ANR's Role in Addressing Food Insecurity in California

April 10, 2016

ANR Statewide Conference

University of California
Agriculture and Natural Resources

Research for healthy food, people and places

Session Overview

I. What is the problem?

II. What is ANR doing?

III. What are additional solutions?

What is Food Insecurity?

Uncertain or limited ability to get adequate food due to **lack of financial resources**

Leading to reductions in:

- Diet **quality** (low food secure)
- Diet **quantity** (very low food secure)

Source: U.S. Department of Agriculture (USDA): www.ers.usda.gov

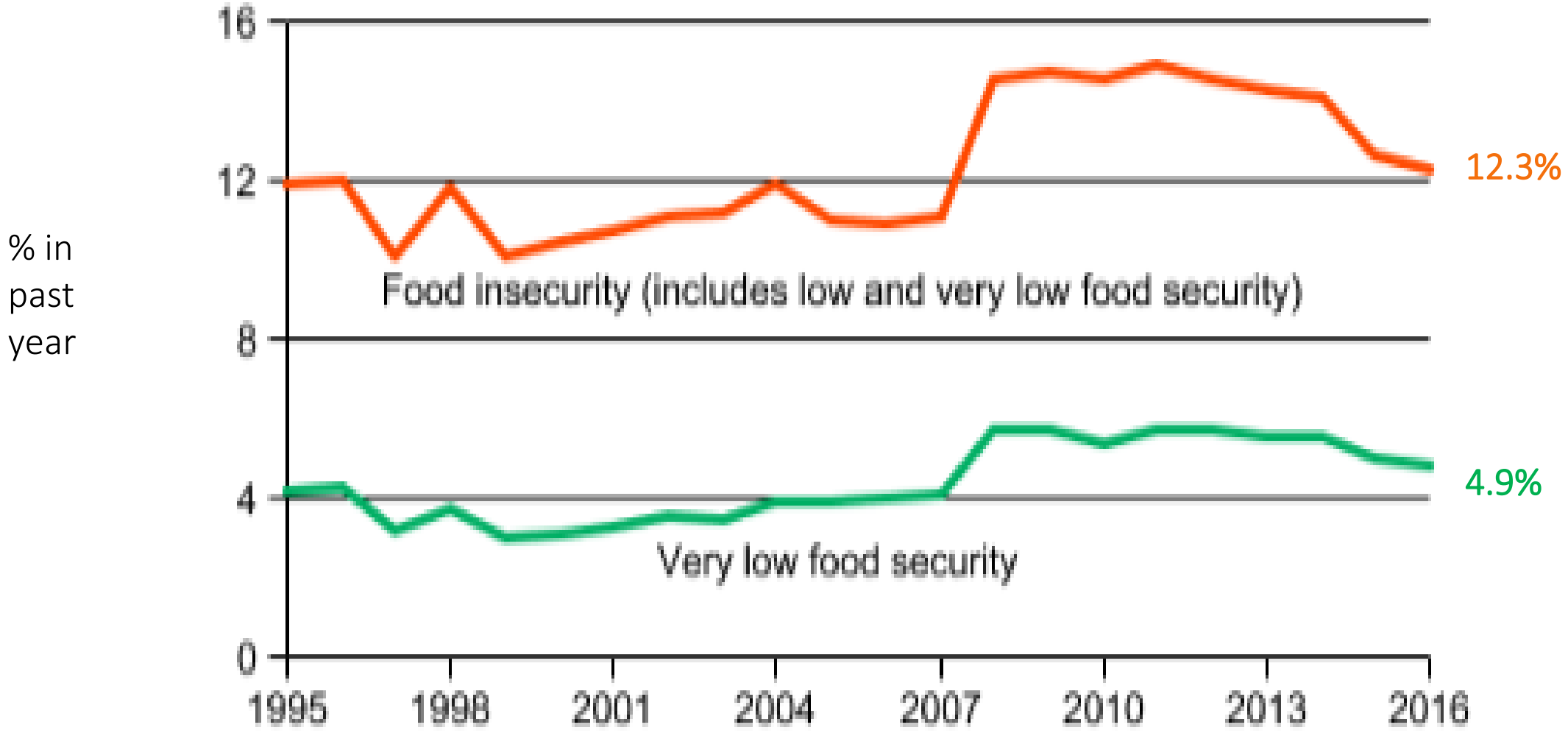
How is Food Insecurity Measured?

- 18-items – households with children
- 10-items – households w/o children
- 6-items – short version
  - Food bought did not last
  - Couldn't afford balanced meals
  - Cut size or skipped meals
  - Frequency of cut/skipped meals
  - Ate less than felt should
  - Hungry but did not eat

