and vegetables” as they explore the theoretical framework behind the food pharmacy approach, its practical implementation, and the opportunities it offers to improve health outcomes. Variations of food pharmacies explored include on-site gardens, produce prescription programs, and hospital-based food pantries, and other clinic-based and non-clinic based approaches. The study illuminates how in-

tegrating a food and nutrition intervention focused on a brick-and-mortar market within a healthcare setting could address preventive cardiology and other public health challenges. In this market-model, patients would be given a prescription by their provider that could be fulfilled at the in-house market staffed by registered dietitians, where they could also receive nutrition and culinary education. This research explores the utilization of food pharmacies to date, explains common barriers including lack of sustainable funding, limited hours, seasonality, and transportation, and provides outlook for the future of food pharmacies.



2. Food is medicine: Actions to integrate food...

Downer, S., Berkowitz, S. A., Harlan, T. S., Olstad, D. L., & Mozaffarian, D. (2020). Food is medicine: Actions to integrate food and nutrition into healthcare. *BMJ*, 369, m2482.

<https://doi.org/10.1136/bmj.m2482>

In this article, the authors explore strategies to incorporate nutritional interventions within healthcare systems under the theme of food is medicine. The authors conduct a literature review to outline three types of modern interpretations of food is medicine including medically tailored groceries (food pharmacies), as well as medically tailored meals and produce prescription programs; they provide definitions, target population and published research outcomes for each type. The study contributes to the understanding of how healthcare providers can incorporate nutrition interventions and argues for more integration of these interventions within the healthcare system. By emphasizing the role of food in preventive and therapeutic healthcare approaches, the research highlights the potential benefits of addressing dietary factors as a crucial aspect of patient care.



3. Implementation of a Food Pharmacy into a Pediatric...

Frymark, E., Richardson, A. M., Kessenich, H., Holly, S. L., Odimayomi, O., Topping, S., Leon, J., Majidi, S. (2023). Implementation of a Food Pharmacy into a Pediatric Diabetes Clinic. *Diabetes*, 72(Supplement_1).

<https://doi.org/10.2337/db23-1791-PUB>

This study delves into the details of a DC-based clinic partnering with a local food bank to introduce The Food Pharmacy Program as part of the clinic's approach to managing pediatric diabetes. The authors provide insights into the practical implementation of this approach, which can be crucial for healthcare professionals seeking innovative methods to address pediatric diabetes management with a focus on social determinants of health. This program includes 50lb bagged grocery delivery including produce, protein, and grain from the food bank to the clinic and a food insecurity screener; if families screen positively, they're provided a bag of food from the clinic before they leave. Initial findings show that 62% of families have screened positively for screeners, and 20% of patient-families with diabetes received groceries. This research demonstrates that clinics can work with food banks and other community organizations to improve patient wellbeing.



4. Food as Medicine Clinic: Early Results...

Hu, D., Cherian, A., Chagin, K., et al. (2022). Food as Medicine Clinic: Early Results and Lessons Learned. *Cureus*, 14(11), e31912.

<https://doi.org/10.7759/cureus.31912>

Hu et al. present their food pharmacy model called the Food as Medicine Clinic, sharing initial outcomes and knowledge gained from its implementation. This clinic provides access to a hospital-based food pantry twice a week for up to one year for provider- or self-referred patients of a safety-net clinic in Ohio who screen for food insecurity and who have a diet-related chronic condition. Outcomes studied include increased fruit and vegetable consumption and changes in clinical indicators including blood pressure, A1c, etc. through analyzing pre- and post-intervention surveys and health record data. Three- and six-month surveys show that post-intervention, participants eat significantly more fruits and vegetables than they did at baseline, though there were no significant changes in clinical indicators or hospital visits. The authors find that white

participants and participants who refer themselves to the program utilize the clinic significantly more than non-white and provider-referred participants, and that barriers for those who do not come regularly included competing commitments and time constraints, other health issues, and more.



5. Addressing Barriers to Healthy Eating Through Food...

Matos, M. S., Suzuki, S., & White, N. (2023). Addressing Barriers to Healthy Eating Through Food as Medicine Initiatives. *American Journal of Lifestyle Medicine*.

<https://doi.org/10.1177/15598276231188645>

Matos, Suzuki, and White explore the role of food as medicine initiatives, including food pharmacies, medically tailored meals, and produce prescription programs in overcoming barriers to healthy eating. This study defines a food pharmacy as “...a program that provides grocery items, selected by a health professional with training in nutrition, to prevent, manage, or reverse chronic disease” and that these pharmacies can range from being based in a clinic, community, or school to mobile markets and home delivery. The authors investigate how each of these food as medicine-based approaches contribute to combatting financial, geographic, and knowledge barriers to improving dietary choices and promoting overall well-being. Findings focus on how these interventions are more likely to succeed if accompanied by behavior-change strategies, particularly those associated with enhanced self-efficacy through education, increased access, and support.



6. The Food Pharmacy Network: An Alternative Method for...

Wang, E., Gilbert, A., Mueller, S., & Wessels, A. (2019). The Food Pharmacy Network: An Alternative Method for Addressing Food Insecurity and an Assessment of Its Effectiveness (OR02-08-19). *Current Developments in Nutrition*, 3.

<https://doi.org/10.1093/cdn/nzz051.OR02-08-19>

In this study, Wang et. al assess the effectiveness of The Food Pharmacy Network, a group of 15 clinics across the country who run food pantry style food pharmacies within their institution, in a randomized controlled trial to address the complex issue of inadequate access to nutritious food. There are 513 participants randomized to the Food Pharmacy group who receive foods of their choice from the clinic-based pantry, monthly meetings with a dietetics professional, and referrals to community services, and 515 participants in the control group who receive pre-bagged food from a community food pantry. Both groups complete followups every three months for one year. Participants in the Food Pharmacy group eat significantly more produce, feel significantly more self-sufficient, and are significantly less likely to experience very low food security. Overall, this study demonstrates the importance of initiatives like the Food Pharmacy Network in providing tangible solutions to food insecurity and improving the nutritional status of individuals.



7. Design and Implementation of a Clinic-Based Food...

Wetherill, M. S., Chancellor McIntosh, H., Beachy, C., & Shadid, O. (2018). Design and Implementation of a Clinic-Based Food Pharmacy for Food Insecure, Uninsured Patients to Support Chronic Disease Self-Management. *Journal of Nutrition Education and Behavior*, 50(9), 947–949.

<https://doi.org/10.1016/j.jneb.2018.05.014>

In this study, the authors describe the design and implementation of a pilot clinic-based food pharmacy at two clinics within the University of Oklahoma, in partnership with a local food bank. Patients (n = 80) all have hypertension, diabetes, prediabetes and/or hyperlipidemia and are enrolled in this program either by themselves or through referral from their provider at the free clinics. Most participants live with food security and many struggle financially and report having to choose between purchasing food and medication. The program includes a box of fresh and shelf-stable foods selected by a dietitian in alignment with dietary needs for these chronic conditions, as well as a nutrition education booklet and recipe cards. The box can be picked up once a month for a total of seven months. Initial findings show that participants who receive at least

four boxes increase their dietary fiber and have improved blood pressure compared to baseline. These results emphasize the potential for food pharmacy programs to address food insecurity and enhance chronic disease management through patient-centered approaches that prioritize nutritional support.

