• This session is being recorded and will be posted to the NOPREN website shortly.

• All attendees are in listen-only mode. Submit all of your questions through the chatbox.

• Please put your name + institution into the chatbox.
The Challenge and Promise of Food is Medicine

Hilary Seligman MD MAS

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

Food Is Medicine

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

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

= “food is medicine”
Largest FIM Program

Can FIM programs be scaled?

PROVEN

Can FIM programs impact short and long term health outcomes?

PROVEN
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

• Data transfer between sectors (health care, CBO, & food vendor)
• Data tracking within the electronic health record
• CBO capacity to provide food how, when, where and at the price that healthcare desires
• Fragmentation of the ecosystem outside of healthcare
“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></td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td>Diet quality, food security, maternal &amp; child birth outcomes, immunization rates, child academic performance</td>
<td></td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td><strong>SNAP</strong></td>
<td></td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td>Health outcomes, reduces medication non-adherence, and reduces health care expenditures</td>
<td></td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td><strong>MTM’s</strong></td>
<td></td>
<td>✅</td>
<td></td>
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<tr>
<td>Hospital admissions and readmissions, lower medical costs, and improve medication adherence</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>MTG’s</strong></td>
<td>✅</td>
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<tr>
<td>Food security</td>
<td></td>
<td></td>
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<tr>
<td><strong>Produce Prescriptions</strong></td>
<td></td>
<td>✅</td>
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<tr>
<td>Diet quality, food security, diabetes outcomes</td>
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<tr>
<td><strong>On-site programs</strong></td>
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<td>Diet quality, food security, diabetes outcomes</td>
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### Aspen Inst FIM Research Action Plan

- **MTM’s**: 10 studies, 2 RCT’s, 5 with a ctl group, & 5 with >100 ppts
- **MTG’s**: 12 studies, 3 with a ctl group, & 5 with >100 ppts
- **PP**: 27 studies, 5 with a ctl group, & 8 with >100 ppts
Food Insecurity Interventions in Health Care Settings: A Review of the Evidence

Figure 1. Number of studies by type of intervention (n=29)

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

This is really hard!
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
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 Programs
- Large health systems with a single electronic health record
  - VA, Indian Health Service, other integrated health systems
- Health insurers
  - Claims data
Opportunities for the Field: Modeling Studies

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.

**Medicare/Medicaid: Healthy food prescriptions**

- Insurance covers 30% of cost of eligible food
- $100 billion less in healthcare utilization over model population's lifetime
- Cost-effective after 5 years

<table>
<thead>
<tr>
<th>Less diabetes</th>
<th>Less cardiovascular disease</th>
<th>As or more cost-effective than many currently covered medical treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 thousand cases prevented or postponed</td>
<td>3.28 million cases prevented or postponed</td>
<td></td>
</tr>
</tbody>
</table>

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/10.1371/journal.pmed.1002761](https://doi.org/10.1371/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**

FIM Program → Increased FV Intake → Better Health

FIM Program → Food Security → Better Health

**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

https://www.nutritionincentivehub.org/resources/resources/reporting-evaluation/core-metrics-produce-prescription/participant-level-metrics
Opportunities for Individual Programs: Implementation Science

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

Activities focused on individuals:
- Adjustment
- Assistance
- Awareness
- Alignment
- Advocacy

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
• Share data about health disparities with food security community organization

Advocacy
• Advocate for policies streamlining enrollment into SNAP

Adapted from: SIREN (Laura Gottlieb)
New NOPREN Resource: Share with Partners!

Supporting Food & Nutrition Security through Healthcare

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

Scan the QR code for the PDF or visit:
https://nopren.ucsf.edu/resources
Conclusions

• WIC is a FIM that is already **proven**
  • Scalable
  • Positive impact on health outcomes

• Tremendous momentum toward implementing & evaluating FIM programs across the US

• Evaluation of FIM programs is hard
  • Try to convince your funders that we do not need to re-prove that nutritious food and food security are good for health
  • 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 (lots of momentum here)
    • Implementation science approaches to establish best practices
DNPAO-FUNDED
PROGRAMS
ADDRESSING Food Is
medicine
Diane Harris, PhD MPH
Lead, Healthy food
environments team
Div. Nutrition, Physical
Activity and Obesity

NOPREN State of the Science
September 11, 2023
topics

- CDC Context
- DNPAO Funded Programs
  - SPAN, HOP, REACH
  - 2018 and 2023 recipients
- Public Health Role in FIM
- State (SPAN) Considerations
- Importance of Braided Funding

The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
NCCDPHP’s Approach to Social Determinants of Health

**Built Environment**
Human-made surroundings that influence overall community health and people’s behaviors that drive health.

**Community-Clinical Linkages**
Connections made between health care, public health, and community organizations to improve population health.

**Food and Nutrition Security**
Having reliable access to enough high-quality food to avoid hunger and stay healthy.

**Social Connectedness**
When people or groups have relationships that create a sense of belonging and being cared for, valued, and supported.

