

Hunger, Nutrition and Health

Jillian Barber, MPH

Program Manager, Community Benefits and Health Improvement

Sharp Health Care

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Objectives

- *Provide an overview of research on the intersection of food insecurity, nutrition, chronic health conditions and utilization of health care services*
- *Provide a brief overview of current San Diego models and collaborations that address food insecurity in health care*



Food Insecurity and Health

- **Food Availability**
- **Food Affordability**
- ***Stress → Unhealthy coping strategies***
- ***Impact on health status***



Food Insecurity: Coping Strategies

- Eating low-cost, highly filling foods
- Limited variety of foods
- Eating smaller portions / skipping meals
- Disordered eating patterns
- Food pantries / soup kitchens
- Nutrition programs (CalFresh, WIC)
- Other access to food options
 - Jail
 - ED (and Psych ED)

FI and Nutrition

Inadequate intake of fruits, vegetables, micronutrients:

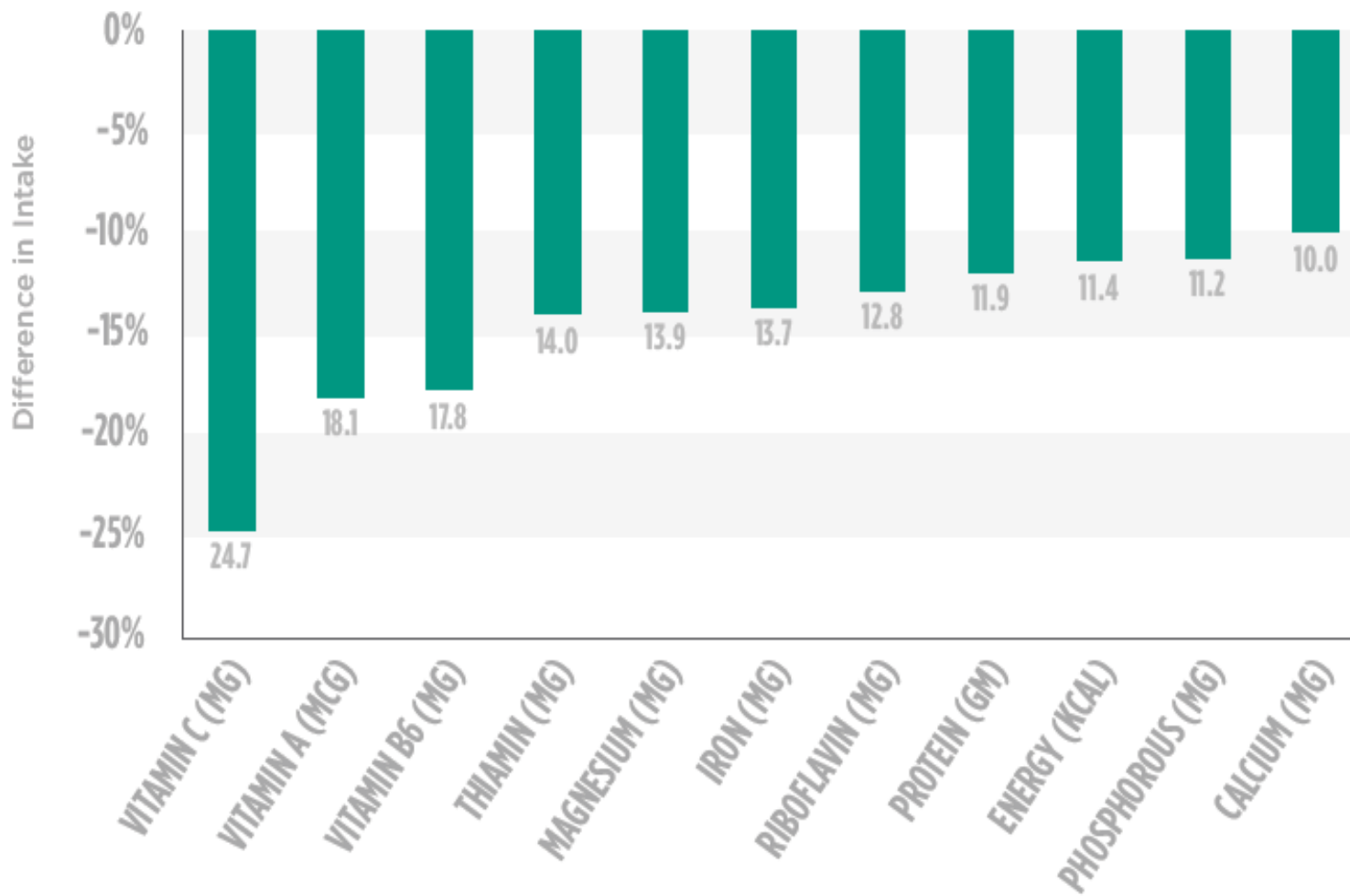
- Significantly lower levels of potassium and fiber
- In women, inadequate intake in excess of 15% of Vitamin A, folate, iron and magnesium
- Lower intake of calcium and Vitamin E (<50% RDA) in young adults as well as vitamin A, carotenoids and total cholesterol
- Lower intake of energy, Vitamin B-6, magnesium, iron and zinc (<50% RDA)



