



Food as Medicine: The Potential and the Imperative

People are fed by the food industry, which pays no attention to health, and are treated by the health industry, which pays no attention to food.

--Wendell Berry

Food Insecurity

- The lack of consistent, dependable access to enough food for **active, healthy living**

A Conceptual Framework:
Cycle of Food Insecurity & Chronic Disease

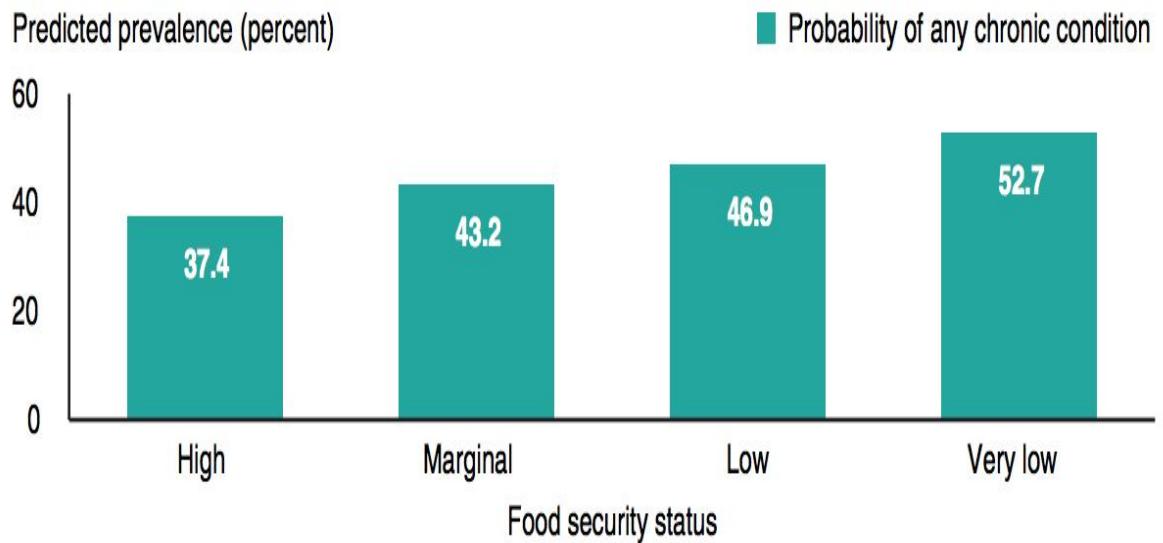


Economic Research Service, USDA, 2016
Adapted from Seligman et al. NEJM. 2010;363:6-9

Food Insecurity and Health

- Associated with increased risk of...
 - In children
 - Behavioral issues
 - Worse school performance
 - Poorer health
 - More hospitalizations
 - In adults
 - Obesity
 - Diabetes
 - Hypertension
 - Depression
 - Hospitalization