PERSPECTIVES AND STRATEGIES FOR IMPLEMENTING FOOD AS MEDICINE INITIATIVES IN HEALTHCARE

1. Integrating Produce Prescriptions into the Healthcare System...



Auvinen, A., Simock, M., & Moran, A. (2022). Integrating Produce Prescriptions into the Healthcare System: Perspectives from Key Stakeholders. *International Journal of Environmental Research and Public Health*, 19(17).

<https://doi.org/10.3390/ijerph191711010>

Rooted in the idea of food as medicine, this study explores the perspectives of key stakeholders on integrating produce prescriptions into the healthcare system. The authors conduct nineteen semi-structured interviews with healthcare providers, patients, and community organizations involved in produce prescription programs to identify facilitators and barriers in implementing such programming. The findings show benefits including improved access to fresh produce, increased patient engagement in their health, and lower healthcare costs. Challenges including reimbursement issues, technology integration, and limited awareness among healthcare providers are also identified. This research provides a look into the implementation and integration of produce prescriptions within the healthcare system.

2. Improving Dietary Behavior: The Effectiveness...



Campbell, M., DeVellis, B., Strecher, V., Ammerman, A., DeVellis, R., & Sandler, R. (1994). Improving Dietary Behavior: The Effectiveness of Tailored Messages in Primary Care Settings. *American Journal of Public Health*, 84(5), 783-787.

<https://doi.org/10.2105/AJPH.84.5.783>

This publication examines individually tailored nutrition messages' effectiveness in promoting dietary behavior improvements within a family practice in North Carolina, specifically focused on decreasing fat intake and increasing fruit and vegetable intake. In this study, 558 adults are enrolled into the Partners in Prevention-Nutrition program where they take a pre-intervention survey and are randomized into one of three groups. The intervention group receives a mailed information packet with customized nutrition recommendations, recipes, and tips using the participant's baseline information from the survey. The non-tailored group receives a mailed information packet with generic diet information and guidance, and the control group does not receive any information. Research shows that those who receive tailored mail effectively reduce dietary fat intake when compared to the control group who receives nontailored messaging, though the information is not effective in increasing consumption of fruit and vegetables in either group. Findings centralize tailored messages' promise as an intervention strategy for enhancing healthy eating behaviors within primary care contexts.

3. An Exploration of Key Barriers to Healthcare Providers...



Coward, K. B., Cafer, A., Rosenthal, M. M., Allen, D., & Paltanwale, Q. (2021). An Exploration of Key Barriers to Healthcare Providers' Use of Food Prescription (FRx) Interventions in the Rural South. *Public Health Nutrition*, 24(5), 1095-1103.

<https://doi.org/10.1017/S1368980020005376>

This study investigates challenges faced by healthcare providers including physicians, registered dietitians and nurse practitioners in implementing food prescription interventions in clinics that serve predominately rural and low-income patients in Mississippi and Louisiana. Named barriers include concerns about patient compliance, limited nutrition knowledge, low access to fruits and vegetables, and clinic staffing, and these findings offer insights into barriers hindering successful implementation in rural healthcare settings. The study recommends strategies to address these barriers and support effective utilization of food prescription interventions, including a standard screening, ongoing training regarding nutrition and food prescriptions, and community advocacy training. Addressing these barriers is crucial for optimizing the impact of food prescription programs and enhancing the nutritional health of underserved rural populations.

4. Beyond clinical food prescriptions and mobile markets:...



DeWit, E. L., Meissen-Sebelius, E. M., Shook, R. P., Pina, K. A., De Miranda, E. D., Summar, M. J., & Hurley, E. A. (2020). Beyond clinical food prescriptions and mobile markets: parent views on the role of a healthcare institution in increasing healthy eating in food insecure families. *Nutrition Journal*, 19(1), 94.

<https://doi.org/10.1186/s12937-020-00616-x>

This study explores parent views on the barriers to obtaining fruit and vegetables, and of the role of a healthcare institution in increasing healthy eating in families with food insecurity. The authors conduct focus groups with primarily Black/African American and Hispanic/Latino caregivers in English and Spanish and find that parents believe healthcare institutions can play a crucial role in providing education, resources, and support to promote healthy eating habits. Parents underscore the importance of addressing the underlying causes of food insecurity and advocate for interventions that go beyond short-term solutions and span into advocacy such as hospital-led initiatives for food policy and readily available produce in clinics at no cost to patients. Cited barriers include cost, access, and desirability. The findings showcase that healthcare institutions can contribute to long-term improvements in healthy eating among food insecure families.

5. "Prevention Produce": Integrating Medical Student...



Forbes, J. M., Forbes, C. R., Lehman, E., & George, D. R. (2018). "Prevention Produce": Integrating Medical Student Mentorship into a Fruit and Vegetable Prescription Program for At-Risk Patients. *The Permanente Journal*, 23.

<https://doi.org/10.7812/TPP/18-238>

This publication describes the integration of medical student mentorship in a fruit and vegetable prescription program at Penn State called Prevention Produce. This program includes a weekly \$40 voucher for produce at partnering farmers markets, weekly nutrition counseling and shopping assistance for nine patient-families at risk for chronic disease and food insecurity. The article discusses the benefits of involving medical students in the program, including increased patient engagement and improved health outcomes measured at three years post-intervention. This article shows the capability of mentorship programs in enhancing the effectiveness of fruit and vegetable prescription programs and promoting balanced eating behaviors among at-risk populations.

6. "I Felt Like I Had Something I Could Do About It":...



Johnson, S. L., Fischer, L., Gupta, S., Lazerov, J., Singletary, J., & Essel, K. (2023). "I Felt Like I Had Something I Could Do About It": Pediatric Clinician Experiences With a Food Insecurity-Focused Produce Prescription Program. *Clinical Pediatrics*.

<https://doi.org/10.1177/00099228221150604>

This article explores how 11 pediatric clinicians in Washington, DC experience a Produce Prescription Program (PPRx) designed to address food insecurity in children and families by investigating their perspectives and perceived impacts. This PPRx includes the provision of standard resources and produce boxes delivered weekly for two months to patient-families

who screen positively for food insecurity or otherwise indicate struggles with obtaining food. The study demonstrates how clinicians perceive the PPRx as a means to address food insecurity among their patients and contribute to broader health outcomes through the concept of food as medicine. Findings are generated into four main themes, including expanded knowledge of and attitudes toward addressing food insecurity, a desire for further follow-up communication, and increased motivation to discuss food insecurity with patients knowing they had a solution they could provide.

7. Implementing a Produce Prescription Program for Hypertensive...



Joshi, K., Smith, S., Bolen, S., Osborne, A., Benko, M., & Trapl, E. (2019). Implementing a Produce Prescription Program for Hypertensive Patients in Safety Net Clinics. *Journal of Health Interventions*, 25(4), 215-230.

<https://doi.org/10.1177/1524839917754090>

This study examines the implementation of the PRxHTN produce prescription program to enhance access to fresh produce at farmer's markets and encourage consumption among 224 hypertensive patients in 3 safety net clinics in Ohio. The authors evaluate the process of the three-month program's implementation, including strategies for successfully implementing such a program and overcoming challenges such as staff selection, collaboration, and training. The study acknowledges the importance of communication with stakeholders, aligning priorities with collaborators, and engaging support staff throughout program implementation. It underscores produce prescriptions as a viable intervention for promoting healthier lifestyles among vulnerable populations, and provides solutions and lessons learned to glean from.

