



# Food Insecurity and COVID-19: Amplifying Threats to Health

**Sheri Weiser, MD, MPH**

Professor of Medicine  
Division of HIV, Infectious Disease, & Global Medicine  
Department of Medicine  
University of California, San Francisco



## Disclosure Slide

I do not have any conflicts of interest to disclose.



# Food Insecurity Worldwide

## Worsening with COVID-19 pandemic

- 2020 Projections:
  - Severe hunger → doubles to **265M** people<sup>1</sup>
  - Extreme poverty → affects **71-100M** more people<sup>2</sup>
  - Global food crisis & potential famine → **30+** countries<sup>3</sup>

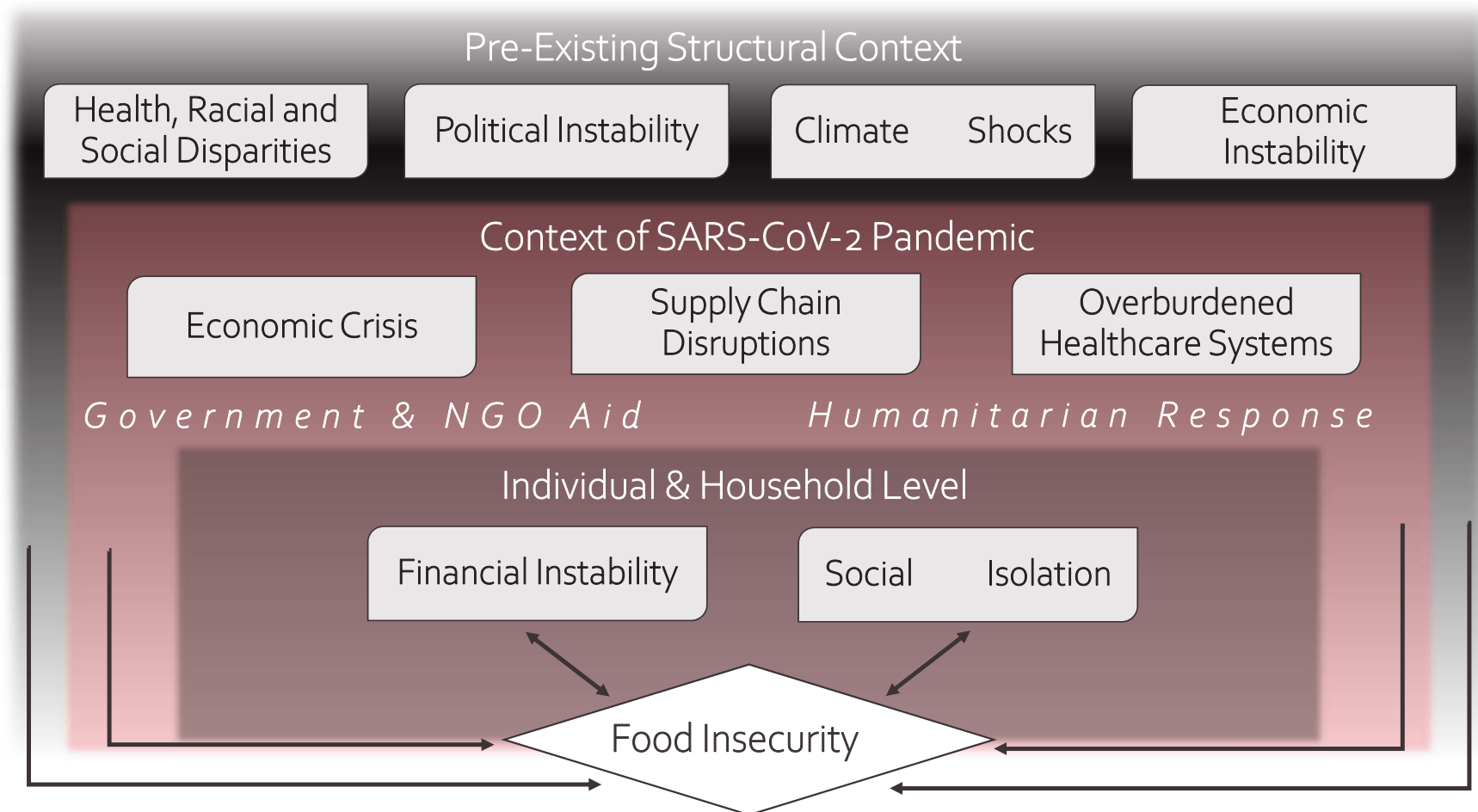
More may die of COVID-19 consequences than of the disease itself