Overall significantly poorer dietary intake, variety and quality

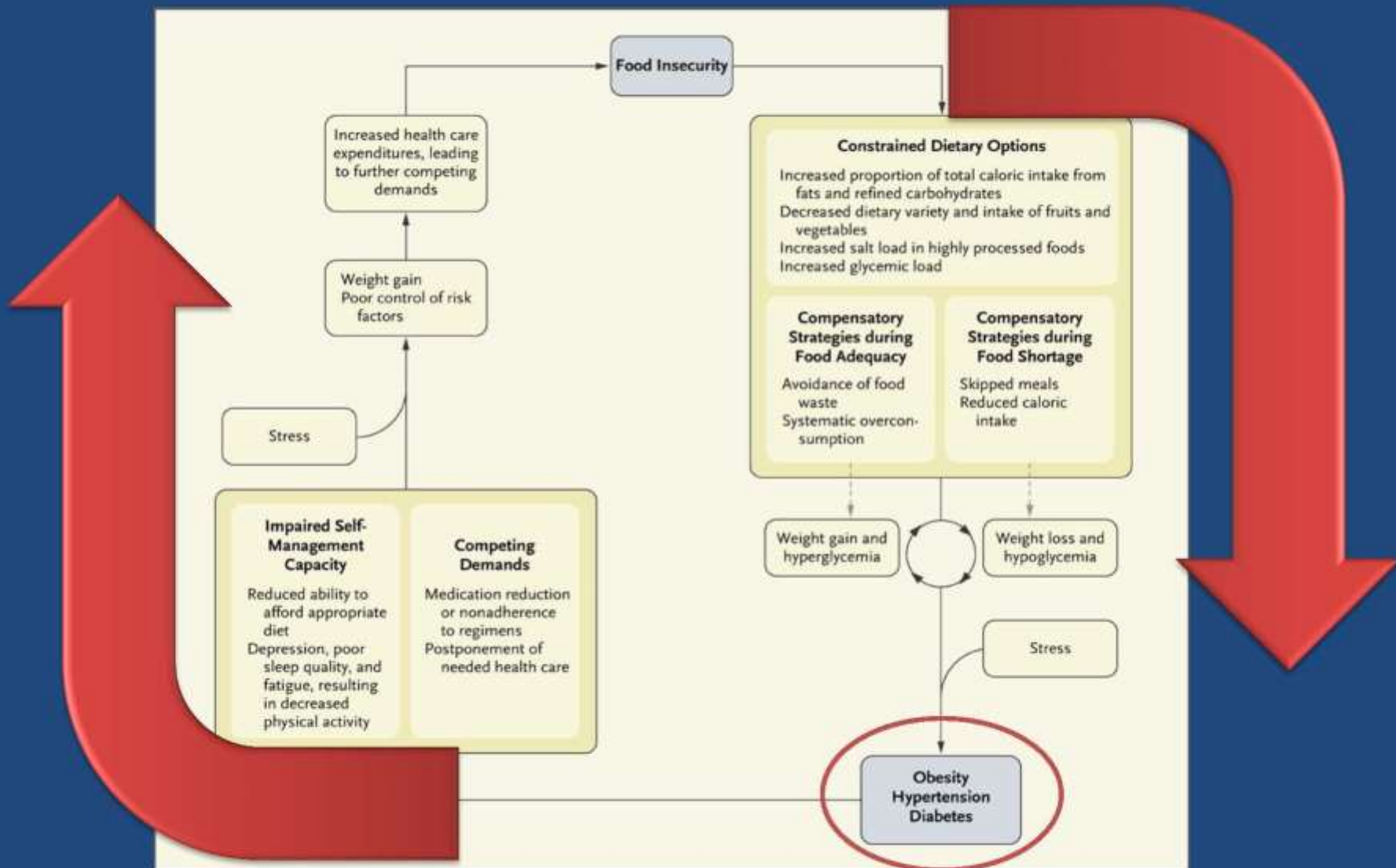
Nutrition Impacts: FI and Seniors

Percent Difference in Nutrient Intake when Comparing Food Insecure Seniors to Food Secure Seniors*



Spotlight on Senior Health: Adverse Health Outcomes of Food Insecure Older Americans. National Foundation to End Senior Hunger and Feeding America. March, 2014

The Cycle of Food Insecurity and Chronic Disease.



FI Health Impacts: Across the Lifespan

