Summer Speaker Series for Students 2023
Getting Started!

- Type your name and institution into the chat box!
  - Question of the day: *What is your favorite emoji?*
- Remember to keep yourself on mute.
- Type your questions into the chat box.
Summer Speaker Series for Students

• Explore various public health topics related to:
  ○ Food and nutrition security
  ○ Federal nutrition assistance programs
  ○ COVID-19 implications
  ○ Nutrition equity

• This series is a collaborative effort of Healthy Eating Research (HER) and Nutrition and Obesity Policy Research and Evaluation Network (NOPREN).
  ○ Healthy Eating Research (HER) is a national program of the Robert Wood Johnson Foundation
  ○ Nutrition and Obesity Policy Research and Evaluation Network (NOPREN) is a program of the Center for Disease Control and Prevention (CDC)
Schedule and Topics
● June 14: Improving Nutrition Security during Early Childhood
● June 28: Food is Medicine: What does it mean? Where are we going?
● July 12: WIC Policy: Behind the Curtain
● July 26: Making Water Win: Policies to Build Quality & Access
● August 9: COVID-19 Policy Implications for USDA Child Nutrition Programs & SNAP
● August 16: Student Presentations

For more information or to register: https://nopren.ucsf.edu/her-nopren-summer-speaker-series-students-2023

The series will take place on
Wednesdays from 4:00 - 5:00 pm EST
REMINDER!

Apply to be a presenter at the Virtual Student Presentation and Poster Session on August 16!

Selected students will give a 5-10-minute presentation on a nutrition-related project or research they worked on over the summer. Students of all levels are encouraged to apply.

Applications due: Wednesday, July 19th at 5:00pm ET
History of the Summer Speaker Series

Sheila Fleischhacker, USDA NIFA
Founding co-chair of the COVID-19 Food & Nutrition Work Group &
Summer Speaker Series for Students
Session 2: Food is Medicine: What does it mean? Where are we going?
Food Security Work Group

Meets bi-monthly on the fourth Monday of the month @ 9am PT/12pm ET

To join the work group contact: ximenapv@live.unc.edu

Kaitlyn Harper, Co-Chair

Hilary Seligman, Co-Chair

Ximena Perez-Velazco, Fellow
Previous Presentations:

- Association of Food Insecurity With Greater Family Health Care Expenditures In The US
- Produce Prescription as a Cross-Sector Innovation: findings on Program Implementation & Patient Utilization
- Diet Quality Among Food Insecure Populations
Today’s Presenters

Hilary Seligman
University of California, San Francisco
NOPREN

Chris Long
Gretchen Swanson Center for Nutrition
Food is Medicine: What does it mean? Where are we going?

NOPREN Summer Series for Students 2023

Hilary Seligman MD MAS

Professor of Medicine and of Epidemiology & Biostatistics, UCSF
UCSF Center for Vulnerable Populations
Poll Question

Figure 1. Health and Social Care Spending as a Percentage of GDP

Mis-Aligment Between Health Care & “Social Care” in the US

Figure 1. Health and Social Care Spending as a Percentage of GDP

A patient is at the primary care office. He reports on the Hunger Vital Sign screening tool that he is experiencing food insecurity. The nurse sends him to the food pantry that is in the lobby of the building to get some healthy food. This is an example of:

(A) Addressing a social determinant of health
(B) Addressing an acute social need
(C) Providing clinical care
(D) A Food is Medicine program
(E) Both B and D
“Meeting Individual Social Needs Falls Short Of Addressing Social Determinants Of Health,” Health Affairs Blog, January 16, 2019. DOI: 10.1377/hblog20190115.234942
Food Is Medicine

• Integration of specific food and nutrition interventions in, or in close collaboration with, the health care system

• Target population
  • People with or at high risk for certain health conditions (often diet-related)
  • People with or at high risk of food insecurity
Spectrum of FIM Programs
From the perspective of health care

MTM=Medically Tailored Meals
MTG=Medically Tailored Groceries
SNAP=Supplemental Nutrition Assistance Program

Clinical Screen for Food Insecurity

“On-Site” Programs
- Food pantry in clinic
- Mobile food distribution in clinic
- SNAP enrollment assistance