8. Ingredients for Success: Strategies to Support Local Food Use in...



Linton, E., Keller, H., & Duizer, L. (2018). Ingredients for Success: Strategies to Support Local Food Use in Health Care Institutions. *Canadian journal of dietetic practice and research: a publication of Dietitians of Canada*, 79(3), 113–117.

<https://doi.org/10.3148/cjdp-2018-008>

This study explores strategies to support local food use in healthcare settings. The authors conducted interviews with institutional leaders experienced in implementing or supporting local food use in these institutions. The findings identify key influences on local food use, including product availability, staff, and management engagement, and legislation and resources. The study also offers strategies for building and sustaining success, such as goal setting, working with suppliers to determine availability of local food, and clearly identifying which foods are local in product lists. This article provides valuable insights for clinic-based nutrition and dietetics professionals on how to increase local produce offerings at their institutions.

9. Perspectives of Health Care Staff on Predictors of...



McWhorter, J. W., Aiyer, J. N., Ranjit, N., Tups, J., Liew, E., John, J. C., & Sharma, S. V. (2022). Perspectives of Health Care Staff on Predictors of Success in a Food Prescription Program: A Qualitative Study. *Preventing Chronic Disease*, 20.

<https://doi.org/10.5888/pcd20.220178>

This qualitative study explores the perspectives of healthcare staff from 17 clinics on predictors of success in a food prescription program. The authors conduct interviews with healthcare staff involved in a food prescription program, Food Rx, operated by the Houston Food Bank in clinics in Texas. Authors identify four key themes from these interviews: the importance of 1) clinics utilizing a value-based care model for their patients and 2) of community partnerships with the local food bank and participating supermarkets, 3) the need to streamline enrollment and followup, and 4) barriers to success, including long wait times, limited supply, and transportation. The study provides a glimpse into the perspectives of health care staff and points out the importance of addressing multiple factors to ensure the success of food prescription programs.



10. Strategies and Challenges: Qualitative Lessons Learned...

Newman, T., & Lee, J. S. (2021). Strategies and Challenges: Qualitative Lessons Learned From Georgia Produce Prescription Programs. *Health Promotion Practice*.

<https://doi.org/10.1177/15248399211028558>

Newman and Lee present a study that offers a qualitative look into strategies and challenges encountered in produce prescription programs in Georgia, called Fruit and Vegetable Prescription (FVRx) Programs. The authors delve into the experiences of fifteen providers from three of these FGRx programs and examine the lessons learned from their perspectives. Through focus groups and individual interviews, the study sheds light on the approaches that contribute to the success of FVRx programs as well as the obstacles that may hinder their implementation and effectiveness. Facilitators focused around enhancing participant experience and ensuring a welcoming environment, including providing transportation, child-care, reminders, and flexibility. Barriers include provider dedication, unexpected events and emergencies in participant's lives, and the limitations of resources, staffing, funding, and post-program realities that come with the temporal nature of the program. This research provides a deeper understanding of the strategies that support the integration of FVRx programs within healthcare and community settings.



11. Potential of Local Food Use in the Ohio Health...

Raison, B., & Scheer, S. (2015). Potential of Local Food Use in the Ohio Health Care Industry: An Exploratory Study. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 131–147.

<https://doi.org/10.5304/jafscd.2015.053.011>

In this exploratory study, Raison and Scheer investigate the factors contributing to the purchase of and the increased potential for local food use in the Ohio healthcare industry, specifically in hospitals. The authors conduct interviews with healthcare professionals and find that there is interest in incorporating local food into healthcare settings, but cite barriers such as cost, logistics including food safety and inconsistent supply, and lack of awareness. The study presents the benefits of local food procurement in healthcare settings. By sourcing local food, healthcare facilities can support local farmers, reduce environmental impact, and provide fresher and more nutritious meals to patients. This research highlights opportunities and challenges of implementing local food initiatives in the healthcare industry, calling for further research and policy support.



12. A Case for Using Electronic Health Record Data in...

Ridberg, R. A., Yaroch, A., Nugent, N., Byker Shanks, C., & Seligman, H. (2022). A Case for Using Electronic Health Record Data in the Evaluation of Produce Prescription Programs. *Health Promotion Practice*.

<https://doi.org/10.1177/21501319221101849>

In this article, Ridberg et al. advocate for the utilization of Electronic Health Record (EHR) data in evaluating Produce Prescription (PPR) projects funded through the USDA's Gus Schumacher Nutrition Incentive Program (GusNIP) grant support. Since GusNIP-funded programs are required to evaluate and report on the impact of their PPRs, the authors interview 9 grantees to explore how EHR utilization and how the data can offer insight into the impact of PPRs on health outcomes and behaviors. The study identifies three common uses of EHR data (reporting aggregate data, contracting with evaluators for reporting, and accessing data directly) and emphasizes capability of EHR data to provide a comprehensive view of participants' health trajectories as well as the relationships between their participation in PPRs and changes in health indicators. By proposing the integration of EHR data in PPR evaluation, the authors showcase the importance of a data-driven approach in assessing the effectiveness of public health interventions.

POLICY AND FINANCING PRACTICES IN SUPPORTING



1. Food Is Medicine Movement—Key Actions Inside and Outside the...

Bleich, S. N., Dupuis, R., & Seligman, H. K. (2023). Food Is Medicine Movement—Key Actions Inside and Outside the Government. *JAMA Health Forum*, 4(8), e233149.

<https://doi.org/10.1001/jamahealthforum.2023.3149>

In this article, Bleich et al delve into recent policy development within the Food is Medicine (FIM) movement. Key actions by the federal government include administrative endorsement of FIM by urging states to expand FIM interventions through Section 1115 demonstration waivers (which permit state-based programmatic innovation within Medicaid), thus marking a significant step in policy support. Additionally, federal agencies including the USDA (through GusNIP), the US Department of Veterans Affairs (with the Rockefeller Foundation), and the Indian Health Service are all funding produce prescription programs. At the state government level, the authors report on various state uses of Medicaid Section 1115 waivers to address food insecurity including nutrition counseling, education, meal delivery, produce prescriptions, and providing a one-month supply of groceries to specific populations. Nongovernmental entities are investing billions in FIM-related start-ups, research, and development, highlighting new FIM Initiatives by Tufts University and a \$250 million partnership among the American Heart Association, the Rockefeller Foundation and Kroger. The authors conclude that health systems and insurers are increasingly integrating and supporting FIM programs to patients, and that ongoing collaboration between government and nongovernmental organizations is vital to expanding the reach of FIM interventions.



2. Implementing healthy food policies in health services:...

Boelsen-Robinson, T., Blake, M. R., Backholer, K., Hettiarachchi, J., Palermo, C., & Peeters, A. (2019).

Implementing healthy food policies in health services: A qualitative study. *Australian and New Zealand Journal of Public Health*, 43(1), 69-75.