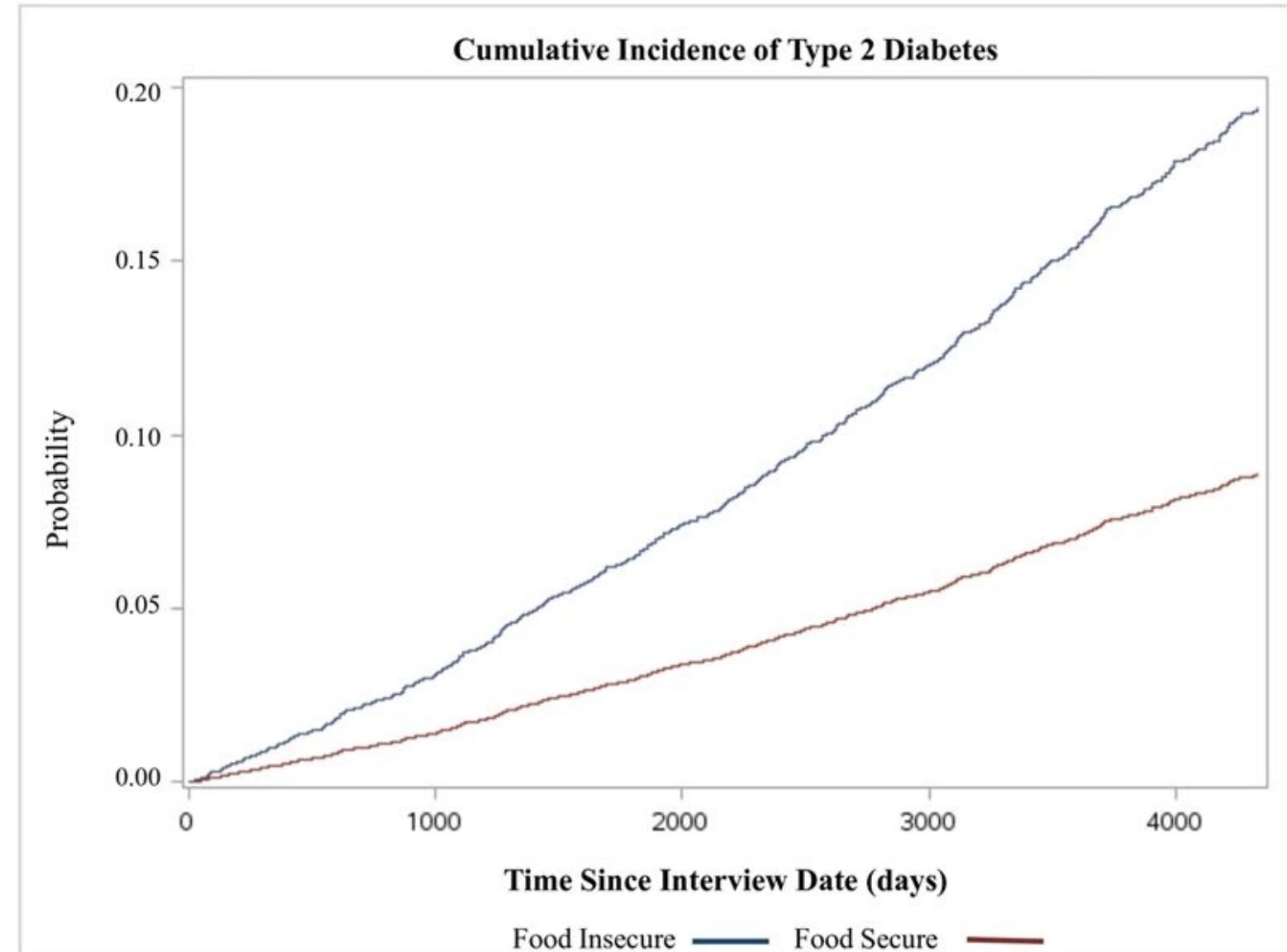
Adults in households with more severe food insecurity are more likely to have a chronic illness



Source: USDA, Economic Research Service calculations using National Health Interview Survey data 2011-2015.