Community Programs
- MTM’s/MTG’s
- Food Pantry
- Produce Prescriptions

Federal Nutrition Programs
- SNAP
- WIC
- Numerous Others

Food Is Medicine

= “food is medicine”
Identification of food insecurity by positive clinical screen
Referral to FIM program
Enrollment in FIM program
Improved diet quality, food security, and satisfaction
Improvement of health and utilization outcomes

Theory of Change
“CSA boxes” refers to delivery of foods directly from the farm to a household.
What do we know about the impact of FIM programs?
## Summary of Research

<table>
<thead>
<tr>
<th></th>
<th>Weak Evidence</th>
<th>Moderate Evidence</th>
<th>Strong Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WIC</strong></td>
<td>diet quality, food security, maternal &amp; child birth outcomes, immunization rates, child academic performance</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>SNAP</strong></td>
<td>health outcomes, reduces medication non-adherence, and reduces health care expenditures</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>MTM’s</strong></td>
<td>hospital admissions and readmissions, lower medical costs, and improve medication adherence</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>MTG’s</strong></td>
<td>food security</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PPP</strong></td>
<td>diet quality, food security, diabetes outcomes</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>On-site programs</strong></td>
<td>diet quality, food security, diabetes outcomes</td>
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*MTM=Medically Tailored Meals*

*MTG=Medically Tailored Groceries*

*SNAP=Supplemental Nutrition Assistance Program*

*PPR=Produce Prescription Program*
<table>
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<tr>
<th>Program</th>
<th>Weak Evidence</th>
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</table>
Table 1. Summary of review results: Food insecurity interventions

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Referrals</th>
<th>Vouchers</th>
<th>Food*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource use</td>
<td>Mixed (4)</td>
<td>Improved (3)</td>
<td>-</td>
</tr>
<tr>
<td>Food security status</td>
<td>Improved* (2)</td>
<td>Improved (2)</td>
<td>Improved (1)</td>
</tr>
<tr>
<td>Health behaviors</td>
<td>Mixed (2)</td>
<td>Improved* (5)</td>
<td>Improved (1)</td>
</tr>
<tr>
<td>Health</td>
<td>Mixed (1)</td>
<td>Mixed (3)</td>
<td>Mixed (2)</td>
</tr>
<tr>
<td>Cost/utilization</td>
<td>Mixed (1)</td>
<td>-</td>
<td>Mixed (1)</td>
</tr>
</tbody>
</table>

Numbers in parentheses indicate the number of studies that reported on each outcome.

* Based on two studies of home-delivered meals, and one study of an intervention offering infant formula, nutrition educational materials, and referrals to social work, a medical-legal partnership, and food banks

† Based on a study with a sample size 13 and a qualitative retrospective study so should be interpreted with caution.

§ All five studies found improvements, although in one case only for fruit consumption and in another the improvements were not statistically significant.
Why is the data so limited?
Evaluation Challenges

• Almost all programs reach a **small number of people**
  • Not suitable* for examining health outcomes, utilization, & cost

• Almost all programs offer a relatively **small dose & duration**
  • Not suitable* for examining health outcomes, utilization & cost

• Many programs are **single-site**
  • Limited applicability to the field as a whole

• Bottom line: You need a LOT of data to show an impact
  • Most programs have limited funds available for evaluation

* I would argue it is also not ethical
Why is so much data needed to prove impact on health outcomes, utilization, & cost?

• Food security and nutrition programs are generally
  • Better at prevention than at treatment
  • Expected to have an impact over a long length of time
  • Proven by their SMALL effect on a LARGE number of people, rather than their LARGE effect on a SMALL number of people

• If you anticipate a SMALL effect, to show an impact you need
  • A lot of people
  • A long duration of “treatment”
  • A high “dose”
  • A long duration of observation

POPULATION HEALTH
Chris Long from the Gretchen Swanson Center for Nutrition and the Nutrition Incentive Hub
GusNIP Produce Prescription Program (PPR) Rationale

Allow healthcare professionals to prescribe FVs for patients experiencing food insecurity and often chronic disease condition (e.g., type 2 diabetes)
GusNIP Goals

• Increase the purchase and consumption of fruits and vegetables among participating households