<sup>1</sup>United Nations World Food Programme, 2020; <sup>2</sup>World Bank, 2020; <sup>3</sup>Beasley, UNWFP, 2020

# COVID-19 Pandemic & Food Insecurity

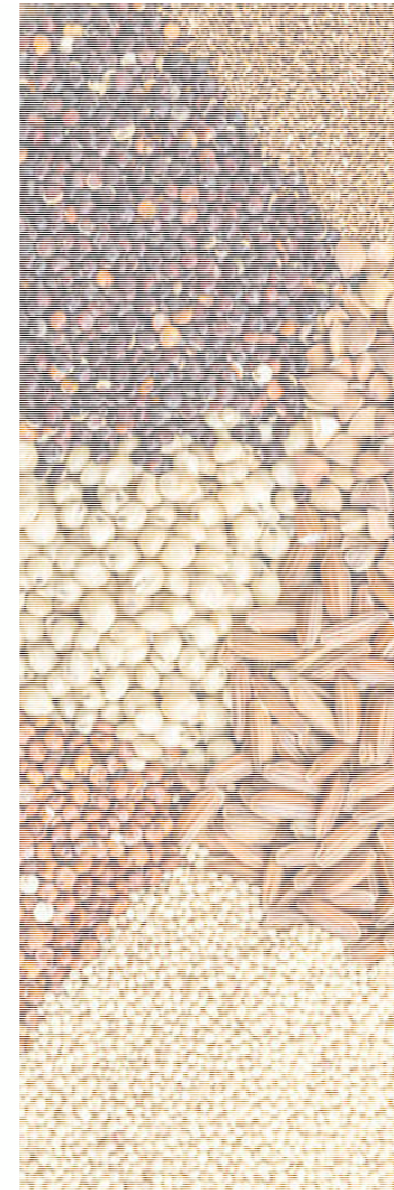
## A Perfect Storm





# Food Insecurity Snapshots

- **United States:** Increased food insecurity (FI) in all 50 states
  - Household rates of FI **doubled** overall & **tripled** for families with children by April-May 2020<sup>1</sup>
  - 2020 projections based on unemployment → **17M more**<sup>2</sup> people with FI, or **45% increase** from 2018<sup>3</sup>
- **India:** Pandemic lockdown increased rural household FI<sup>4</sup>
  - 68% reported **reduced size** of meals
  - 50% reported **reduced number** of meals
  - 84% reported food support from national food safety-net



<sup>1</sup>Schanzebach & Pitts, IPR, 2020; <sup>2</sup>Feeding America, 2020; <sup>3</sup>Coleman-Jensen et al., USDA Economic Research Service, 2019; <sup>4</sup>VikasAnvesh Foundation et al., 2020

A photograph of a person sitting on a cobblestone street next to a brick wall. The person is wearing a dark, patterned headscarf and a dark long-sleeved shirt. They are barefoot, and a pair of sneakers is on the ground next to them. The background shows a weathered wall and a doorway. Overlaid on the image is a quote in red text.

"This is truly more than just a [viral] pandemic – it is creating a hunger pandemic. This is a humanitarian and food catastrophe."

*David Beasley, Executive Director of the UN World Food Programme; interview with The Guardian, April 21, 2020*