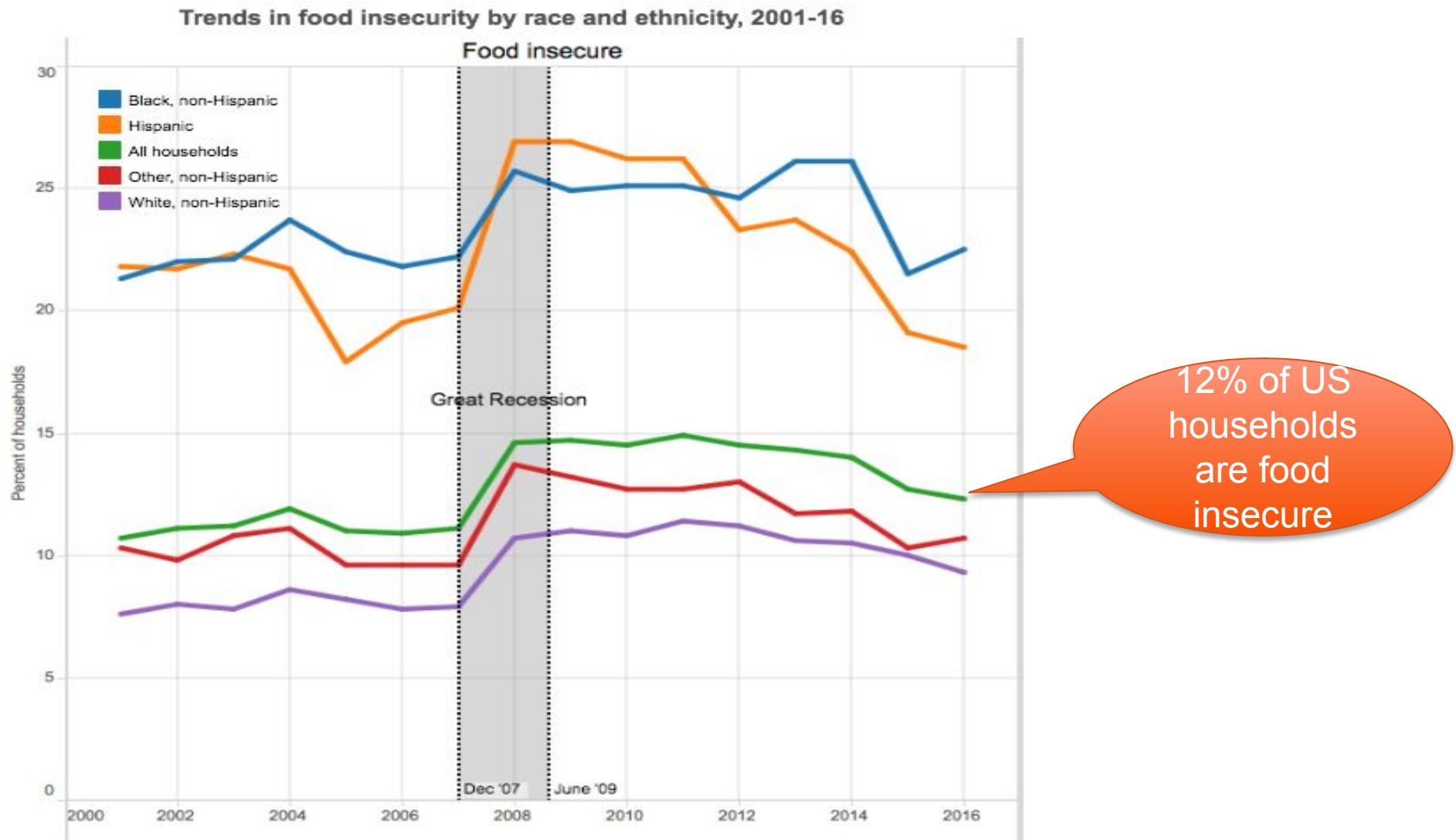
Kirkpatrick et al, JAMA Ped, 2010
Metallinos et al, J Acad Nutr Diet, 2012
Hager et al, Pediatrics, 2010
Slopen et al, J Am Acad Child Adol Psych, 2010
Seligman et al, J Nutrition, 2010

- Those who are food insecure are more than two times at risk of **developing** diabetes



Tait, C. A., et al. (2018). "The association between food insecurity and incident type 2 diabetes in Canada: A population-based cohort study." *PloS one* **13**(5): e0195962.

Food Insecurity and Race



Source: Calculated by USDA, Economic Research Service, using Current Population Survey Food Security Supplement data.
<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/>

Impact of Providing Food on Health

	DM Boxes at Food Bank	CHeFS Pilot	GOURMET-HF Pilot
Design	Prospective (pre-post), n=687	Prospective (pre-post), n=52	Prospective (RCT) n=66
Food-related intervention*	6 mos food boxes lasting 1-2 weeks/mo	6 mos complete nutrition	30-days meal complete nutrition
Population	Diabetic	HIV and diabetic	Heart failure
Health outcome	Improved diabetes control**	Improved diabetes control Improved HIV medication adherence	Improved heart failure symptoms
Healthcare utilization		↓	↓

*Food was one component of entire intervention

**statistically significant at p<0.01

Seligman et al. *Health Affairs*, 2015.