Source: USDA, www.ers.usda.gov

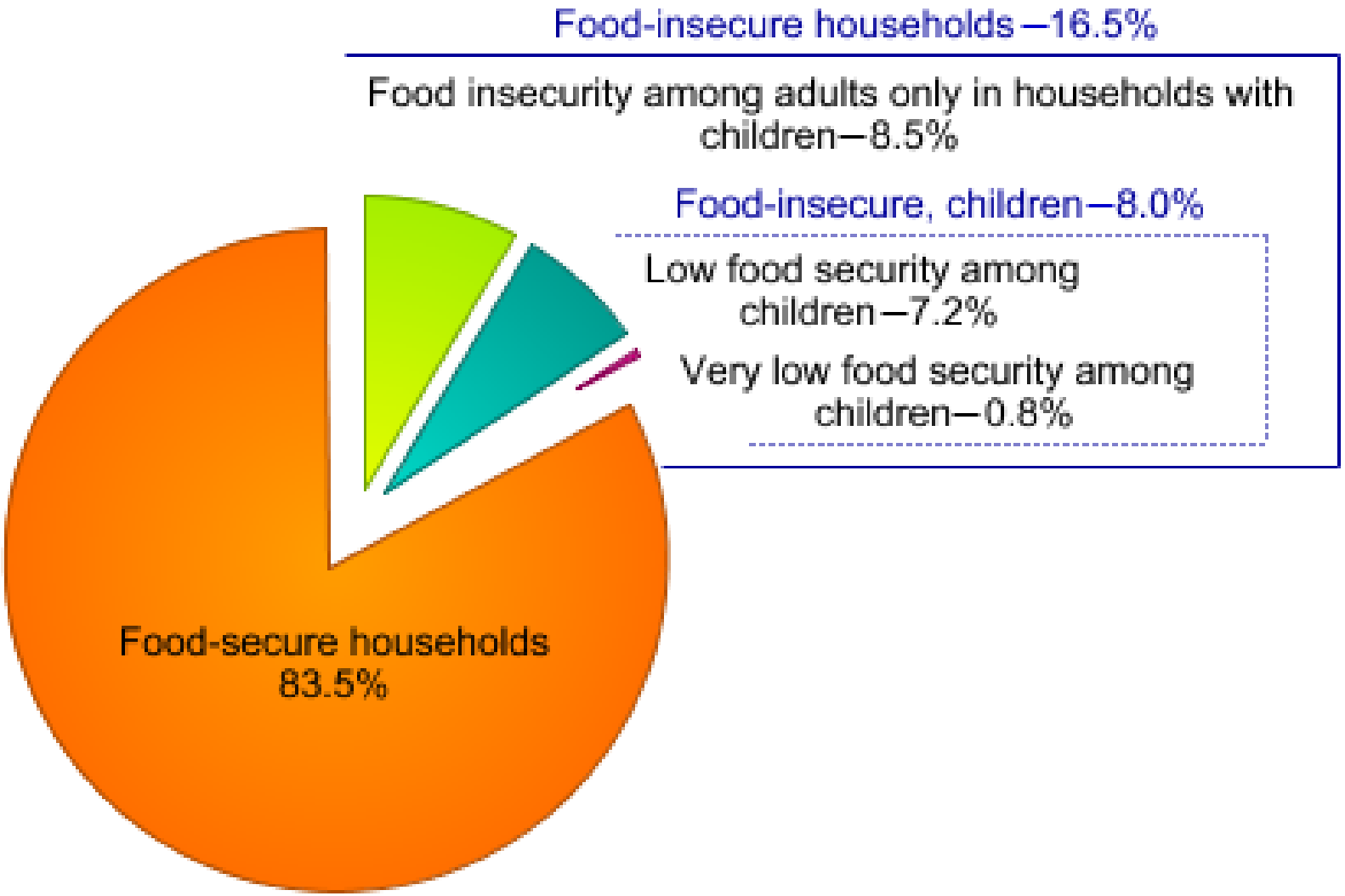
USDA Modules

Food Insecurity Persistent in U.S. Households



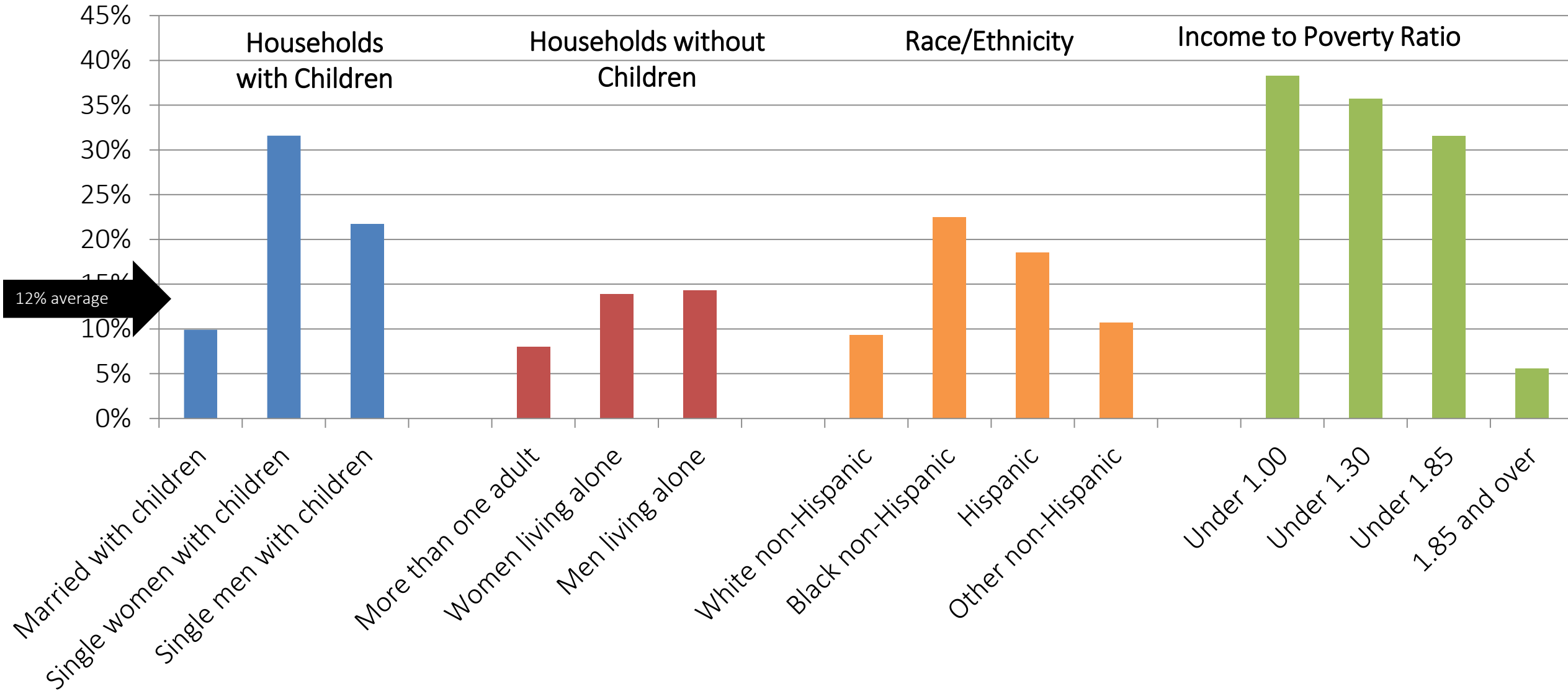
Source: USDA, Economic Research Service. Current Population Survey Food Security Supplement. 1995-2016.