# Demand for Food Assistance is Surging<sup>1-2</sup>



Preparations for an emergency food drive in Des Moines, Iowa, USA

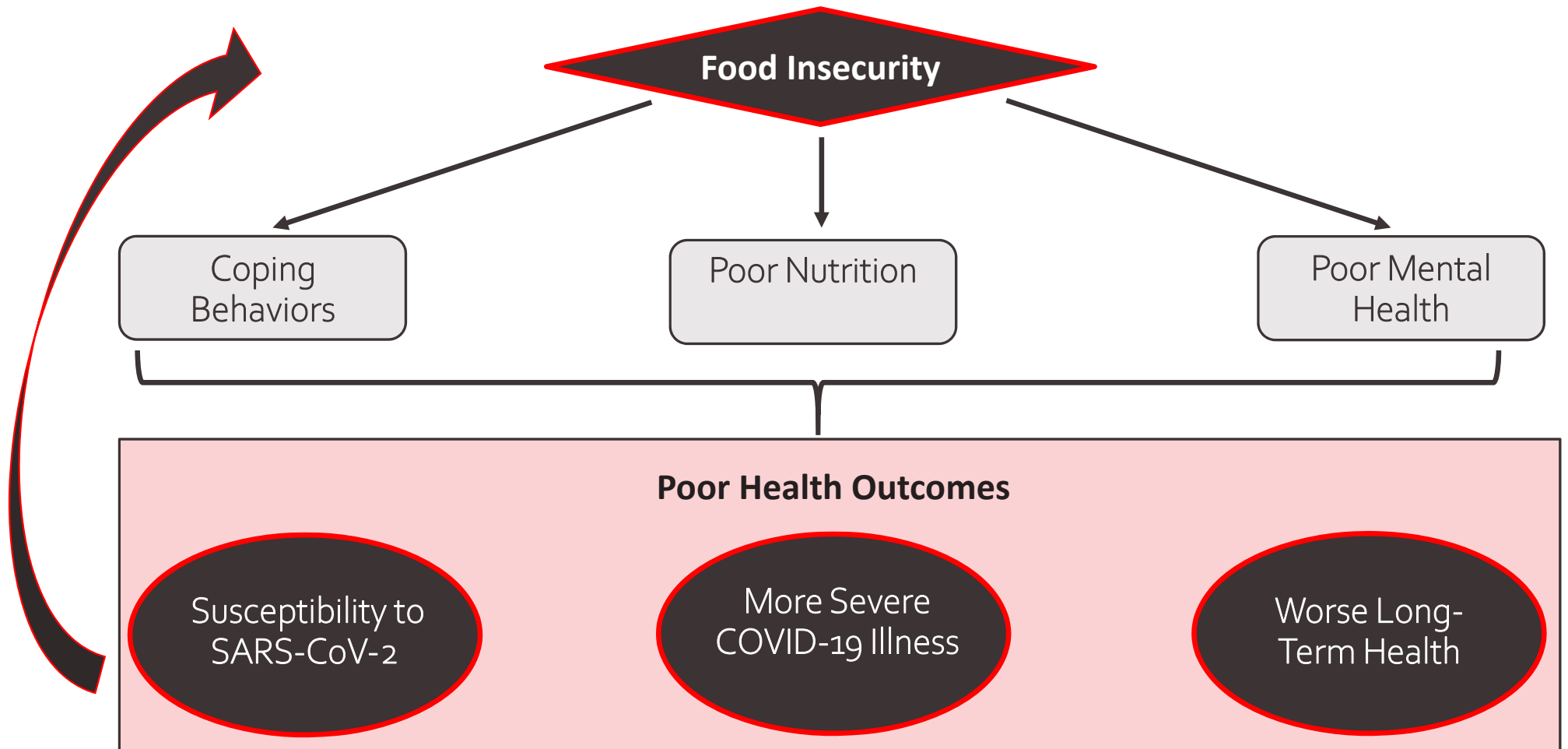


Line for free lunch in Minneapolis, Minnesota, USA