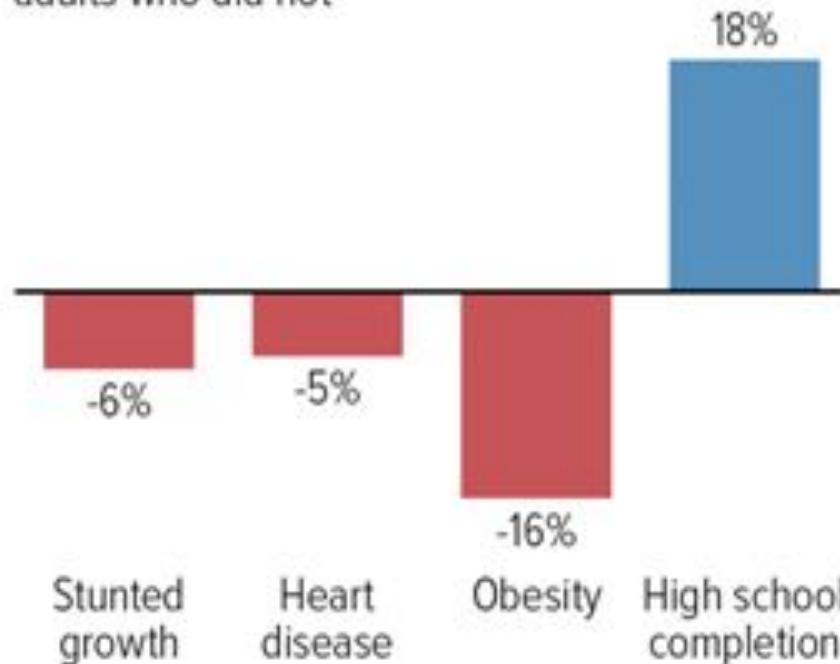
Palar et al. *J Urban Health*, 2017.

Hummel et al. *Circ Heart Failure*, 2018.

FIGURE 7

Children With Access to SNAP Fare Better Years Later

Percentage-point change in outcomes for adults who received SNAP as children, compared to adults who did not