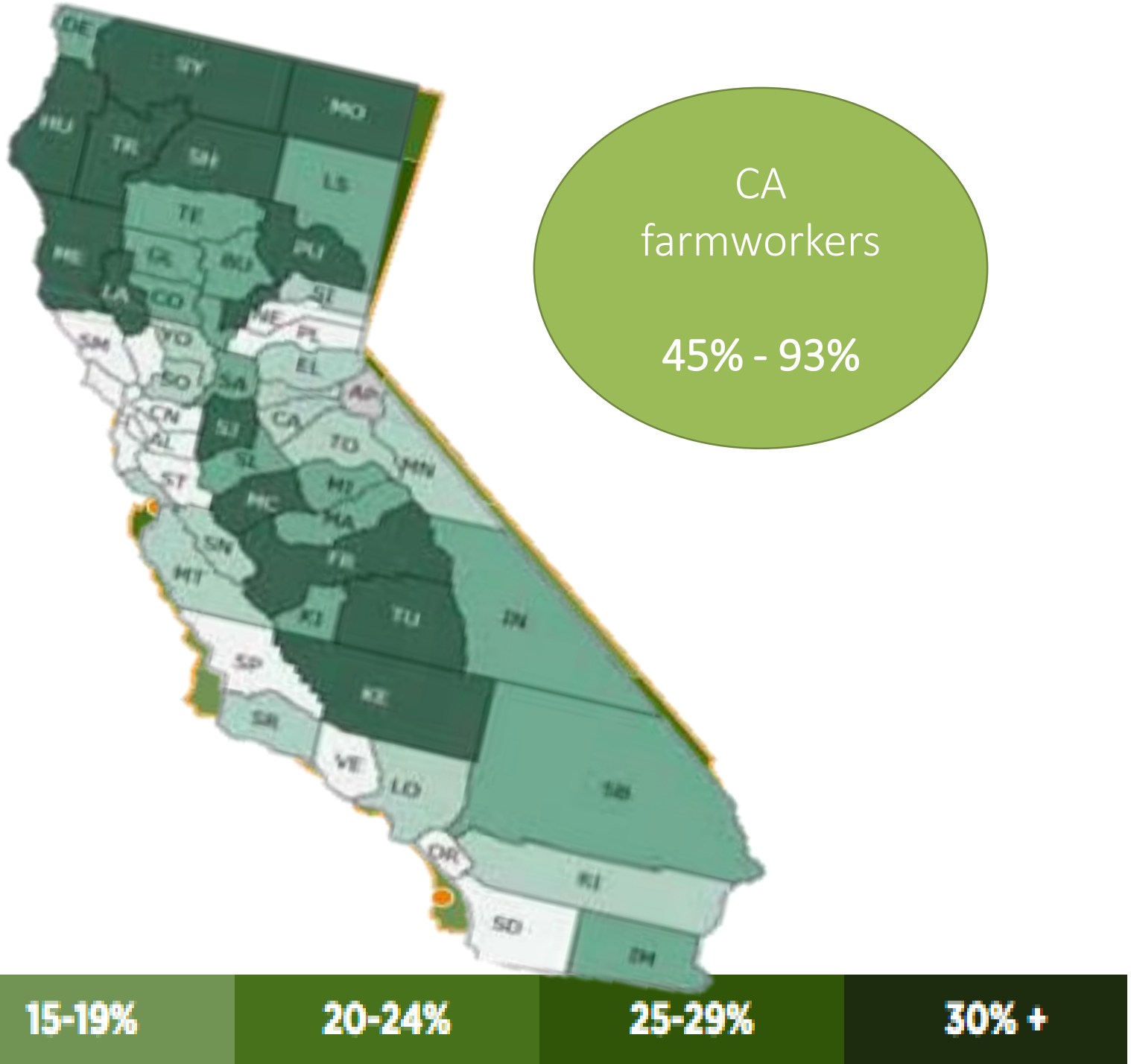
Food Insecurity in U.S. Households with Children



Source: USDA , Economic Research Service. 2016 Current Population Survey Food Security Supplement