**Tobacco-Free Policy**
Population-based preventive measures to reduce tobacco use and tobacco-related illness and death.

OUR GOAL: OPTIMAL NUTRITION ACROSS THE LIFESPAN

DNPAO works at multiple levels to establish healthier food environments for all

Breastfeeding
Maternal Nutrition

Early Child Nutrition

Early Care and Education
Farm to Education

Food Service Guidelines
Nutrition Standards in Charitable Food Systems
Community Food Systems

Health Equity
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 FIM: 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
EXAMPLE REACH RECIPIENT WORK:
NAVAJO FVRx

- Partner with Community Outreach and Patient Empowerment Program (COPE)

COPE trains FVRx teams & processes reimbursements

FVRx Teams (Clinics, Schools CHRs)

FVRx Retailers/Growers (Redemption Site)

Families Enrolled in the FVRx Program

https://www.copeprogram.org/foodaccess
Example Braided Resources – Marion County REACH

**CDC REACH**

Marion County Public Health Department Indianapolis, IN

**City of Indianapolis and Local Foundations**

Funding

**Health Systems – Community Benefits**

Funding, clinical support

**USDA Local Food Purchase Assistance**

Recruit/engage BiPOC growers, cultural foods from Hoosier Harvest Market

**USDA GusNIP**

Funding, technical support, evaluation

**USDA SNAP Ed**

Community outreach, trauma-informed nutrition training (Leah’s Pantry)
2023-2028 DNPAO Fruit and vegetable program strategy

Coordinate the uptake and expansion of existing fruit and vegetable voucher incentive and produce prescription programs

Short-Term Outcome
- Increased access to healthier food

Intermediate Outcome
- Increased purchasing and distribution of healthier foods

Long-Term Outcome
- Reduced health disparities in chronic conditions
  - Improved health behaviors
2023 – 2028 SPAN, HOP….and REach

- State Physical Activity and Nutrition (SPAN) Recipients

- High Obesity Program (HOP) Recipients
  - [https://www.cdc.gov/nccdphp/dnpao/state-local-programs/hop/high-obesity-program-2023-2028.html](https://www.cdc.gov/nccdphp/dnpao/state-local-programs/hop/high-obesity-program-2023-2028.html)

- Racial and Ethnic Approaches to Community Health (REACH) Recipients – To Be Announced
SPAN Activities for FVP

• Strengthen or launch regional, state, or local **food policy councils**
  • Also, Food is Medicine Coalitions, etc.

• 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
  • Oversee state plan amendments, waivers and demonstrations

• **Connect** incentive and prescription programs to **local food sources**

https://www.kff.org/medicaid/issue-brief/section-1115-waiver-watch-approvals-to-address-health-related-social-needs/
resources

Supporting Food & Nutrition Security through Healthcare

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

Priority Nutrition Strategy: Food Service and Nutrition Guidelines

Promote food service and nutrition guidelines and associated healthy food procurement systems in facilities, programs, or organizations where food is sold, served, or distributed.


Social Determinants of Health: Fruit and Vegetable Incentive Programs—Effectiveness Review

Heather Versey
Ramona Finnie
Stan Harmon
Ronnie Stiles
Chelsea Pritchard

Community Preventive Services Task Force Meeting
October 18, 2023
Summary:

- FVP included in 3 DNPAO funding programs
- Importance of role for public health, including coordinating state policies and systems
- Emphasis on multi-sectoral partnerships and leveraging multiple funding sources
Thank you

For more information, contact: dmharris@cdc.gov

Help us keep America healthy and strong. See how at: cdc.gov/nccdphp/dnpao
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THANK YOU

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USDA’s Actions on Food and Nutrition Security: Integrating Nutrition & Health

NOPREN State of the Science – Food is Medicine

Caree Cotwright, PhD, RDN
Director of Nutrition Security and Health Equity

September 8, 2023
White House Conference on Hunger, Nutrition, and Health
Equity Accomplishments

- Reducing barriers to USDA programs
- Partnering with trusted technical assistance providers
- Directing USDA programs to those who need them the most
- Expanding equitable access to USDA nutrition assistance programs
- Advancing equity in Federal procurement
- Updating Federal trust and treaty responsibilities to Indian Tribes
- Committing unwaveringly to civil rights
- Operating with transparency and accountability
Dismantling structural inequities
1 in 4 Americans is served by USDA’s nutrition assistance programs
USDA’s **Four-Pillar** Approach

- **Meaningful Support**
- **Healthy Food**
- **Collaborative Action**
- **Equitable Systems**
The MyPlate National Strategic Partnership is a public-private collaboration, bringing stakeholders across many sectors together to promote the MyPlate symbol and messaging to consumers.
SNAP reduces healthcare costs

- Reaches more than 41 Million Americans each month
- Lowers participants’ annual health costs ~ $1,400 or nearly 25% less in medical care in a year
Goal:
Encourage action and engagement
Thank You & Stay Connected

www.usda.gov/nutrition-security

@USDANutrition

USDA is an equal opportunity provider and employer.