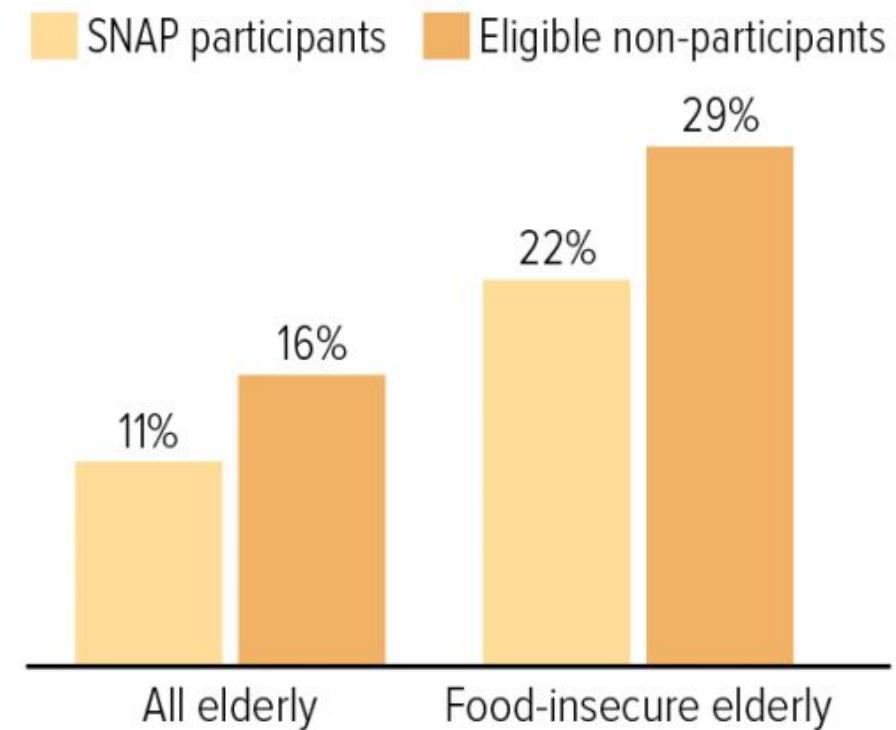


Source: Hoynes, Schanzenbach, and Almond, "Long-Run Impacts of Childhood Access to the Safety Net," *American Economic Review*, April 2016.

FIGURE 8

Elderly SNAP Participants Less Likely to Skip Needed Medications

Percent who skip or stop medications, take smaller doses, or delay a prescription due to cost



Source: Mithuna Srinivasan and Jennifer A. Pooler, "Cost-Related Medication Nonadherence for Older Adults Participating in SNAP, 2013–2015." *American Journal of Public Health*, December 2017

Medically Tailored Meals

Massachusetts study showed decreased ED visits*, admissions*

(p<0.05)	Avg monthly healthcare costs of those who received MTM	Matched control	Difference
MANNA study	\$28,268/month	\$40,960/month	\$12,692/month*
Massachusetts study	\$843/month	\$1,413/month	\$570/month*

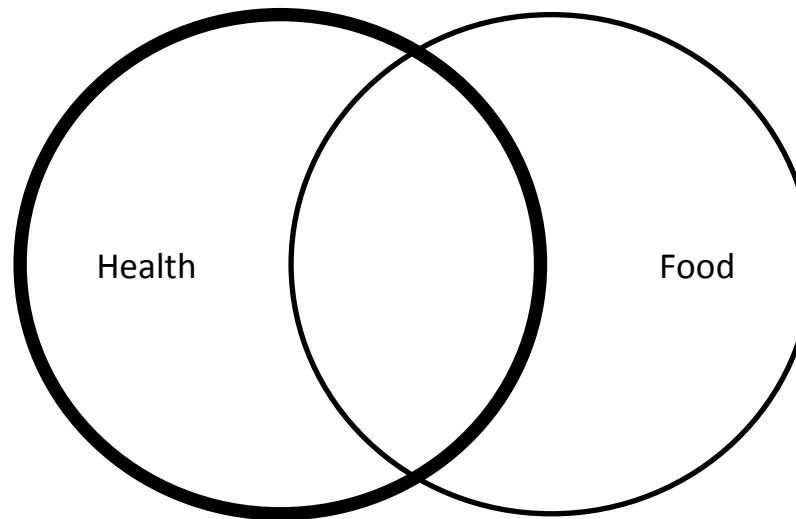
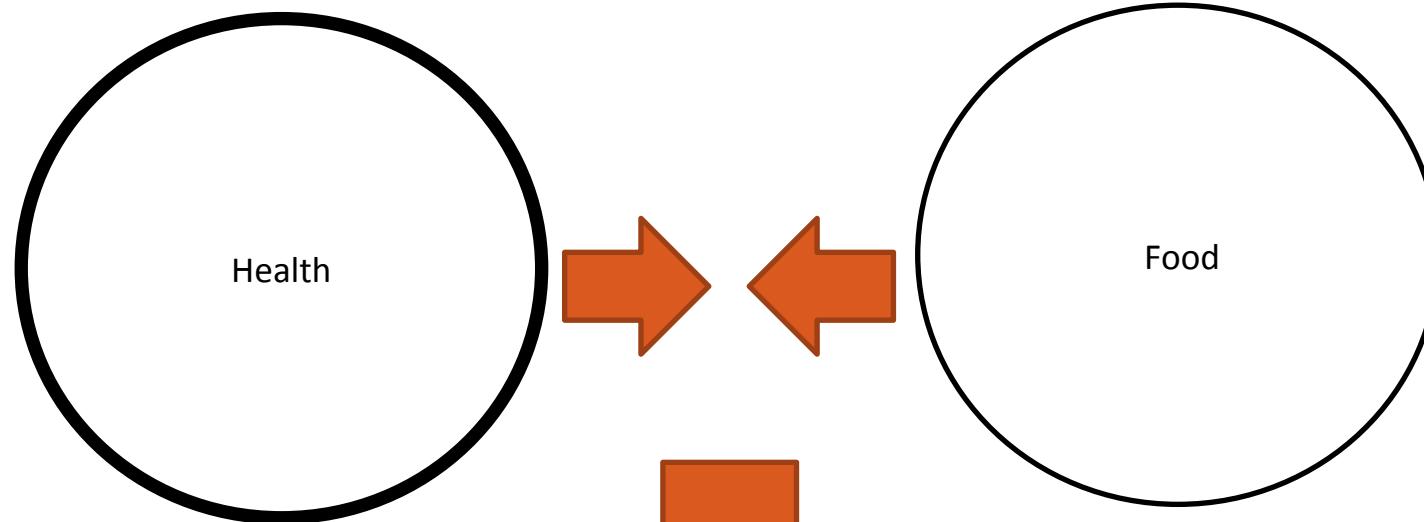
	Post-MANNA (12 mos)	Matched control	Difference
Avg monthly INPATIENT costs	\$132,441/month	\$219,639/month	\$87,198/month*
Length of stay	10.7 days	17.1 days	37% decrease LOS*
Discharge to home	93%	72%	Home d/c 23% more likely*