Volunteers prepare free meals for the homeless in Rio de Janeiro, Brazil

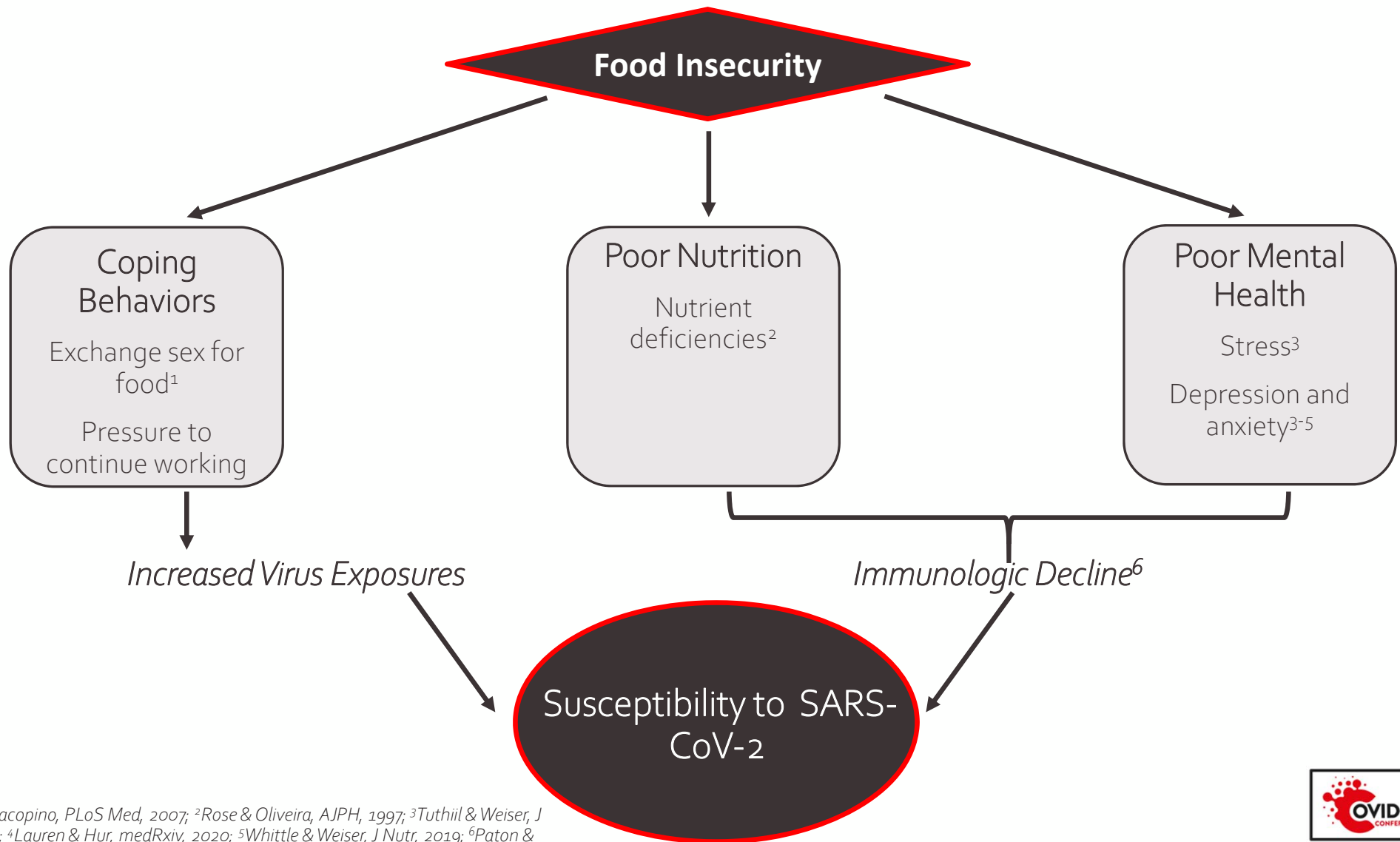
<sup>1</sup>Feeding America, 2020; <sup>2</sup>Slattery & Boadle, Reuters, April 21, 2020