Vulnerable Populations: Low-income Women with Children





Children in Food Insecure Households

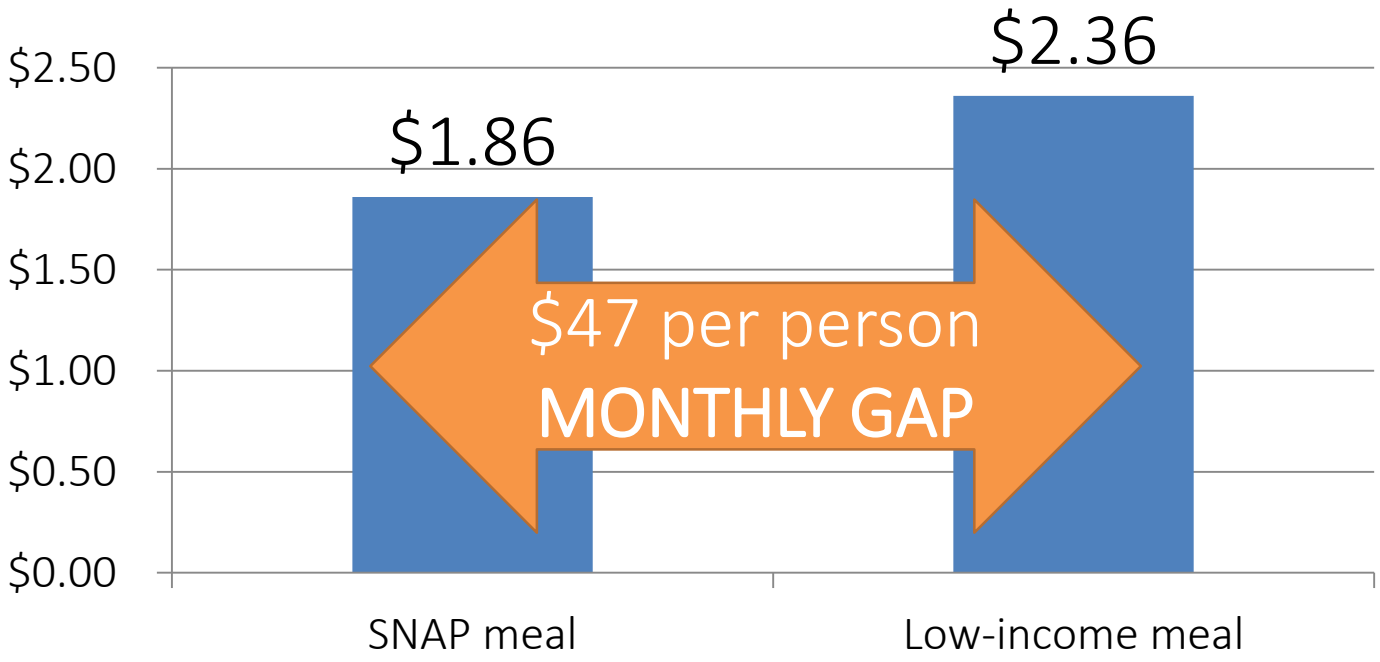
Nearly 2M children

Higher poverty areas:

- Central Valley
- Northern counties
- Imperial County

Sources: Feeding America, Map the Meal Gap, 2016

Farmworkers: Wadsworth 2015; Minkoff-Zern 2012; Kresge 2010; Wirth 2007

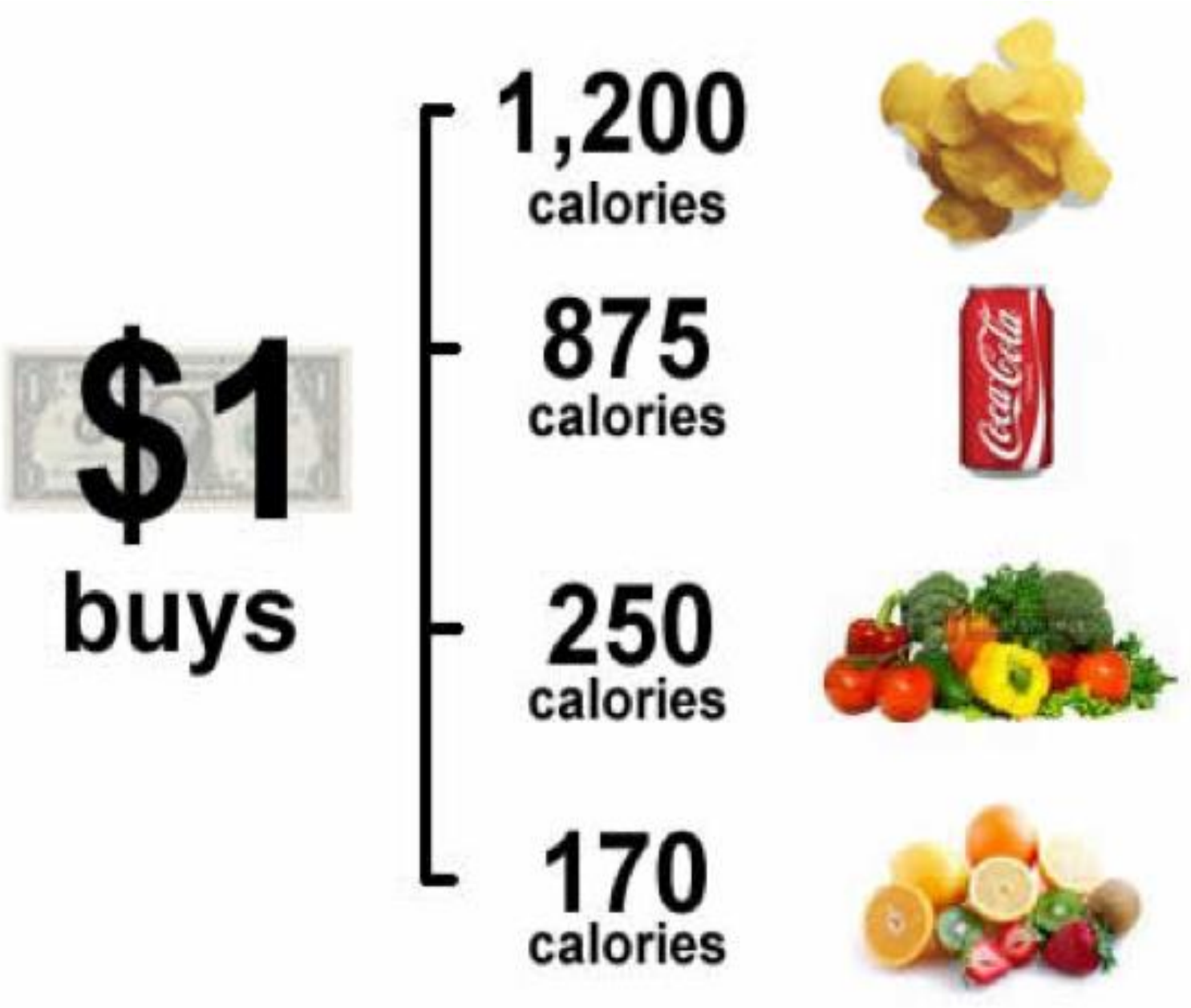


- 99% counties in U.S. have gap
- 8 of 20 counties with largest gap in CA

Nevada	San Benito
Calaveras	Marin
El Dorado	Mendocino
San Francisco	Tuolumne

Why does food insecurity exist despite social programs?

Source: Waxman, Gundersen and Thompson. How Far Do SNAP Benefits Fall Short of Covering the Cost of a Meal? Urban Institute. 2018.



Food access & affordability issues

FOOD INSECURITY
HOUSEHOLD INCOME
SPENDING TRADEOFFS
STRESS
COPING STRATEGIES:
Dietary Quality
Eating Behaviors
Bandwidth
HEALTH CARE EXPENDITURES
FUNCTIONAL STATUS
CHRONIC DISEASE

Why is Child Food Insecurity Especially Concerning?

- ↑ School absences
- ↑ Behavioral problems
- ↓ Ability to concentrate
- ↓ Academic achievement

Sources: Olson 1999; Alaimo 2001; Jyoti 2005; Ryu 2012; Kimbro 2015

Costs of Food Insecurity?

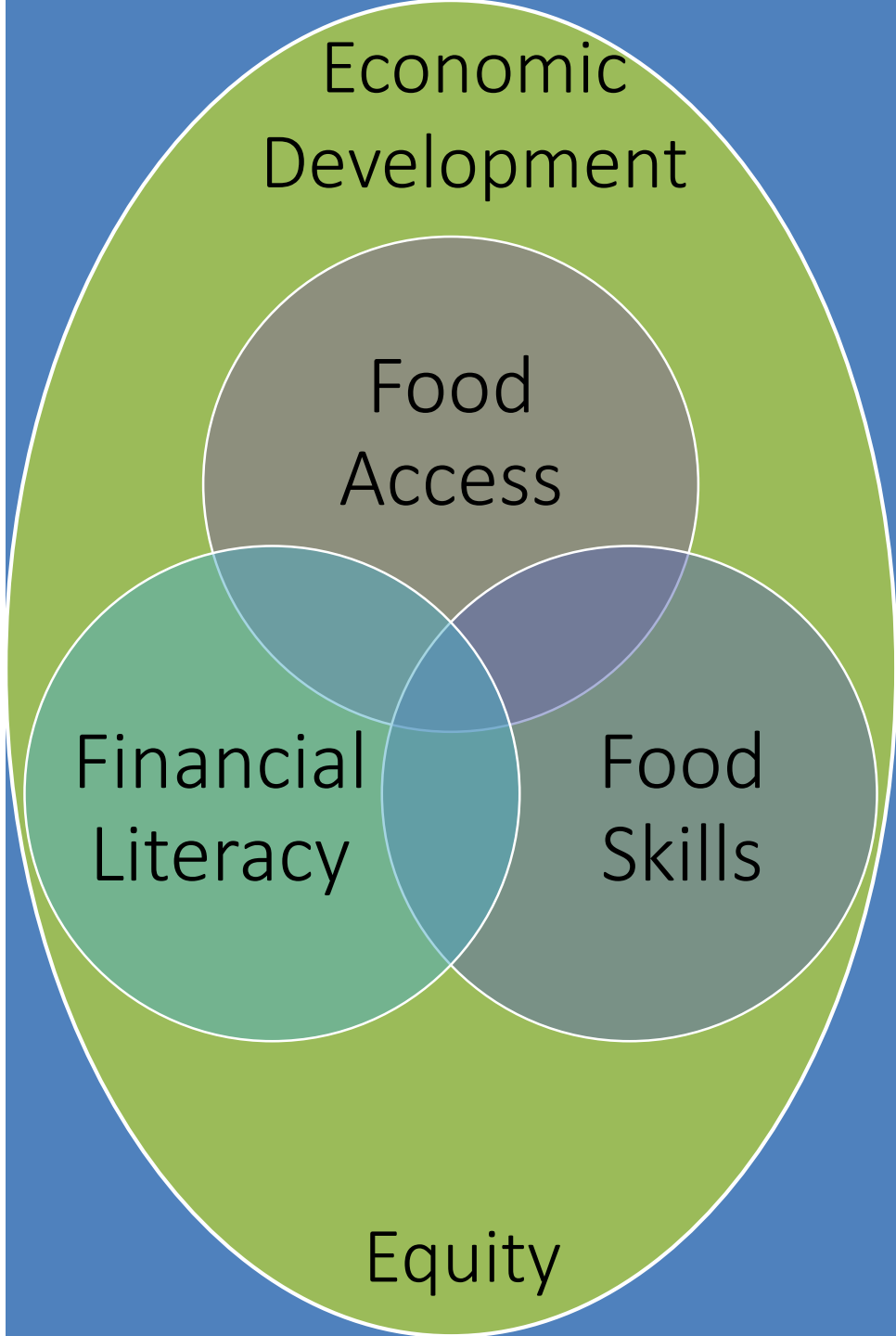
- ↓ Productivity
- ↑ Health care costs
- ↑ Public education costs
- ↑ Emergency food systems

Source:Shepard, Setren & Cooper. Hunger in America. 2011.