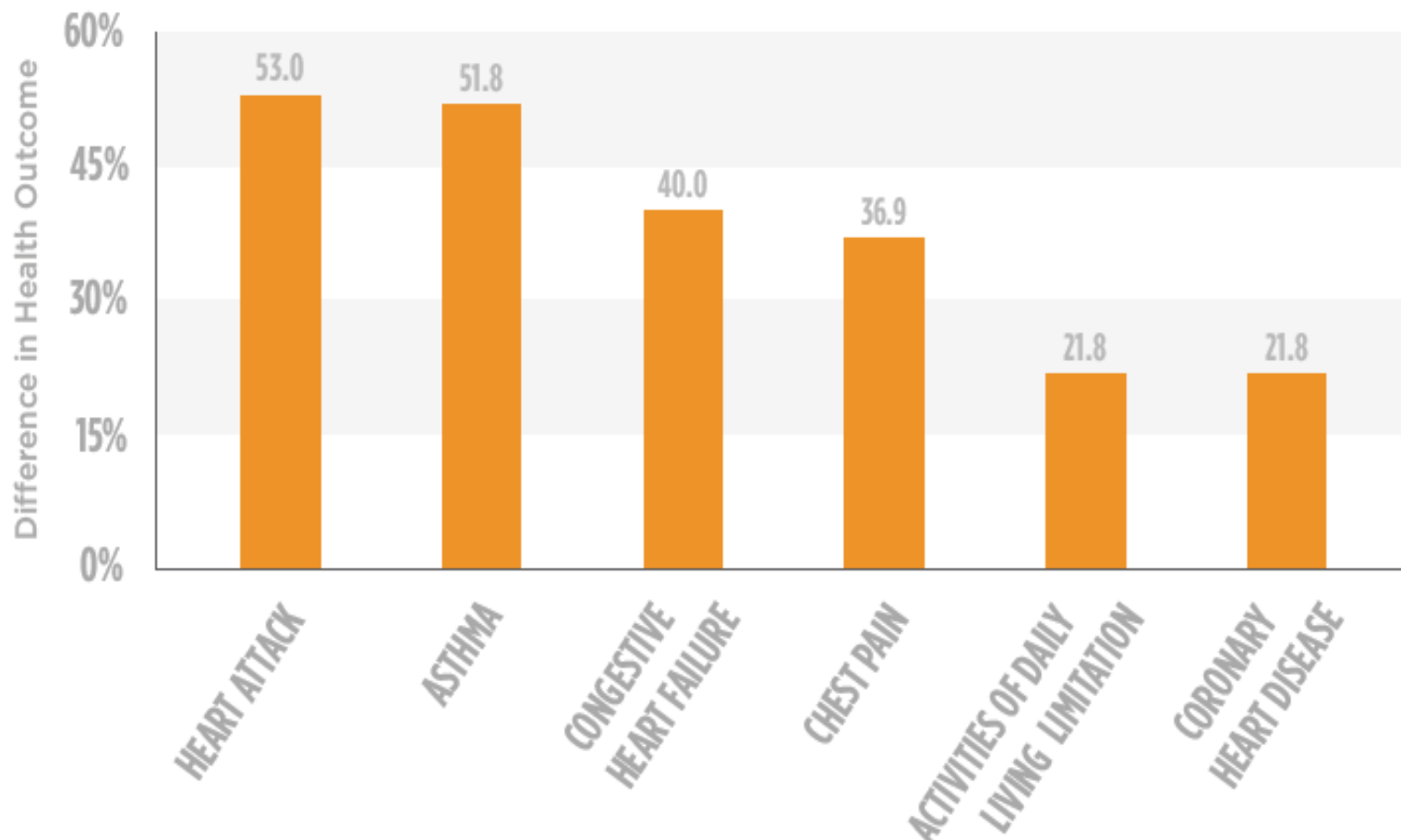
- Food insecure pregnant women face increased stress, anxiety and depression.
- Babies born to food insecure mothers are more likely to be lower birthweight, with higher likelihood of complications and early hospitalization.¹
- Lasting effects of marginal food insecurity on children:
 - Asthma
 - Poorer oral health
 - Behavioral problems
 - Hospitalization
 - Overall poor health status
 - Delayed physical and cognitive development^{2,3,4}