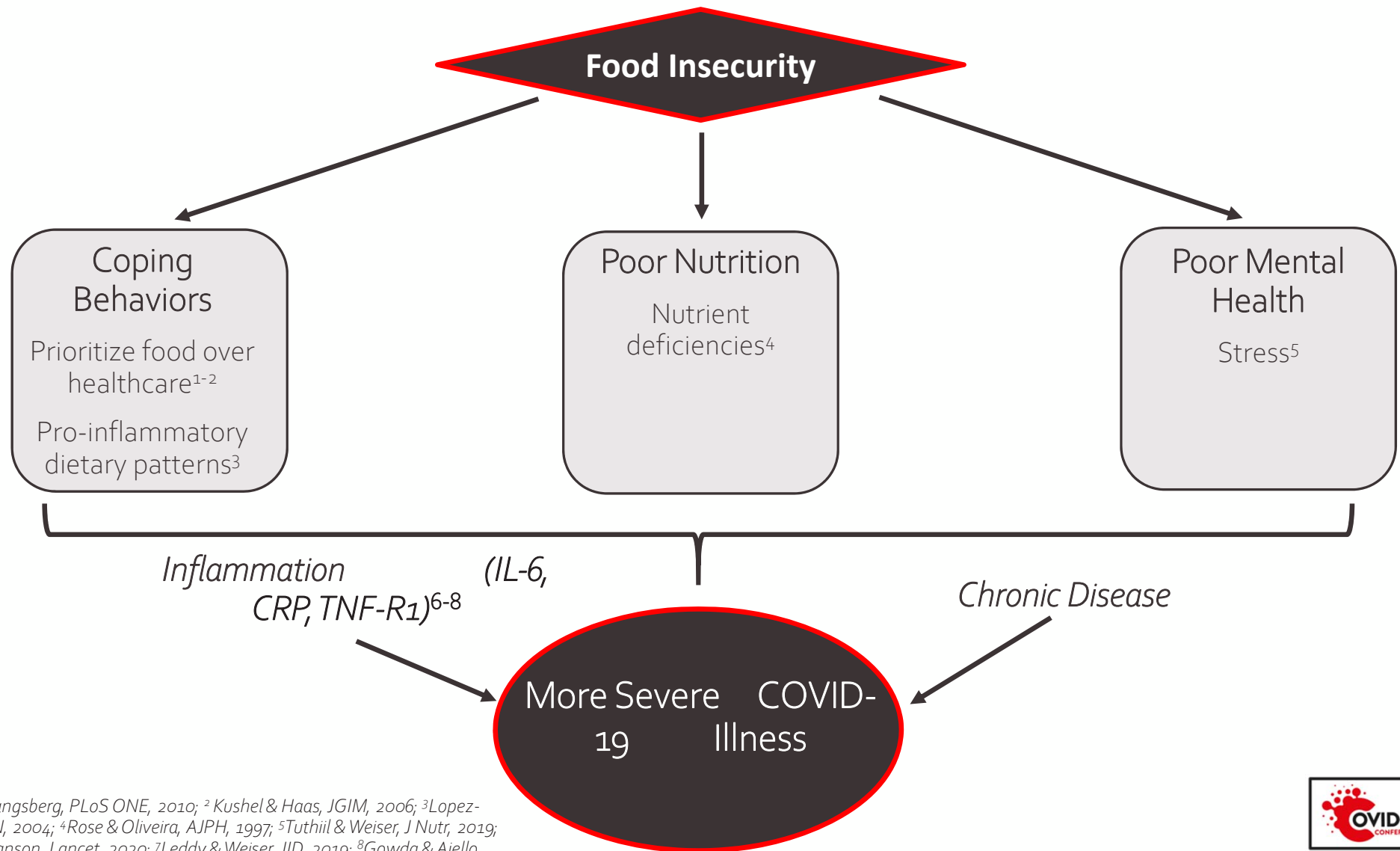
COVID-19 and Food Insecurity: An Emerging Syndemic