$167.5B

ANR in Action

- **Urban agriculture** – Rachel Surls
- **Food policy councils** – Julia Van Soelen-Kim
- **Tribal communities** – Jennifer Sowerwine
- **Food banks & pantries** – Pat Crawford
- **UC campuses** – Lorrene Ritchie
- **EFNEP and UC CalFresh** – Katie Panarella



Urban Agriculture in California

Rachel Surls, UCCE Sustainable Food Systems Advisor

What we offer at UCCE

Urban Agriculture: Somewhere in the middle

UC ANR Urban Agriculture Project

- Multidisciplinary team
- Needs assessment
- Develop online portal

Our urban ag definition

- Urban agriculture includes production (beyond that which is strictly for home consumption or educational purposes), distribution & marketing of food and other products within the cores of metropolitan areas and their edges.
  - *Adapted from the American Planning Association, 2011*

What does California urban ag look like?

Relatively few urban farms are strictly for profit.

More are a non-profit or hybrid model

Non-profit organizations

Government agencies

Job training and healthy food for the homeless

Challenges

- Land access
- Water
- Issues with neighbors
- Lack of experience
- Marketing

Literature review

- What does the research say about impacts of urban agriculture?
  - Social
  - Economic
  - Health

Social impacts

- Creating safe spaces
- Youth development
- Cross-generational learning
- Reducing blight

Economic impacts

- Job creation
- Job training
- Savings for municipal agencies
- Economic savings on food

Health impacts

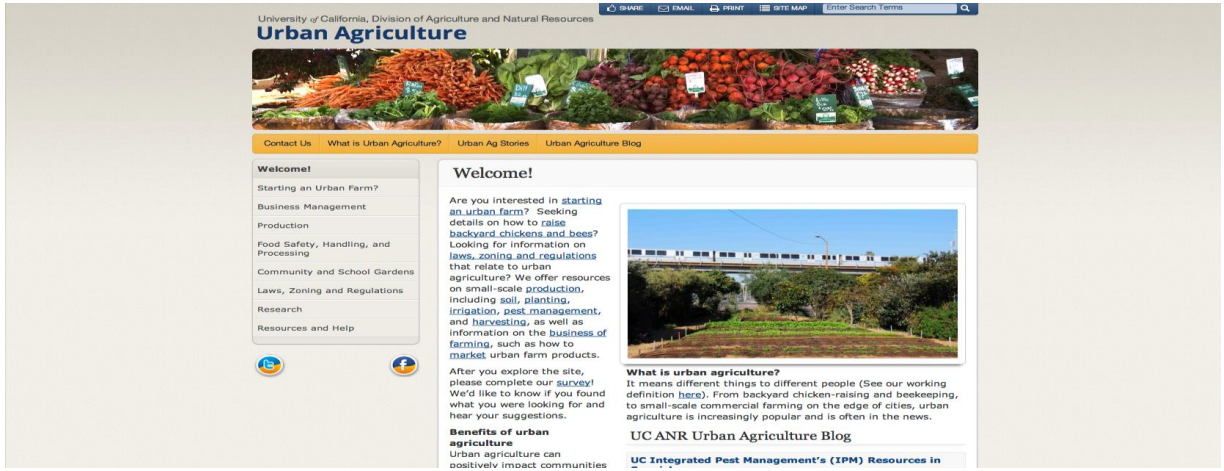
- Food access
- Food security
- Increased fruit and vegetable consumption

Policy initiatives around CA

- San Francisco
- Los Angeles
- San Diego
- San Jose
- Sacramento

Based on needs assessment

- Website
- Blog
- Social media
- Policy brief
- Publications
- Workshops



Urban agriculture: A solution for food insecurity?

ucanr.edu/urbanag

- Join us on Facebook at

  UC ANR Urban Agriculture
- Follow us on Twitter @UCUrbanAg
- Join the UC ANR Urban Agriculture Team