• Reduce individual and household food insecurity

• Improve health outcomes of participating households

• Decrease associated healthcare use and costs
GusNIP PPR Grantee Overview

Currently 116 projects in 36 states
PPR Evaluation

• Evaluate impact of project participation on:
  • increased consumption of fruits and vegetables*
  • reduction of individual and household food insecurity*
  • reduction in healthcare use and associated costs*

*Required by Farm Bill / USDA
Year 3 Impact Findings Report & Executive Summary
Emerging Evaluation Priorities

• Engaging practitioners and communities in evaluation agenda setting
• Evaluating and advancing GusNIP PPR projects’ efforts to serve underserved communities and geographies
• Evaluating the implementation challenges and opportunities of PPR projects
• Identifying effective combinations of intervention dosages, durations, and health conditions
What else do we need to learn about FAM?

• How will we **know** if Food as Medicine is working?
  • Food security, F&V intake, health outcomes, health care utilization
  • Quality of life for patients, quality of life for clinic teams, economic impact on communities

• Can we **improve** quality of life and **save** health care cost?
  • Building relationships with patients vs. saving money on patients?

• Where will the **food** in Food as Medicine come from?
  • Local/regional growers, the food bank system, large national grocery retailers, meal box shippers?

• **Who** will benefit from Food as Medicine?
  • Local/regional growers, local/regional grocers, payers/insurance industry, large national retailers, meal box shippers, community members/patients?

• How will Food as Medicine be **funded** across diverse policy environments (e.g., relatively conservative states)?
Where are the opportunities?
Before I get to the opportunities…

• Many of the next slides refer to produce prescription programs
  • There is lots of thought leadership and momentum here right now
• Produce prescription programs are not necessarily the best program for your clinic, your community, your patient population, etc.
• Almost ALL of the concepts are relevant to other FIM interventions
Opportunities for the Field
Access to Large Amounts of Data

- Shared metrics across numerous programs
  - eg GusNIP Produce Prescription Program
- Large health systems with a single electronic health record
  - VA, Indian Health Service, other integrated health systems
- Health insurers
  - Claims data

Produce Prescription Programs in the United States: 2010-2020

Legend
Active Produce Prescription Program Headquarters
Counties Covered
- 1 - 10
- 11 - 42
- 43 - 100

Inactive Produce Prescription Program Headquarters
Counties Covered
- 1 - 5
- > 5 - 14
- > 14 - 76

Number Active Programs: 94
Number of Inactive Programs: 14

Map reflects programs with these components:
- patient eligibility screening
- partnership with a healthcare organization
- prescriptions for healthy produce (fruits & vegetables with no added fats, sugars & salts at no or low cost)
- repeated dosage
- retail redemption
Prescribing healthy food in Medicare/Medicaid is cost effective, could improve health outcomes

New study finds that health insurance coverage for healthy food could improve health, reduce healthcare costs, and be highly cost-effective after five years.

<table>
<thead>
<tr>
<th>Medicare/Medicaid: Healthy food prescriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insurance covers</strong> 30% of cost of eligible food</td>
</tr>
<tr>
<td><strong>$100 billion</strong> less in healthcare utilization over model population’s lifetime</td>
</tr>
<tr>
<td><strong>Cost-effective after 5 years</strong></td>
</tr>
</tbody>
</table>

- **Less diabetes**: 120 thousand cases prevented or postponed
- **Less cardiovascular disease**: 3.28 million cases prevented or postponed

For more information, see “Cost-effectiveness of financial incentives for improving diet through Medicare and Medicaid: A microsimulation study” by Lee et al. (2019), https://doi.org/10.1071/journal.pmed.1002761

Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy at Tufts University
Opportunities for Individual Programs

- Nutritious Diet → Better Health
- Increased FV Intake → Better Health
- Food Security → Better Health

**THIS IS PROVEN ALREADY**

Controversy Alert!