<https://doi.org/10.1111/1747-0080.12471>

In this study, the authors delve into the challenges and opportunities involved in integrating an initiative to supply a wider range of health-promoting foods at a retailer within a healthcare setting. Utilizing qualitative research methods, the study analyzes the experiences of seven key stakeholders from the food retail staff and health service staff involved in implementing these policies through semistructured interviews geared toward exploring factors that facilitate or hinder the process from their perspective. The research illuminates the complexities of incorporating healthy food initiatives within healthcare environments, considering factors such as resources and support, communication, balancing priorities, and the role of passion in implementing the policy. By addressing the intricacies of policy implementation, the study contributes to understanding the practical considerations and strategies required to promote healthier food environments within healthcare facilities.



3. Meaningful, measurable, and manageable approaches to...

Fleischhacker, S., Flournoy, R., & Moore, L. (2013). Meaningful, measurable, and manageable approaches to evaluating healthy food financing initiatives: an overview of resources and approaches. *Journal of Public Health Management and Practice*, 19(5), 473-478.

<https://doi.org/10.1097/PHH.0b013e318271c6eb>

Fleischhacker et. al provide an overview of evaluation approaches for Healthy Food Financing Initiatives (HFFIs). The authors explore complexities of evaluating programs that aim to increase access to healthy foods in underserved communities. Through a comprehensive review of existing resources and methods, the study highlights various evaluation frameworks and metrics that can be employed to assess the impacts of HFFIs including food, nutrition, and health; community development; economic development; and job creation, and evaluates types of studies (qualitative, case study, etc) for their strengths and

weaknesses in this field. By addressing the challenges of measuring outcomes in this context, the research contributes to enhancing the effectiveness and accountability of policies and programs designed to improve food environments.



4. Promoting healthy food consumption: a review of state-level...

Hood, C., Martinez-Donate, A., & Meinen, A. (2012). Promoting healthy food consumption: a review of state-level policies to improve access to fruits and vegetables. *WMJ: Official Publication of the State Medical Society of Wisconsin*, 111(6), 283–288.

<https://wmjonline.org/wp-content/uploads/2012/111/6/283.pdf>

This article reviews state-level policies aimed at improving access to fruits and vegetables to promote healthy food consumption in Wisconsin. The authors examine various policy approaches, such as farmers markets, healthy food financing initiatives, and nutrition education programs. The review highlights the effectiveness of these policies in increasing access to fresh produce and improving dietary behaviors. The findings accentuate the importance of comprehensive and multi-faceted approaches to address food access challenges and promote healthy eating at the state level. Recommendations include the creation of a statewide food policy council and the expansion of the Women, Infants and Children (WIC) program for further policy advocacy and bolstered food access.



5. Healthy Food Procurement Policies and Their Impact...

Niebylski, M., Lu, T., Campbell, N., Arcand, J., Schermel, A., Hua, D., Yeates, K., Tobe, S., Twohig, P., L'Abbé, M., & Liu, P. (2014). Healthy Food Procurement Policies and Their Impact. *International Journal of Environmental Research and Public Health*, 11(3), 2608-2627.

<https://doi.org/10.3390/ijerph110302608>

This study explores the far-reaching impact of healthy food procurement policies across various settings, including schools, worksites, hospitals, government institutions, correctional facilities, and more. By examining environments with such a broad range of recipients, the authors provide a comprehensive analysis of how policy interventions can influence healthy eating habits across the spectrum. The study showcases the capacity of well-implemented procurement policies to significantly enhance markers of healthy eating, underscoring the broad applicability of this approach. Through their comprehensive review, analysis of existing research, and the overall lack of unsuccessful policy interventions across all examined studies, the authors establish a compelling case for the integration of such policies in differing contexts and directly advocate for policy implementation anywhere where food is served. The insights offered by Niebylski et al. offer a reference point for policymakers, researchers, and practitioners seeking evidence-based strategies to foster healthier food environments and encourage better dietary choices in a range of settings.

CULTURAL SIGNIFICANCE AND FOOD SOVEREIGNTY



1. An appreciative inquiry and inventory of Indigenous food...

Babcock, A., & Budowle, R. (2022). An appreciative inquiry and inventory of Indigenous food sovereignty initiatives within the western U.S. *Journal of Agriculture, Food Systems, and Community Development*, 11(2), 135–160.

<https://doi.org/0.5304/jafscd.2022.112.016>

In their study, Babcock and Budowle (2022) utilize a systematic search to conduct an appreciative inquiry to inventory Indigenous Food Sovereignty (IFS) initiatives across the western United States. The authors employ an appreciative inquiry approach to emphasize the strengths and successes of the 123 identified IFS initiatives, focusing on their efforts to reclaim food systems, preserve traditional knowledge, and enhance food sovereignty within Indigenous communities. Across initia-

tives, three key themes emerge: practical strategies like food production and distribution, cultural revitalization encompassing education and identity preservation, and foundational elements such as advocacy, policy, funding, and partnerships with non-Indigenous actors. The authors find that IFS initiatives occur at various scales and demonstrate values like relationality, reciprocity, and respect, while utilizing strategies ranging from restoring traditions to modern approaches showcases the essence of food sovereignty, self-determination. The study contributes a US-based perspective to the literature on IFS and is the first to comprehensively inventory these initiatives in a US context.

2. Understanding health and illness: research at the...



Durie, M. (2004). Understanding health and illness: research at the interface between science and indigenous knowledge. *International Journal of Epidemiology*, 33(5), 1138-1143.

<https://doi.org/10.1093/IJE/DYH250>

In this article, Durie explores the complex interplay between Indigenous knowledge and scientific paradigms regarding health and illness. The author highlights the inherent challenges in harmonizing these two distinct knowledge systems in both research and practical applications. This analysis underscores that Indigenous knowledge, rooted in cultural heritage, cannot be readily evaluated through the lens of current scientific criteria, and conversely, scientific principles may not fully encapsulate the richness of Indigenous perspectives. The paper calls for a more nuanced approach that respects and integrates both knowledge frameworks to achieve a comprehensive understanding of health. By recognizing the limitations of a unidimensional perspective and promoting a collaborative exchange of insights, Durie contributes to the ongoing discourse on bridging the gap between Indigenous wisdom and scientific exploration within the context of health and illness.

3. Increasing fruit and vegetable intake with reservation...



Emm, S., Harris, J., Halterman, J., Chvilicek, S., & Bishop, C. (2019). Increasing fruit and vegetable intake with reservation and off-reservation kindergarten students in Nevada. *Journal of Agriculture, Food Systems, and Community Development*, 9(Suppl. 2), 215–224.

<https://doi.org/10.5304/jafscd.2019.09B.014>

This article discusses the Veggies for Kids program, a 12-week elementary nutrition education program developed by the University of Nevada Cooperative Extension. The program aims to increase fruit and vegetable intake among elementary students, specifically targeting American Indian kindergarteners attending schools on reservations or near reservations in rural areas of Nevada by utilizing traditional foods, tribal language, and gardening experiences to introduce healthy eating habits to students. The study collects pre- and post-test data from 45 American Indian kindergarten students on reservations and 486 kindergarten students in off-reservation schools located near reservations. Findings indicate that the Veggies for Kids program successfully raised student awareness and recognition of healthy foods, increased water consumption, and promoted physical activity in both groups, and that the program aligns with the Healthy People 2020 goals of promoting healthful diets and healthy weights. Limitations include county nutrition policies, testing fidelity, and curriculum fidelity, all of which could have influenced results. Future research will focus on evaluating the efficacy of the program and addressing food access issues in reservation and rural communities.