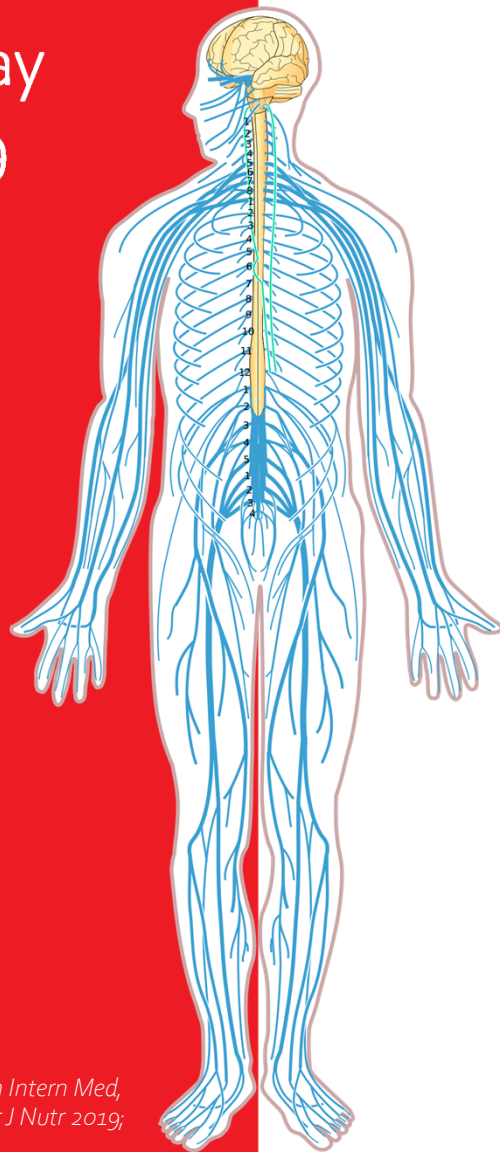


<sup>1</sup>Weiser & Iacopino, PLoS Med, 2007; <sup>2</sup>Rose & Oliveira, AJPH, 1997; <sup>3</sup>Tuthill & Weiser, J Nutr, 2019; <sup>4</sup>Lauren & Hur, medRxiv, 2020; <sup>5</sup>Whittle & Weiser, J Nutr, 2019; <sup>6</sup>Paton & Bellamy, HIV Med, 2006.



<sup>1</sup>Weiser & Bangsberg, PLoS ONE, 2010; <sup>2</sup>Kushel & Haas, JGIM, 2006; <sup>3</sup>Lopez-Garcia, AJCN, 2004; <sup>4</sup>Rose & Oliveira, AJPH, 1997; <sup>5</sup>Tuthill & Weiser, J Nutr, 2019; <sup>6</sup>Mehta & Manson, Lancet, 2020; <sup>7</sup>Leddy & Weiser, JID, 2019; <sup>8</sup>Gowda & Aiello, AJPH, 2012.

# Food Insecurity May Increase COVID-19 Morbidity



FI is important driver of chronic illness:

2x odds of diabetes<sup>1</sup>

40% higher odds of hypertension<sup>2</sup>

3x odds of HIV<sup>3</sup>

2x odds of obesity<sup>4</sup>

48% higher odds of obstructive airway disease<sup>2</sup>

46% higher odds of chronic kidney disease<sup>5</sup>

These same conditions elevate risk of severe COVID-19 and long-term health consequences

<sup>1</sup>Seligman & Kushel, JGIM, 2007; <sup>2</sup>Nagata & Weiser, J Gen Intern Med, 2019; <sup>3</sup>Palar & Weiser, AIDS, 2016; <sup>4</sup>Moradi & Mirzaei, Eur J Nutr 2019; <sup>5</sup>Crews & Powe, Amer J Nephrol, 2014.





Prioritize FI  
during pandemic

Incorporate food  
insecurity into all  
aspects of pandemic  
response.



Bolster the health  
sector's role

Include FI screening and  
referrals for all patients.



Invest in structural  
change

Invest in livelihoods,  
support local  
economies, and build  
local food systems.

## Addressing Food Insecurity During the Pandemic and Beyond

## Evidence-Based Interventions:

### Food is Medicine



Food is Medicine interventions can improve health and reduce healthcare costs.



Food pharmacies



Produce prescriptions



Medically tailored groceries and meals

Lowers BMI<sup>1</sup>

Improves diabetes management<sup>2-4</sup>

Reduces major cardiovascular events<sup>5</sup>

Lowers hospital and ED admissions<sup>6-8</sup>

<sup>1</sup>Cavanagh & Klein, *Public Health Nutr*, 2017; <sup>2</sup>Seligman & Waxman, *Health Aff*, 2015; <sup>3</sup>Seligman & Waxman, *Am J Public Health*, 2018; <sup>4</sup>Palar & Weiser, *JUH*, 2017; <sup>5</sup>Estruch & Pharm, *NEJM*, 2018; <sup>6</sup>Palar & Weiser, *IAPAC*, 2018; <sup>7</sup>Berkowitz & Hsu, *JAMA*, 2019; <sup>8</sup>Berkowitz & DeWalt, *Health Aff*, 2018.

# Evidence-Based Interventions: Social Protection Approaches



Social protection approaches can improve nutrition and chronic disease outcomes.



Cash transfers



Economic  
strengthening



Livelihood  
interventions

## Shamba Maisha Agricultural Livelihood Intervention<sup>1-2</sup>

Improved food  
security and diet  
quality

7.6x odds of viral  
suppression

Improved mental  
health

Increased CD4 by 165  
cells/mm

<sup>1</sup>Weiser & Cohen, *AIDS*, 2015; <sup>2</sup>Hatcher & Weiser, *Transcultural Psychiatry*, 2020.



The syndemic of food  
insecurity and COVID-19 is  
catastrophic for health and  
well-being globally.

There has never been a more  
urgent time for action.