1. Ivers, L.C., & Cullen, K.A. (2011). Food insecurity: special considerations for women. *The American Journal of Clinical Nutrition*, 94(suppl), 1740S-4S.
2. Alaimo, K., & Ai, E. (2001). Food Insufficiency, Family Income, and Health in US Preschool and School-aged Children. *American Journal of Public Health*, 91(5), 781-6.
3. Cook, J., & Ai, E. (2013). Are Food Insecurity's Health Impacts Underestimated in the US Population? *American Society for Nutrition Advanced Nutrition*, 4, 51-61.
4. Whitaker, R., Phillips, S., & Orzol, S. (2006). Food Insecurity and the Risks of Depression and Anxiety in Mothers and Behavior Problems in their Preschool-aged Children. *tbd*.

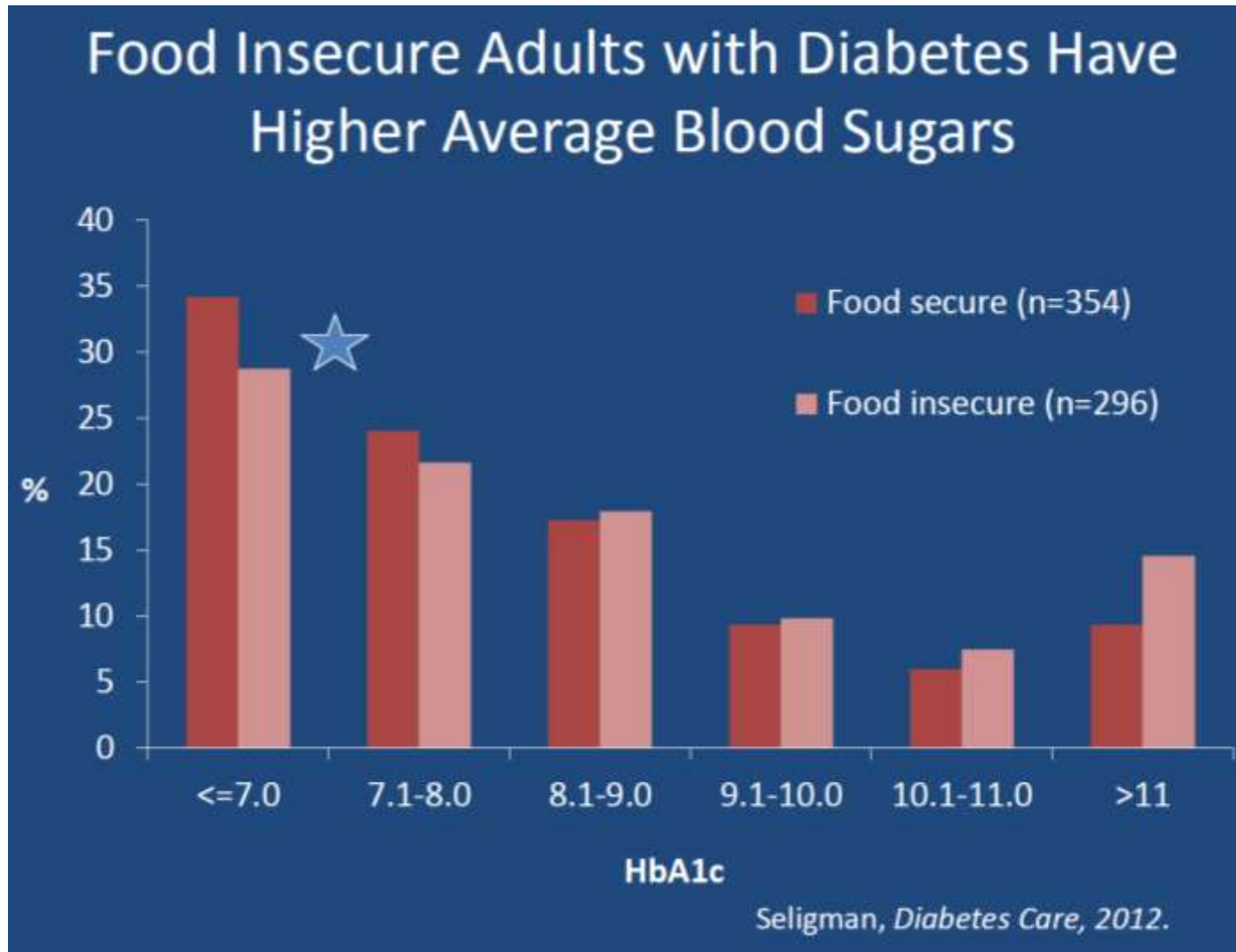
Health Impacts: FI in Seniors

Percent Difference in Health Outcomes when Comparing Food Insecure Seniors to Food Secure Seniors*



Spotlight on Senior Health: Adverse Health Outcomes of Food Insecure Older Americans. National Foundation to End Senior Hunger and Feeding America. March, 2014

Food Insecurity and Diabetes



Health Impacts: FI and Obesity

- FI adults: 32% greater odds of obesity than FS adults; significant association with women (12-state study; >66 K adults)¹
- Increased risk of major gestational weight gain in obese pregnant women experiencing food insecurity²