4. Healthy Roots: Building capacity through shared...



Gordon, K., Lickers Xavier, A., & Tait Neufeld, H. (2018). Healthy Roots: Building capacity through shared stories rooted in Haudenosaunee knowledge to promote Indigenous foodways and well-being. *Canadian Food Studies*, 5(2), 180–195.

<https://doi.org/10.15353/cfs-rcea.v5i2.210>

This article focuses on the Healthy Roots program which aimed to promote traditional food consumption through ancestral Haudenosaunee knowledge sharing within the community of Six Nations in Ontario. The authors discuss the importance

of traditional food consumption and the challenges faced by urban and reserve-based First Nation families in obtaining nutrient-dense foods. The Healthy Roots program, a 90-day challenge to eat foods that existed in North America pre-settler contact and exercise for 30 minutes a day, shows positive outcomes among adult participants, including better-controlled blood glucose, strength gains, and increased traditional food knowledge. This research accentuates how community-based initiatives can promote Indigenous foodways and well-being.

5. Enacting food sovereignty in Aotearoa New Zealand and Peru:...



Huambachano, M. (2018). Enacting food sovereignty in Aotearoa New Zealand and Peru: revitalizing Indigenous knowledge, food practices and ecological philosophies. *Journal of Political Ecology*, 25(1), 1074-1094.

<https://doi.org/10.1080/21683565.2018.1468380>

This article examines the role of Indigenous food sovereignty practices as tools for Indigenous resurgence and social change. Focusing on two Indigenous communities in Aotearoa New Zealand (Maori) and Peru (Quechua) from 45 unstructured interviews with Elders and other community leaders and members involved in the food system, the study highlights the importance of revitalizing Indigenous knowledge, food practices, and ecological philosophies to enact food sovereignty in these regions. This article also introduces the “Khipu Model,” an Indigenous-based research framework centralizing around the acts of knowing, being, and doing at each stage of the research process. The research shows how these practices offer alternative sustainable food system solutions that counter prevailing trends of industrialized food production and consumption.

6. Indigenous food sovereignty: Reclaiming food as sacred...



Huambachano, M. (2019). Indigenous food sovereignty: Reclaiming food as sacred medicine in Aotearoa New Zealand and Peru. *New Zealand Journal of Ecology*, 43(3), 4461.

<https://doi.org/10.20417/nzjecol.43.39>

In this 2019 article, Huambachano expands upon the previous article through an exploration of how Indigenous food sovereignty serves as a means of reclaiming food as medicine in the two locations. The study outlines the cultural centrality of the belief in food as medicine and of traditional ecological knowledge (TEK) systems in the food values of Quechua and Maori peoples. By illuminating the cultural and spiritual dimensions of Indigenous food practices, the research contributes to understanding how these practices are deeply rooted in historical, social, and ecological contexts. Huambachano’s focuses on the intrinsic relationship between food, health, spirituality, and identity within Indigenous communities, emphasizing the importance of preserving and honoring traditional food systems.

7. Two-Eyed Seeing. Guiding Principles.



Institute for Integrative Science & Health [IISH]. (2012). Two-Eyed Seeing. Guiding Principles.

<http://www.integrativescience.ca/Principles/TwoEyedSeeing/>

This article explains Mi’kmaq Elder Albert Marshall’s concept of Two-Eyed Seeing (Etuaptmumk) as a guiding principle for integrative science, based on Indigenous and Western knowledge systems. Two-Eyed Seeing emphasizes learning to see from both Indigenous and Western perspectives simultaneously for the benefit of all, sharing that this principle is essential for fostering a mindset necessary for collaborative work. The article shares Elder Albert’s emphasis on the importance of bringing together different ways of knowing to address contemporary challenges and to ensure the well-being and future of Indigenous peoples. Further, Two-Eyed Seeing is related to Netukulimk, a Mi’kmaq understanding emphasizing interconnectedness with the natural world. This article emphasizes the need for respectful engagement between knowledge systems to avoid clashes or domination by any single worldview and ends by discussing some practical applications of Two-Eyed Seeing in research, education, and community engagement, highlighting its significance beyond the field of Integrative Science.



8. Responsibilities and reflections: Indigenous food, culture,...

Martens, T. (2018). Responsibilities and reflections: Indigenous food, culture, and relationships. *Canadian Food Studies*, 5(2), 187-204.

<https://doi.org/10.15353/CFS-RCEA.V5I2.216>

In this article, Martens delves into the intricate connections between Indigenous communities, their food practices, and the broader cultural and relational contexts. Through reflection and commentary, the author examines how Indigenous food practices are intertwined with responsibilities, traditions, and values, illustrating the role of food as a medium for fostering relationships and maintaining identity. The research contributes to the understanding of the multifaceted significance of Indigenous food systems and their role in promoting well-being, resilience, and community cohesion. This study is of particular importance to those engaging with Indigenous communities, as it provides insights into the intricate connections between food, culture, and community dynamics, fostering a deeper appreciation for the complexities of Indigenous food sovereignty and the importance of traditional food practices.



9. Can integrating Aboriginal health content in undergraduate...

McCartan, J., Dart, J., Adams, K., Davidson, Z., & Brimblecombe, J. (2020). Can integrating Aboriginal health content in undergraduate nutrition curricula foster student cultural capabilities? *Nutrition & Dietetics*, 77(3), 325-340.

<https://doi.org/10.1080/07294360.2020.1740182>

McCartan et al. investigate how incorporating Aboriginal health perspectives in nutrition education can contribute to enhancing students' understanding of and respect for Indigenous cultures at a university in Australia. The curriculum that is implemented, the Aboriginal and Torres Strait Islander Health Curriculum Framework, includes five domains of cultural capability including respect, communication, safety and quality, reflection, and advocacy as well as seventeen expected learning outcomes. Through pre- and post-course surveys, the study examines the experiences and perspectives of students who engage with this integrated curriculum. By focusing on cultural capabilities, the research reveals how such integration can lead to improved cross-cultural communication and awareness among future nutrition professionals, as students reported improved cultural capability after completing the course. These findings contribute to understanding how education can play a role in promoting knowledge and understanding in the field of nutrition and dietetics.



10. Innovation Brief. Community Wellbeing: Food Prescriptions.

Nourish Leadership. (2022). Innovation Brief. Community Wellbeing: Food Prescriptions. [PDF File]

<https://static1.squarespace.com/static/58829365c534a576e10e3a5c/t/6387af005e3dfb0edfff8b6b/1669836545814/2022-11-30+-+Innovation+workshop+-+Food+prescriptions+%2814h27%29.pdf>

In this Nourish publication, the authors confront the issue of food insecurity (FI) in Canada, stating that FI disproportionately burdens Indigenous communities, although it is often underreported. They firmly position food insecurity as a manifestation of historically embedded power imbalances, emphasizing the need to address root causes like income inequality, land access, and longstanding patterns of exclusion. Healthcare is called upon to play a crucial role in advocating for comprehensive solutions, fostering awareness of Indigenous knowledge and practice, understanding Indigenous food traditions, and creating food environments reflective of tradition. The authors introduce food prescribing as a promising approach to combat food insecurity, detailing upcoming pilot models in Saskatchewan, Quebec, Toronto and other locations across Canada that provide produce prescriptions to Indigenous communities. This article encourages community partnership and explores the potential to integrate food prescriptions into broader food systems to promote economic development, food sovereignty, and sustainability.