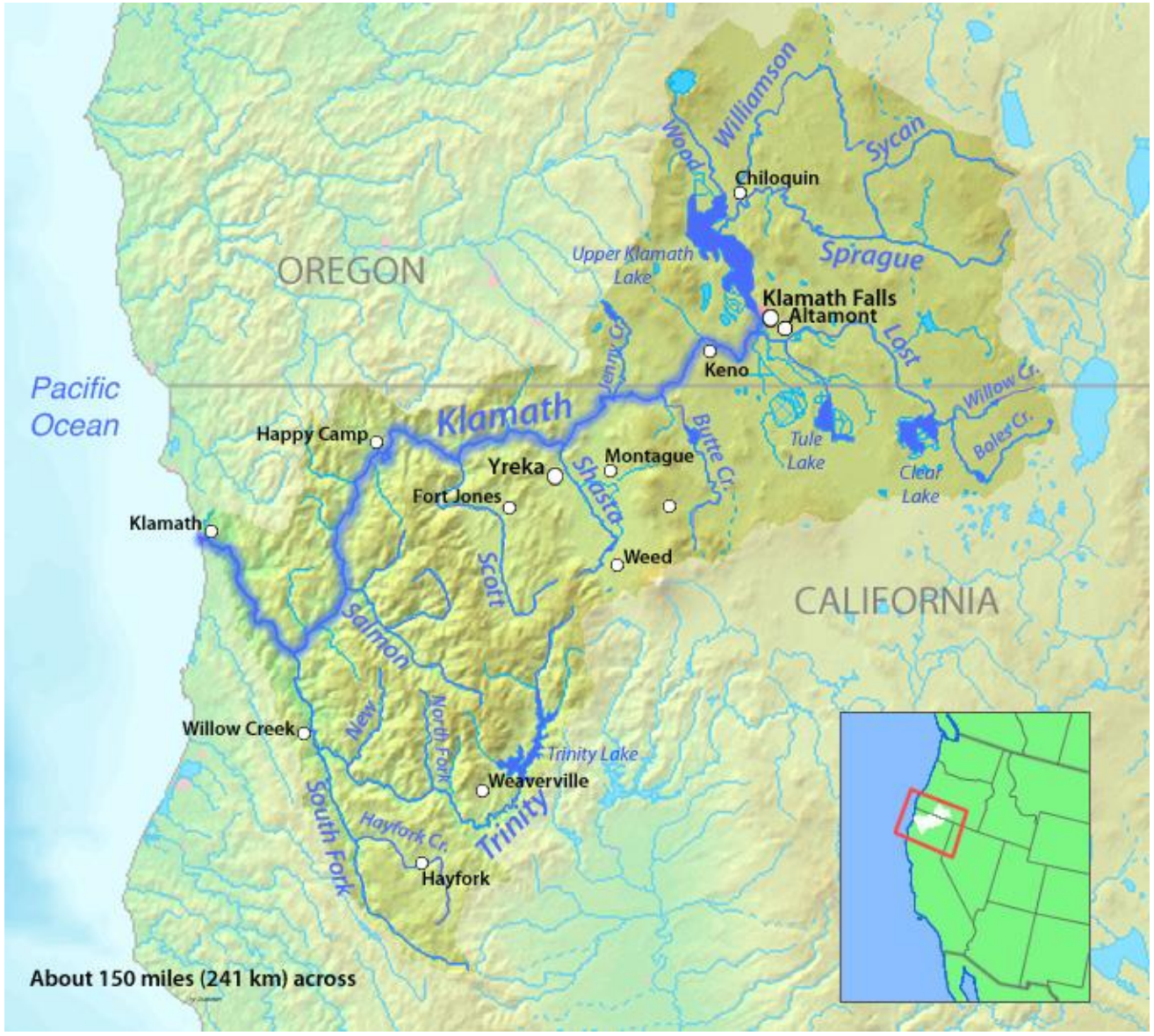
Enhancing Tribal Food Security Among the Karuk, Klamath and Yurok Tribes in the Klamath River Basin

Jennifer Sowerwine
CE Specialist
UC Berkeley
April 10, 2017
UCANR Statewide Conference

University of California
Agriculture and Natural Resources
Making a Difference for California

United States Department of Agriculture
National Institute of Food and Agriculture

The Klamath River Basin



Goal

- To achieve a sustainable food system in the Klamath Basin that results in healthy communities, healthy ecosystems and healthy economies among the Klamath, Karuk and Yurok Tribes.

Focus on Revitalizing Native Foods

Context

- Klamath Basin is a “food desert”
- Enduring legacy of settler colonialism
- Limited access to culturally relevant foods
- Limited Data on Native Americans
  - “Asterisk Nations”
  - Largely absent from county-level food system assessments
  - Research priorities externally defined.

Research Goals & Methods

To examine experience and predictors of Native American food insecurity and barriers/opportunities to build more healthy, affordable and culturally appropriate food system.

Adapted USDA community food security tool-kit with tribal input – CBPR approach – Native foods

- HH survey (N=711, 18.5% response rate)
- Interviews (111)
- Focus groups (20)