- Maternal stress in combination with adolescent FI significantly increased probability of adolescent overweight/obesity³
- Los Angeles County: higher prevalence of obesity among adults in households with very low food security⁴



¹Pan, L., Sherry, B., Njai, R., & Blanck, H. M. (2012). Food insecurity is associated with obesity among US adults in 12 states. *Journal of the Academy of Nutrition and Dietetics*, 112(9), 1403-1409.

²Olson, et. al. The relationship between food insecurity and obesity in rural childbearing women. *J Rural Health*. 2008. 24:60-6.

³Lohman, B. J., Stewart, S., Gundersen, C., Garasky, S., & Eisenmann, J. C. (2009). Adolescent overweight and obesity: links to food insecurity and individual, maternal, and family stressors. *Journal of Adolescent Health*, 45(3), 230-237.

⁴Social Determinants of Health: Rising Food Insecurity in Los Angeles County. County of Los Angeles Public Health, July 2015.

http://www.cdc.gov/obesity/data/prevalence_maps.html

Health Impacts: FI and Behavioral Health

- Increased risk for depression, suicidal thoughts, substance abuse and other mental health conditions in adolescents^{1,2}
- FI significantly more prevalent in adults with mood disorders;
 - Significant association with mania symptoms and nutritional deficiencies³
- Significant increase in depression for FI seniors when compared to those who are food secure⁴