11. A Native Perspective: Food Is More Than Consumption...

Vernon, R. (2015). A Native Perspective: Food Is More Than Consumption. *Journal of Agriculture, Food Systems, and Community Development*, 5(4), 155-156.

<https://doi.org/10.5304/JAFSCD.2015.054.024>

In this article, Vernon presents a Native perspective on the multifaceted role of food beyond mere consumption. The study delves into Indigenous viewpoints on food, emphasizing its significance in cultural, spiritual, and social contexts. The author showcases the intricate connections between food, identity, tradition, and community well-being in contrast to American individualism. Referencing her previous qualitative research among 11 tribes, the study shows how Indigenous communities perceive and value food beyond its nutritional aspects and the author argues that proposed solutions to food problems resulting from change forced upon Indigenous peoples must reflect history and culture honestly. The findings underscore the need to acknowledge and respect these holistic perspectives when developing policies and interventions related to food systems. To accomplish this, the author recommends bolstering the efforts of Native people in recreating their own food systems through government funding, leadership building, and developing awareness of Indigenous knowledge and practice.

HOLISTIC HEALTH AND MEDICINAL PROPERTIES OF FOOD



1. "It's all interconnected... like a spider web"...

Goettke, E., & Reynolds, J. (2018). "It's all interconnected... like a spider web": A qualitative study of the meanings of food and healthy eating in an Indigenous community. *International Journal of Circumpolar Health*, 78(1).

<https://doi.org/10.1080/22423982.2019.1648969>

This qualitative study explores the meanings of food and healthy eating in an Indigenous (Cree) community in Nemaska, Canada. The authors conduct eight semi-structured interviews with community members and observational field notes to gain a greater understanding of attitudes and meanings about what healthy eating is perceived to be. The findings reveal that constructs of healthy eating are influenced largely by localized traditional food and preparation methods, historical experiences, and land access in combination with medicalized accounts of illness and diagnosed conditions. The study showcases the importance of incorporating local understandings of health and acknowledging the broader socio-political factors that shape Indigenous lifestyles, environments, and health when addressing diet related disease in this population. This article communicates the need for relevant and desirable approaches to promoting healthy eating in Indigenous communities.



2. Gender roles, food system biodiversity, and food security in...

Kuhnlein H. V. (2017). Gender roles, food system biodiversity, and food security in Indigenous Peoples' communities. *Maternal & Child Nutrition*, 13 Suppl 3(Suppl 3), e12529.

<https://doi.org/10.1111/mcn.12529>

In this article, Kuhnlein analyzes how certain demographics influence food access, availability, and utilization within Indigenous communities. The author discusses how Indigenous peoples face higher rates of poverty, discrimination and poor nutritional status than the general population, despite centuries of ecological heritage and knowledge. This work also asserts the importance of improving and maintaining biodiversity of medical and food species in traditional food systems, and how this biodiversity contributes to food security. Kuhnlein emphasizes the need for approaches to address food security challenges in Indigenous communities and encourages policy focused on protecting traditional lands and foods.



3. Indigenous Nutrition: Using Traditional Food Knowledge...

Milburn, M. P. (2005). Indigenous Nutrition: Using Traditional Food Knowledge to Solve Contemporary Health Problems. *American Indian Quarterly*, 29(3), 303-318.

<https://doi.org/10.1353/AIQ.2004.0104>

In this article, Milburn delves into the intersection of traditional food knowledge and modern health challenges, with a particular focus on Indigenous communities. The author draws parallels between traditional Chinese and Indigenous cultures in their holistic approach to food and medicine, challenging the conventional separation between the two domains. This exploration sheds light on the prospect of integrating traditional food practices into contemporary health solutions, noting that traditional diets are protective from Western diet-related disease. By advocating for the acknowledgment and application of Indigenous food wisdom, nutrition, and science, the paper contributes to the discourse on approaches to addressing health issues reflective of Indigenous experience. Milburn's emphasis on recognizing the inherent value of traditional knowledge systems offers a crucial perspective for addressing the health concerns faced by Indigenous communities while honoring their rich heritage.



4. Traditional Food as Medicine at Sioux Lookout...

Nourish Leadership. (2020). Traditional Food as Medicine at Sioux Lookout Meno Ya Win Health Centre.

<https://www.nourishleadership.ca/practice-study-slmhc>

This article describes a pilot program implemented by the Sioux Lookout Meno Ya Win Health Centre (SLMHC) in North-western Ontario, a hospital which has a high population of Indigenous patients. This initiative, called Miichim, addresses a long-standing issue where Indigenous patients in Canada faced inadequate care due to a lack of Traditional foods offerings, demonstrating a misunderstanding of Indigenous food preferences and traditions. The Miichim program embodies the idea of food as medicine by sourcing donated Traditional foods, developing region-specific Traditional recipes with Elders, and standardizing these recipes with hospital cooks and dietitians for service twice a week to patients. By serving traditional foods as a part of healing plans, SLMHC bridges this gap, offering patients an environment mindful of Anishinaabe culture. The program leads to improved patient care and contributes to broader goals of decolonization and reconciliation, showcasing the vital role of Traditional foods in Indigenous culture and their power to facilitate healing and cultural preservation.



5. Innovation Brief. Traditional Food as Medicine.

Nourish Leadership. (2022). Innovation Brief. Traditional Food as Medicine. [PDF file].

<https://static1.squarespace.com/static/58829365c534a576e10e3a55ct/63504b746e5de44ef79847a1/1666206581799/2022-10-19-+Innovation+workshop+--+Traditional+foods+brief+%2815h08%29.pdf>

This publication addresses uneven health outcomes within Indigenous communities in Canada, encapsulated in the term "Indigenous Health Gap," which attributes these gaps to the enduring legacy of colonialism. The authors reference forced displacement, residential schools, and discrimination as leading to higher rates of conditions like diabetes, obesity, and heart disease among Indigenous populations. To bridge this gap and advance reconciliation, the document highlights the need for collaborative efforts between healthcare leadership and Indigenous communities. Additionally, it emphasizes the role of menus in healthcare that feature familiar foods, highlighting the importance of awareness of Indigenous practice and mindfulness in patient-centered care, where food can be a medium for expressing such knowledge. This brief also discusses challenges surrounding the provision of traditional wild game and country foods which are integral to Indigenous cultures and well-being, including legislative constraints, logistical hurdles, power imbalances, and misconceptions.



6. Kincentricity and Indigenous Wellbeing: Food(ways) and/as...

Presley, R. (2022). Kincentricity and Indigenous Wellbeing: Food(ways) and/as Holistic Health in the Native

This research article explores the concept of kincentricity and its impact on Indigenous wellbeing, particularly focusing on how Indian Health Services (IHS) and the American Indian Cancer Foundation (AICF) promote the idea of food as medicine within the Native medicine wheel framework. In this piece, kincentricity is understood as a "...framework to reconceptualize the body as its own rhetorical ecosystem," and the Native medicine wheel as "...a rhetorical symbol for food sovereignty and indigenous health." The study demonstrates how IHS and the AICF utilize the idea of food as medicine as a connecting thread in various iterations of the Native medicine wheel to encourage eating and living traditionally in combination with utilizing tribal resources as a means of restoring health and cultural connectivity. By emphasizing the interconnectedness of Indigenous foodways and holistic health, the study shows how these organizations are centralizing cultural practices and knowledge systems that contribute to the overall wellbeing of Indigenous populations.