*p<0.05

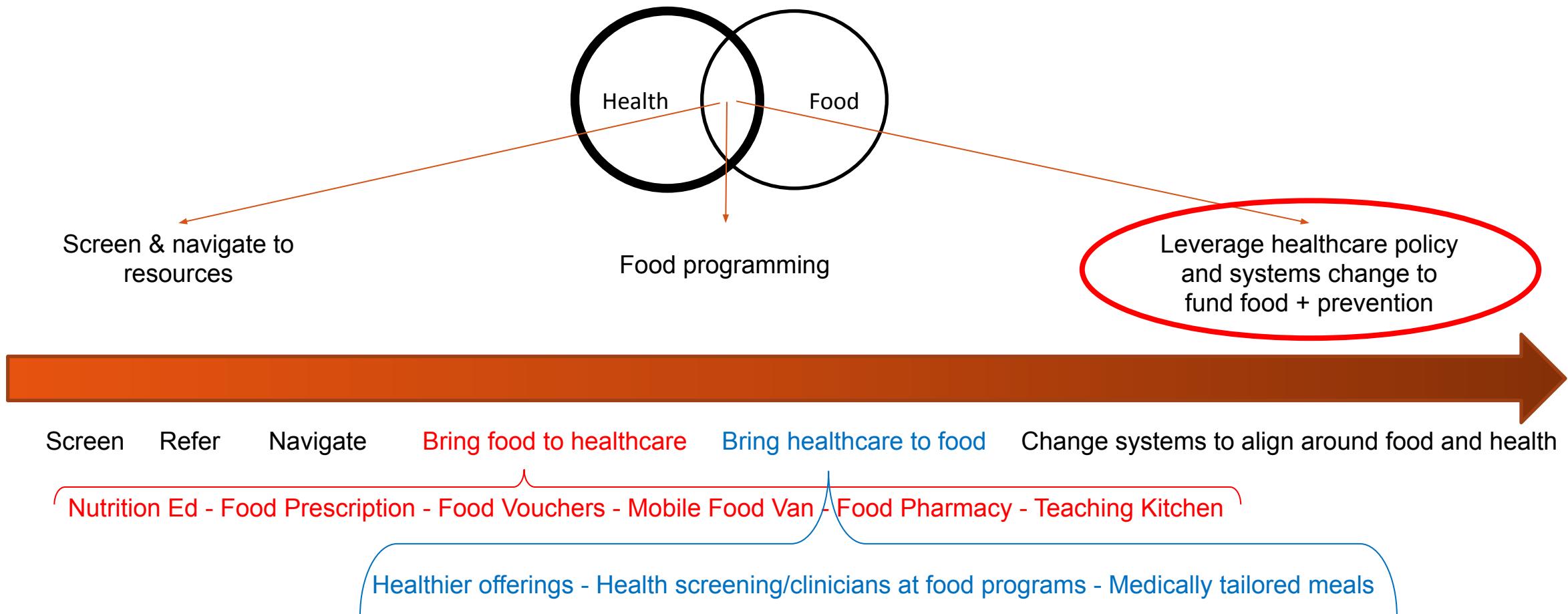
Gurvey et al, *J Prim Care Comm Health*, 2013
Berkowitz et al, *Health Affairs*, 2018