This will happen if:
- Implemented at scale
- Dose and duration are sufficient
Opportunities for Individual Programs: Shared Metrics


Shared metrics
- pooled data
- More participants
- More sites

- Food security
- FV intake
- SNAP participation
- Program satisfaction
- Health status
- Basic demographics

Participant-Level Survey
Produce Prescription Projects - Baseline

Resource Prepared by
Gretchen Swanson Center for Nutrition

December 2022

https://www.nutritionincentivehub.org/resources/resources/reporting-evaluation/core-metrics-produce-prescription/participant-level-metrics
What are some challenges for the adoption of Food is Medicine programs by funders, healthcare, community based organizations, participants etc.?
Opportunities for Individual Programs: RE-AIM

# Supporting Food & Nutrition Security through Healthcare

A Resource for Healthcare Systems and their Public Health and Community Partners

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- Nutrition Security in the Framework of Structural and Social Determinants of Health  
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- Spectrum of Food is Medicine Programs  
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### Conclusions  

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NASEM Health Care System Activities that Strengthen Social Care Integration: 5 A’s

- Adjustment
- Assistance
- Alignment
- Advocacy
- Awareness

Activities focused on individuals

Activities focused on communities
A Vision for the Future
5 A’s for Food Security

- **Awareness**
  - Screen patients for food insecurity

- **Adjustment (Social Risk-Informed Care)**
  - Adjust insulin doses to avoid low blood sugar when food budgets run low

- **Assistance (Social Risk-Targeted Care)**
  - Enroll patients in FIM programs

- **Alignment & Investment**
  - Co-locate food programs in clinical settings
  - Partner with local CBO or DPH (eg CDC SPAN, REACH & HOP grants)
  - Share data about health disparities with food security community organization

- **Advocacy**
  - Advocate for streamlined enrollment into SNAP

Adapted from: SIREN (Laura Gottlieb)
What are some policy opportunities for advancing Food is Medicine at the local, state, and federal levels?
Conclusions

• Tremendous momentum toward implementing & evaluating FIM programs across the US
• Evaluation of FIM programs is hard

• Right-size your evaluation for the size of your program
  • Examine all elements of the RE-AIM framework, not just effectiveness
  • For effectiveness: consider food security, dietary intake, satisfaction, and redemption rate
  • Use the same metrics others are using

• We need (and are awaiting)
  • The large, rigorously conducted trial
  • Implementation science approaches to establish best practices
Want to learn more about NOPREN or join the network?

Visit https://nopren.ucsf.edu
OR
Contact NOPREN@ucsf.edu
Q&A
DNPAO FRUIT AND VEGETABLE PROGRAMS

Diane M. Harris, PhD MPH CHES
Team Lead, Healthy Food Environments
dmharris@cdc.gov
Fiscal Year 2022

**State Physical Activity and Nutrition Program (SPAN)**
- 16 state and local recipients strengthening efforts to implement interventions that support healthy nutrition, safe and accessible physical activity, and breastfeeding

**High Obesity Program (HOP)**
- 15 land grant universities leveraging community extension services to increase access to healthier foods and opportunities for physical activity in counties that have more than 40% of adults with obesity

**Racial and Ethnic Approaches to Community Health (REACH) Program**
- 40 organizations aiming to improve health, prevent chronic diseases, and reduce health disparities among racial and ethnic populations with the highest risk, or burden, of chronic disease

CURRENT REACH RECIPIENTS WORKING ON FOOD IS MEDICINE:
PRODUCE PRESCRIPTION PROGRAMS

- Eastern Michigan University
- Health & Hospital Corporation of Marion County
- Houston County Board of Health
- Multnomah County Health Department
- Partners in Health
- Presbyterian Healthcare Services
- Penn. State University Hershey Medical Center
- The Y of Coastal Georgia, Inc.
- Navajo Nation
‘23 EXPAND EXISTING FRUIT AND VEGETABLE VOUCHER INCENTIVE AND PRODUCE PRESCRIPTION PROGRAMS

• State
  • Engage representatives from Medicaid programs in implementation, expansion, and evaluation incentive or produce prescription programs.
  • Convene state agencies to align activities related to incentive or prescription programs.

• Local
  • Help local program providers identify funding sources
  • Build clinical-community linkages to learn what assets are already available

• State and Local
  • Strengthen or launch regional, state, or local food policy councils
  • Connect incentive and prescription programs to local food sources

Announcements

Scan the QR code to evaluate this session

Join us for the next session of the speaker series!
- Wednesday, July 12 from 4:00 - 5:00 PM ET
- Title: WIC Policy: Behind the Curtain

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