7. Indigenous perspectives on education for sustainable healthcare...

Redvers, N., Schultz, C., Vera, M. R., Cunningham, M., Jones, R., & Blondin, B. (2020). Indigenous perspectives on education for sustainable healthcare. *Medical Teacher*, 42(12), 1360-1361.

<https://doi.org/10.1080/0142159X.2020.1791320>

Redvers et al. explore the concept of education for sustainable healthcare (ESH) and argue that sustainability practices need to acknowledge and utilize Indigenous systems of knowing and create space for Indigenous community members and professionals in practice. The study highlights Indigenous perspectives to identify relevant and sustainable approaches in medical education through the lens of "land" or "country" as medicine. The findings relate the importance of aligning medical education with Indigenous values, emphasizing holistic health, community involvement, and awareness of Indigenous knowledge and practice. The study emphasizes the need to centralize Indigenous knowledge within conventional medical education, contributing to more effective and reflective healthcare practices. Eight recommendations are made for the Indigenousization of ESH including prioritizing and increasing Indigenous students, Indigenous faculty, and Indigenous involvement in schools, institutions, and workplaces as well as recognizing discomfort and unearned advantage, including Indigenous perspectives in sustainability curricula, and more.



8. Food Diversity and Indigenous Food Systems to Combat...

Sarkar, D., Walker-Swaney, J., & Shetty, K. (2019). Food Diversity and Indigenous Food Systems to Combat Diet-Linked Chronic Diseases. *Current developments in nutrition*, 4(Suppl 1), 3–11.

<https://doi.org/10.1093/cdn/nzz099>

This article discusses the importance of food diversity and Indigenous food systems in combating diet-linked chronic diseases such as type 2 diabetes and cardiovascular diseases in Native American communities. The authors emphasize the need to restore native ecosystems, revive traditional and heirloom food crop cultivation, and promote traditional knowledge of food preparation and preservation while incorporating these strategies into broad public health strategies. They emphasize the health benefits of traditional plant-based foods and their rich source of bioactive compounds, and how over time loss of access to land, natural resources, and dislocation have negatively contributed to the epidemic of non-communicable chronic disease. The article underscores the significance of integrating traditional plant food diversity into dietary strategies to address the challenges of noncommunicable chronic diseases in indigenous communities.



9. Aboriginal Health Learning in the Forest and Cultivated Gardens:...

Stroink, M., & Nelson, C. (2009). Aboriginal Health Learning in the Forest and Cultivated Gardens: Building a Nutritious and Sustainable Food System. *Journal of Aboriginal Health*, 6(1), 18-31.

<https://doi.org/10.1080/10599240902739737>

In this study, Stroink and Nelson explore the significance of sustainable food systems for remote and Aboriginal communities through the implementation of the Learning Garden program, developed and offered with Indigenous communities in Ontario, with a series of workshops to rebuild knowledge in support of a sustainable food system. The authors report on survey results from 20 participants of this program. Findings suggest that participants' diets at baseline largely consisted of foods purchased from grocery and convenience stores and that previous knowledge of cultivated and forest foods was limited. After completing the program, participants report positive outcomes including the belief that this holistic and flexible program can improve knowledge of local foods. By engaging with forest and cultivated gardens, the research emphasizes the capability of Indigenous knowledge in shaping strategies that address differences in health outcomes and food security challenges.

FOOD SYSTEMS AND SUSTAINABILITY



1. Building an Indigenous Foods Knowledges Network Through...

Jäger, M. B., Ferguson, D., Huntington, O. H., Johnson, M., Johnson, N., Juan, A., Larson, S., Pulsifer, P., Reader, T., Strawhacker, C., Walker, A., Whiting, D., Wilson, J., Yazzie, J., & Carroll, S. (2019). Building an Indigenous Foods Knowledges Network Through Relational Accountability. *Journal of Agriculture, Food Systems, and Community Development*, 9(B), 69-80.

<https://doi.org/10.5304/jafscd.2019.09b.005>

In their article, Jäger et al. discuss the formation of an Indigenous Foods Knowledges Network (IFKN) grounded in relational accountability. The authors present how Indigenous knowledge systems inform practices and community understanding of food as medicine. By collaboratively engaging with Indigenous communities, the network seeks to revitalize traditional food practices, enhance food security, and foster sustainable food systems. The study demonstrates the importance of community-driven initiatives that center on Indigenous perspectives, contributing to a holistic approach to food sovereignty and well-being. Through the lens of relational accountability, the authors underscore the significance of respectful, reciprocal partnerships in fostering cross-cultural understanding and meaningful change within food-related practices and policies.



2. Food system sustainability for health and well-being of Indigenous...

Kuhnlein H. V. (2015). Food system sustainability for health and well-being of Indigenous Peoples. *Public Health Nutrition*, 18(13), 2415–2424.

<https://doi.org/10.1017/S1368980014002961>

This publication by Kuhnlein examines how several Indigenous communities understand ways to promote sustainability within the context of their food systems, now comprised of both traditional foods and nontraditional commercial foods. Through twelve case studies, Kuhnlein stresses the importance of traditional food systems and their role in supporting the nutritional needs and cultural practices of Indigenous communities. The article discusses the challenges faced by Indigenous communities in maintaining their food systems, including dispossession of land, shortages and contamination of available resources, and loss of available species, and showcase the need for sustainable and appropriate approaches that respect community desires and promote community resilience, like improving local availability, access, and knowledge of traditional foods.



3. Why and How to Strengthen Indigenous Peoples' Food Systems With...

Kuhnlein, H. V., & Chotiboriboon, S. (2022). Why and How to Strengthen Indigenous Peoples' Food Systems With Examples From Two Unique Indigenous Communities. *Frontiers in Sustainable Food Systems*, 6, 808670.

<https://doi.org/10.3389/fsufs.2022.808670>

This article reports on mixed methods research that aimed to promote traditional foods to among the Nuxalk Nation in Canada and the Karen Indigenous community in Thailand, including surveys, interviews, focus group discussions, and participant observation. The purpose of presenting these case studies is to motivate and encourage Indigenous communities worldwide to utilize their traditional food systems, and to underscore the need for policymakers to provide immediate support to Indigenous communities' food systems at all levels. Findings suggest that promoting traditional foods can improve nutrition and food security, and that involving community members in the research process can foster trust, knowledge exchange and preservation, empowerment, and local and sustainable food system development. The need for effective policies is emphasized to support healthy food systems and improve nutrition and food security among Indigenous communities, specifically citing the World Health Organization's call for policies that address food security, reduce food marketing to children, and promote public awareness of health-promoting foods. Overall, this piece stresses the importance of policy interventions to support sustainable and desirable food systems for Indigenous communities.

4. Indigenous Peoples' Food Systems for Health: Finding Interventions...



Kuhnlein, H., Erasmus, B., Creed-Kahashrio, H., Englberger, L., Okeke, C., Turner, N., Allen, L., & Bhattacharjee, L. (2006). Indigenous Peoples' Food Systems for Health: Finding Interventions That Work. *Public Health Nutrition*, 9(8), 1013-1019.