Food as Medicine – Cost Savings

- 30% subsidy on Fruits and Vegetables (F+V)
 - Prevent 1.93 million cardiovascular (CV) events
 - Save \$39.7 billion in healthcare costs
- 30% subsidy on healthy foods (F+V, whole grains, seafood, etc.)
 - Prevent 3.28 million CV events
 - Prevent 120,000 diabetes cases
 - Save \$100.2 billion in healthcare costs



Spectrum of Food as Medicine Interventions



Percent

40

□ Health care ■ Social care

30

20

10

0

FR

SWE

SWIZ

GER

NETH

US

NOR

UK

NZ

CAN

AUS

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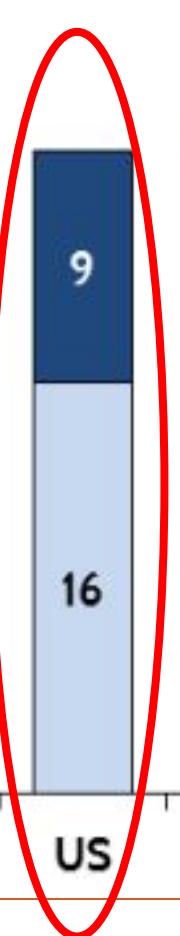
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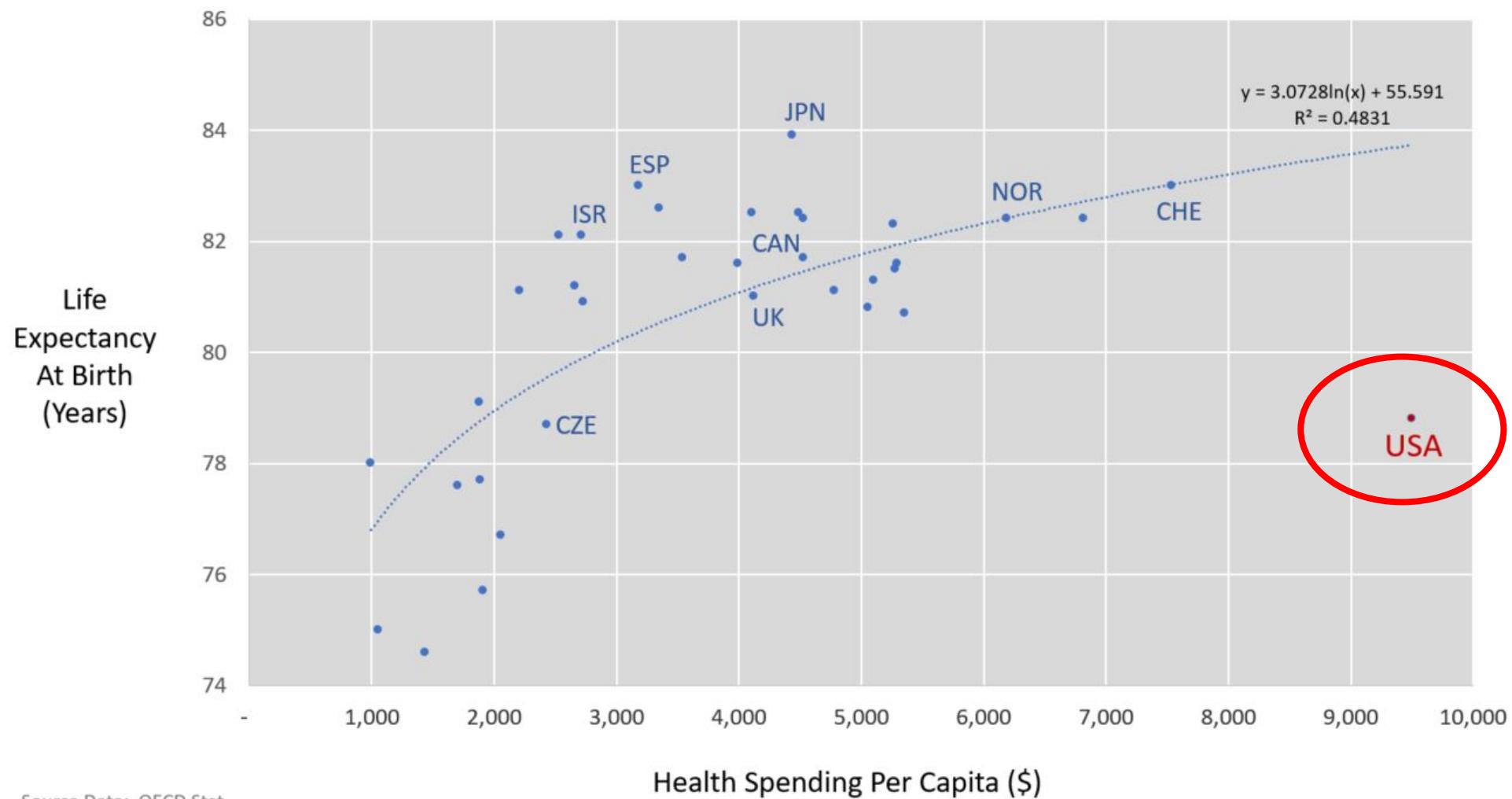
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Life Expectancy at Birth and Health Spending Per Capita (2015 or latest year)