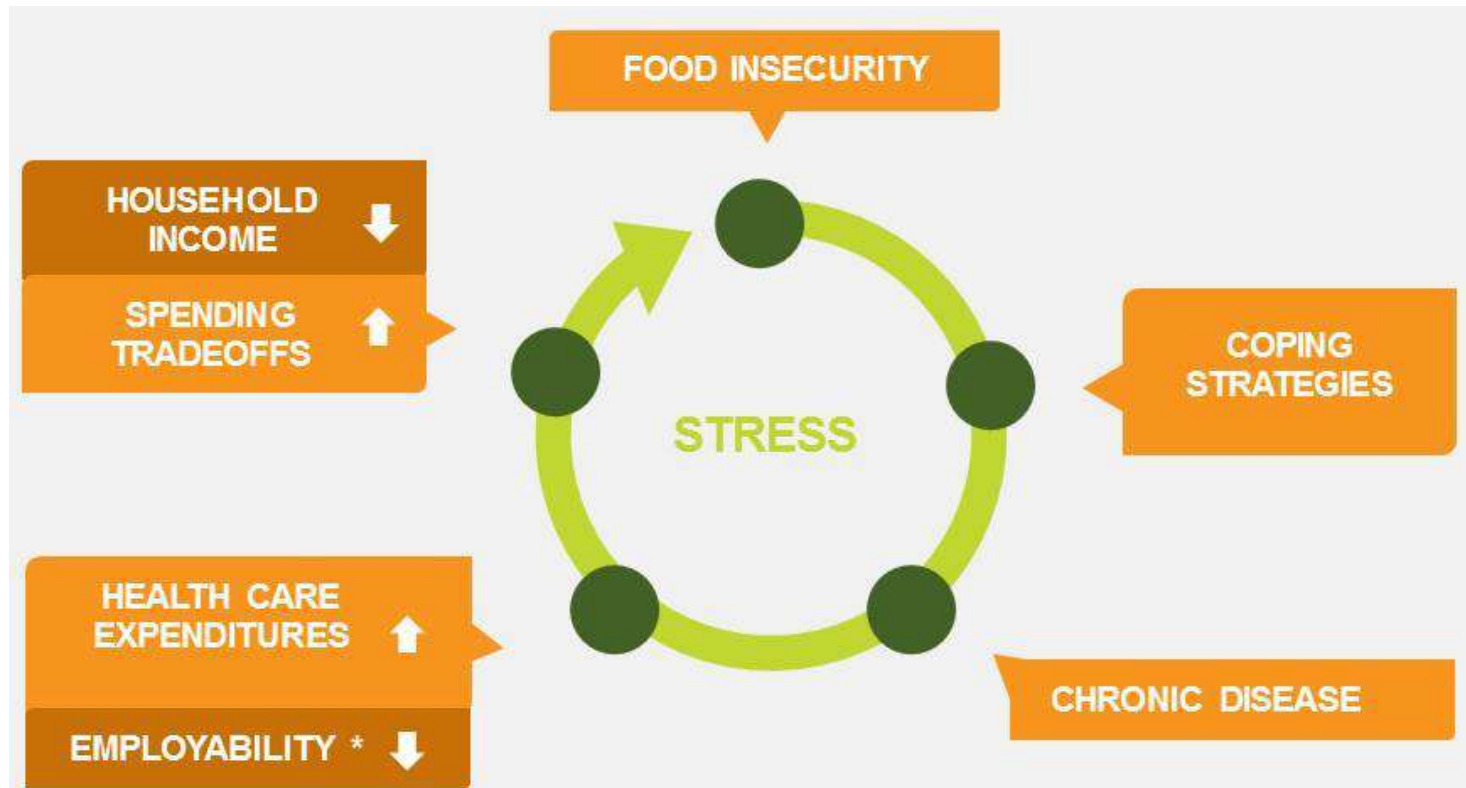
¹Alaimo, K., Olson, C., & Frongillo, E. (2001). Food Insecurity and American School-aged Children's Cognitive, Academic, and Psychological Development. *Pediatrics*, 108(1), 44-53.

²*J Am Acad Child Adolesc Psychiatry*. 2012 Dec;51(12):1293-303. doi: 10.1016/j.jaac.2012.09.009. Epub 2012 Nov 6

Davison, K., Kaplan, B., (2015) Food insecurity in adults with mood disorders: prevalence estimates and associations with nutritional and psychological health. *Annals of General Psychiatry*. DOI: 10.1186/s12991-015-0059-x. July, 2015.

⁴ September, 2015. AARP Foundation. Food Insecurity Among Older Adults, 2015 Update.

FI and Health Care Utilization



In CA hospitals: 27% increase in hypoglycemia admissions at end of the month for low-income diabetics¹

¹Hilary K. Seligman and Dean Schillinger. Hunger and Socioeconomic Disparities in Chronic Disease. *New England Journal of Medicine*. 2010; 363(1): 6.

Food Insecurity and Health Care Costs

- Marginally food insecure: health care costs → 16% higher
- Moderately food insecure → 32%
- Severely food insecure → 76%



Higher with prescriptions!

Food Insecurity in Health Care Settings: SD Efforts

Components (2):

- FI Screening
- Referral to food resources/education
 - CalFresh, food pantry, direct food assistance
 - Nutrition education, chronic disease self management education



Examples:

- Free health clinics
- Diabetes Wellness Project: UCSD/ FASD
- Sharp Care Transitions w/FASD, 2-1-1 San Diego, SDFB

..and more!



“Alone we can do so little, together we can do so much.” ~ *Helen Keller*