<https://doi.org/10.1017/phn2006987>

This article reports on a meeting held in South Africa on behalf of the Task Force on Indigenous Peoples' Food Systems, the Kwa Zulu Indigenous community, and other scientists. The authors discuss findings from 12 ongoing case studies of Indigenous community-academic partnerships across the world, and explore the vital role of Indigenous food systems in promoting the health and well-being of Indigenous people at nutritional risk. The authors draw attention to the significance of respecting and incorporating traditional food practices for improved health outcomes in Indigenous communities by listing intervention ideas from the case studies, including agricultural and school-based activities, community projects, traditional food harvesting, and meaningful cross-sectoral initiatives with healthcare organizations. The authors also outline potential measurable indicators for these intervention ideas which were created with academic partners and community leaders, spanning biological and process indicators as well as ways to measure knowledge, beliefs, food, health, and the environment. This work demonstrates the vast nature of Indigenous food systems and demonstrates the need to integrate indigenous knowledge and practices into health programs, rather than imposing external solutions.

5. Dietary change and traditional food systems of indigenous peoples...



Kuhnlein, H. V., & Receveur, O. (1996). Dietary change and traditional food systems of indigenous peoples. *Annual review of nutrition*, 16, 417-442.

<https://doi.org/10.1146/annurev.nu.16.070196.002221>

In this publication, Kuhnlein and Receveur examine how dietary change impacts the traditional food systems of Indigenous peoples. The article discusses the factors contributing to dietary change, including relocation, delocalization of the food supply, and sociopolitical factors. It focuses on the importance of traditional food systems in providing nutritionally balanced diets and maintaining identity, and emphasizes the need for policies and interventions that support the preservation and revitalization of traditional food systems to improve the health and well-being of Indigenous peoples.

6. Food Systems Tactic Checklist. Community Food Systems Assessments.



Long, Courtney. (2023). Food Systems Tactic Checklist. Community Food Systems Assessments.

<https://www.extension.iastate.edu/ffed/cfs>

Long outlines a comprehensive framework for understanding and developing community-based food systems. This framework consists of five primary sectors: Cultivation and Harvesting, Transformation and Processing, Aggregation and Distri-

bution, Purchasing and Nourishment, and Conservation and Stewardship. These sectors interact with various community assets such as Built Infrastructure, Culture and Wellness, Dignity and Involvement, Economy and Finance, Governance and Policy, Knowledge and Wisdom, and the Natural Environment. The checklist identifies tactics within each sector, ranging from residential gardens and community-supported agriculture to food banks and waste prevention programs. It encourages community engagement in food system development and provides a tool for tracking tactics and encourages collaboration to address local needs. Long highlights four key tactics essential for community food system development: Local Food Coordinators/Value Chain Coordinators, Food System Coalitions, Food Policy Councils, and Wellness Policies. These tactics facilitate coordination, collaboration, and policy change to promote sustainable and just food systems. Overall, the checklist serves as a guide for individuals and communities to understand, assess, and improve their local food systems, emphasizing the importance of collaboration, involvement, and sustainability.



7. Combining Cognitive Mapping and Indigenous knowledge to...

McKelvie-Sebileau, P., Rees, D., Swinburn, B., Gerritsen, S., D'Souza, E., & Tipene-Leach, D. (2021). Combining Cognitive Mapping and Indigenous knowledge to improve food environments in regional New Zealand. *Health Promotion Journal of Australia*, 32(S1), 67-68.

<https://doi.org/10.1002/hpja.549>

This study combines Cognitive Mapping and Indigenous knowledge to understand the underlying factors contributing to childhood obesity and to improve the food environment through community engagement. Through eleven cognitive mapping interviews with community members, the authors investigate how local Indigenous knowledge can inform strategies for improving the availability of healthy food options. The study showcases the significance of incorporating traditional knowledge and community insights in addressing public health challenges related to nutrition in Indigenous populations. Emerging themes from the mapping sessions included building traditional knowledge and ways of being early in life, focusing on holistic health, working with the community, creating cohesion between people and projects, tackling food insecurity before focusing on other issues, and utilizing schools as venues for nutrition and nutrition education. These themes will be used to assist in future efforts to improve food environments in this community.



8. From individual action to systems change:...

Nourish Leadership. (2020). From individual action to systems change: Instituting values-based food procurement.

<https://www.nourishleadership.ca/practice-study-thunder-bay>

This Nourish case study follows Dan Munshaw, a procurement manager within the City of Thunder Bay, as he works to increase spending on local and relevant food for the city's Indigenous population. The article explores Munshaw's efforts to reshape the city's food acquisition approach, pivoting away from cost-centric practices and embracing a values-based strategy that centers local and sustainable food acquisition consistent with traditional food systems. The narrative explores barriers including the misinformed assumption that local suppliers are less safe than mainstream distributors, the reliance on non-local and low-cost distribution channels, and the difficulty of ensuring Indigenous food values are upheld from harvest to preparation and presentation in a capitalist system. The article focuses on Munshaw's interventions which span new procurement techniques, policy formulation, and the incorporation of Indigenous culinary traditions, leading to a substantial increase in local food sourcing (from 15% to 34%) and the cultivation of meaningful and healing bonds with Indigenous communities. This case study offers a portrayal of how an individual can set in motion transformative shifts within an organization and the broader community.



9. Collaborating With Alaska Native Communities to Design a...

Nu, J., & Bersamin, A. (2017). Collaborating With Alaska Native Communities to Design a Cultural Food

Intervention to Address Nutrition Transition. Progress in community health partnerships: research, education, and action, 11(1), 71–80.

<https://doi.org/10.1353/cpr.2017.0009>

This article discusses the collaboration between researchers and Alaska Native communities to design a cultural food intervention, the Fish-to-School Program, to address declining dietary quality and overall dietary pattern change by reconnecting students to salmon in traditionally meaningful ways. The authors point out the importance of understanding local perceptions of foods significant to the population and involving community members in the intervention design process in combination with evidence-based strategies. The research emphasizes the need for interventions that address the unique dietary challenges faced by Alaska Native communities. The authors detail the collaborative process and demonstrate the importance of cultural relevance in promoting healthy eating behaviors.



10. Review of Indigenous Health Curriculum in nutrition and...

Wilson, A. M., Mehta, K., Miller, J., Yaxley, A., Thomas, J., Jackson, K., Wray, A., & Miller, M.D. (2015). Review of Indigenous Health Curriculum in nutrition and Dietetics at one Australian University: An action research study. *The Australian Journal of Indigenous Education*, 44(1), 106–120.

<https://doi.org/10.1017/jie.2015.4>

This action research study examines the Indigenous health curriculum in nutrition and dietetics at an Australian university. The authors found that the curriculum lacks awareness of Indigenous knowledge and practice and recommend incorporating Indigenous histories, perspectives, traditional food practices, guest lectures, and more into the curriculum for both Bachelor and Masters students. The study accentuates the importance of incorporating different cultures in nutrition education - by integrating Indigenous knowledge and practices into the curriculum, nutrition and dietetics students can develop a more comprehensive understanding of the health needs and food practices of Indigenous populations. This article demonstrates the need for education informed by Indigenous knowledge and practice in the field of nutrition and dietetics and suggests specific strategies and learning objectives for curriculum improvement within existing courses.

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