Source Data: OECD.Stat

Percent

40

□ Health care ■ Social care

30

20

10

0

FR

SWE

SWIZ

GER

NETH

US

NOR

UK

NZ

CAN

AUS

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Food as Medicine: Policy and Systems Change in Healthcare to Support Healthy Eating

newfoodeconomy.org

Massachusetts bill would give fresh meals to Medicaid recipients

October 25th, 2019 by Jessica Fu



California to Pay for Healthy Food Delivery for Ill Residents

By Robert Holly | May 14, 2018



The state and its largest private insurer are working together to transform how health care is delivered statewide.

By JOANNE KENEN | 10/24/2019 05:10 AM EDT

Food as Medicine and CalAIM

- California Advancing and Innovating MediCal (CalAIM) is a multi-year initiative by DHCS to **improve the quality of life and health outcomes** of our population by **implementing broad delivery system, program and payment reform** across the MediCal program
- 3 primary goals:
 - Identify and manage member risk and need through Whole Person Care approaches and **addressing social determinants of health**
 - Move MediCal to a more consistent and seamless system by reducing complexity and increasing flexibility
 - **Improve quality outcomes** and drive delivery system transformation through **value-based initiatives**, modernization of systems and payment reform

Food as Medicine and CalAIM

- CalAIM proposal released Oct 29, 2019
- 2019-2020: DHCS will conduct extensive stakeholder engagement for both CalAIM and the renewals of the federal authorities under which MediCal operates (eg **1115 and 1915b waivers**)

Asks and Next Steps

1. Support to get medically-supportive food and nutrition services into CalAIM proposal
 - MediCal waiver process
 - Support on position paper
 - Help strategizing support from other healthcare entities
 - CalAIM Workgroups
2. Institutional buy in and leadership for food as medicine investments
 - Help identifying local leaders

Questions? Comments?

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CalAIM, Medicaid, policy change: kettman@spur.org