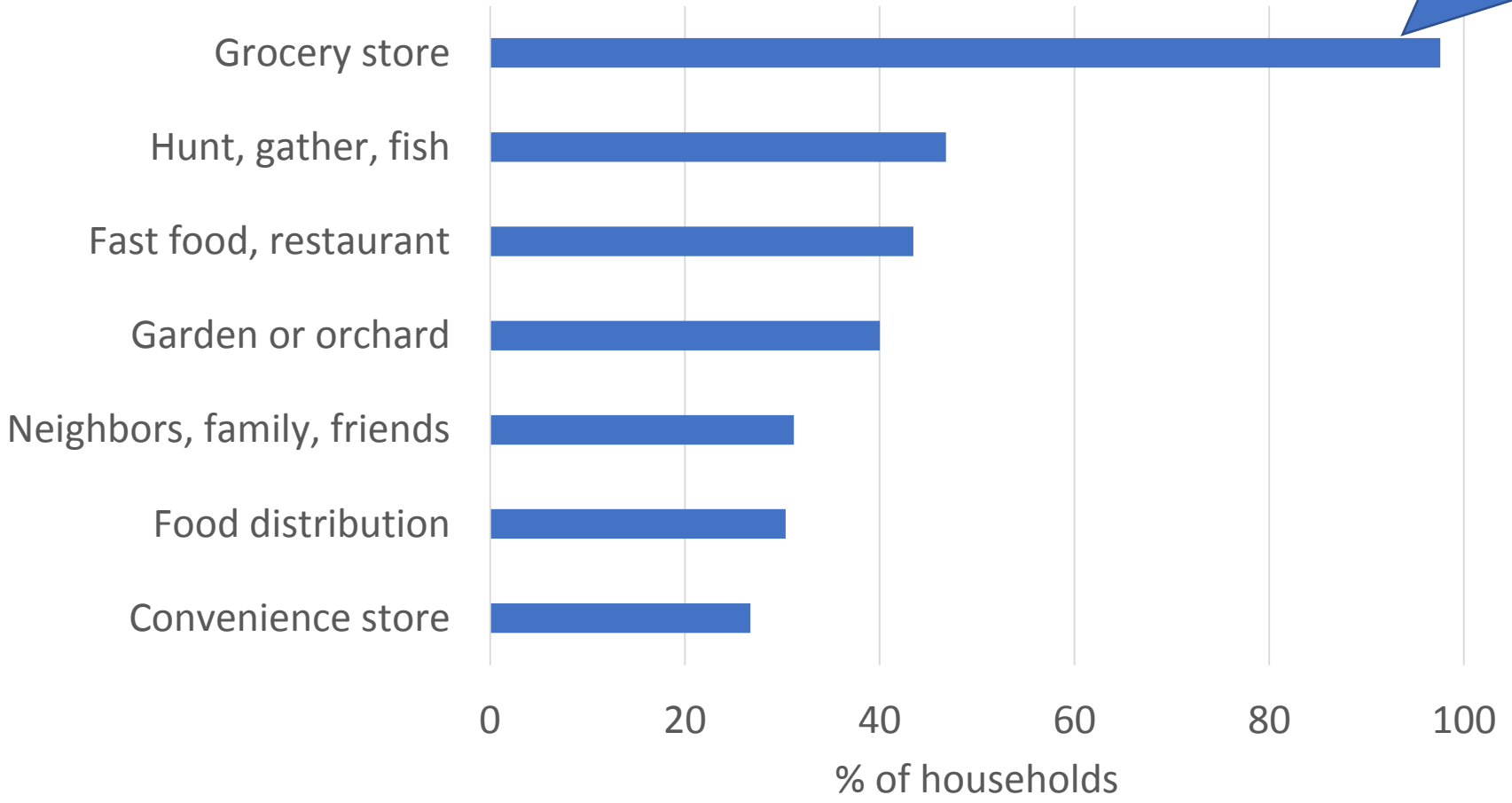
Respondent Characteristics

Household characteristics	Average or proportions
Age	55 years
Household size	2.96 people
Native American	97.26%
Gender	62.81% Female
At or below federal poverty line	42.75%*
Completed higher education	24.55%
Child in Household	49.19%

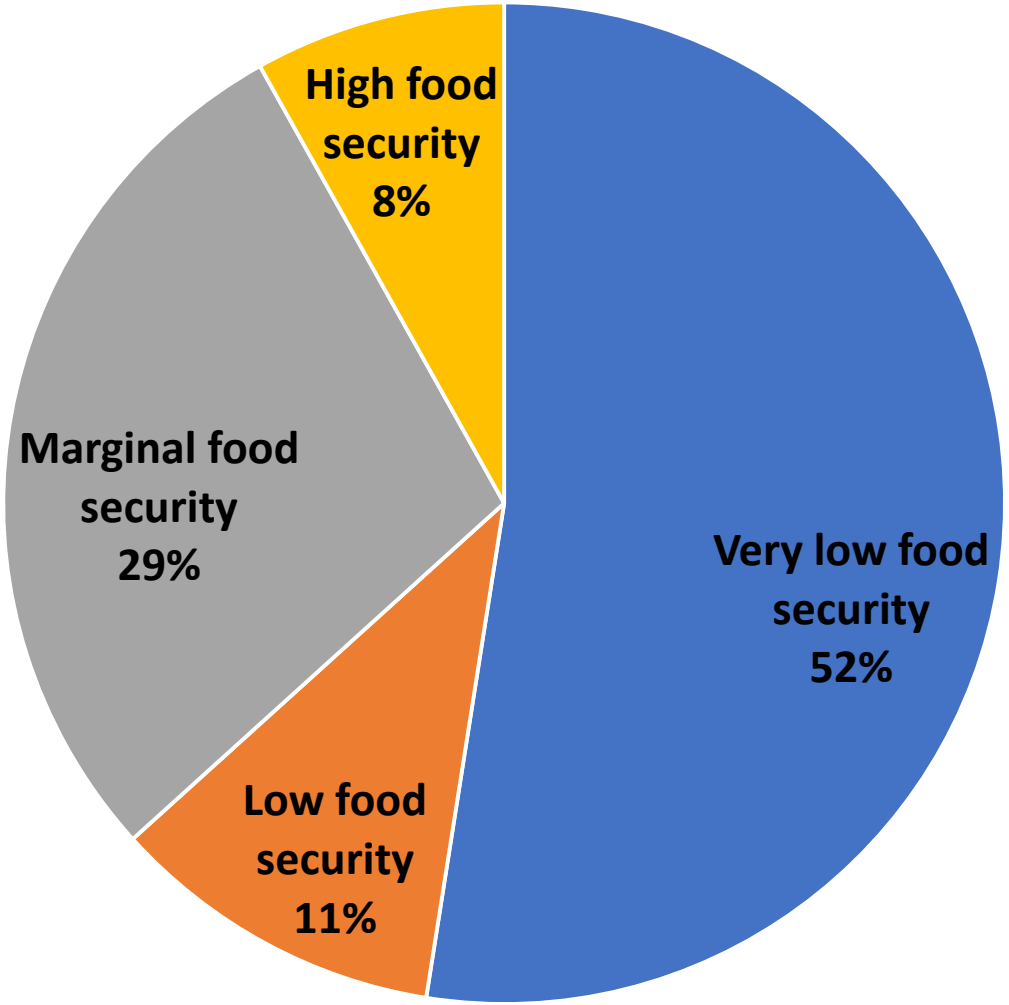
* 3X higher than the national poverty rate

Community Food Resources

Nearly 50% of all households rely on hunting, fishing and gathering as a source of food.

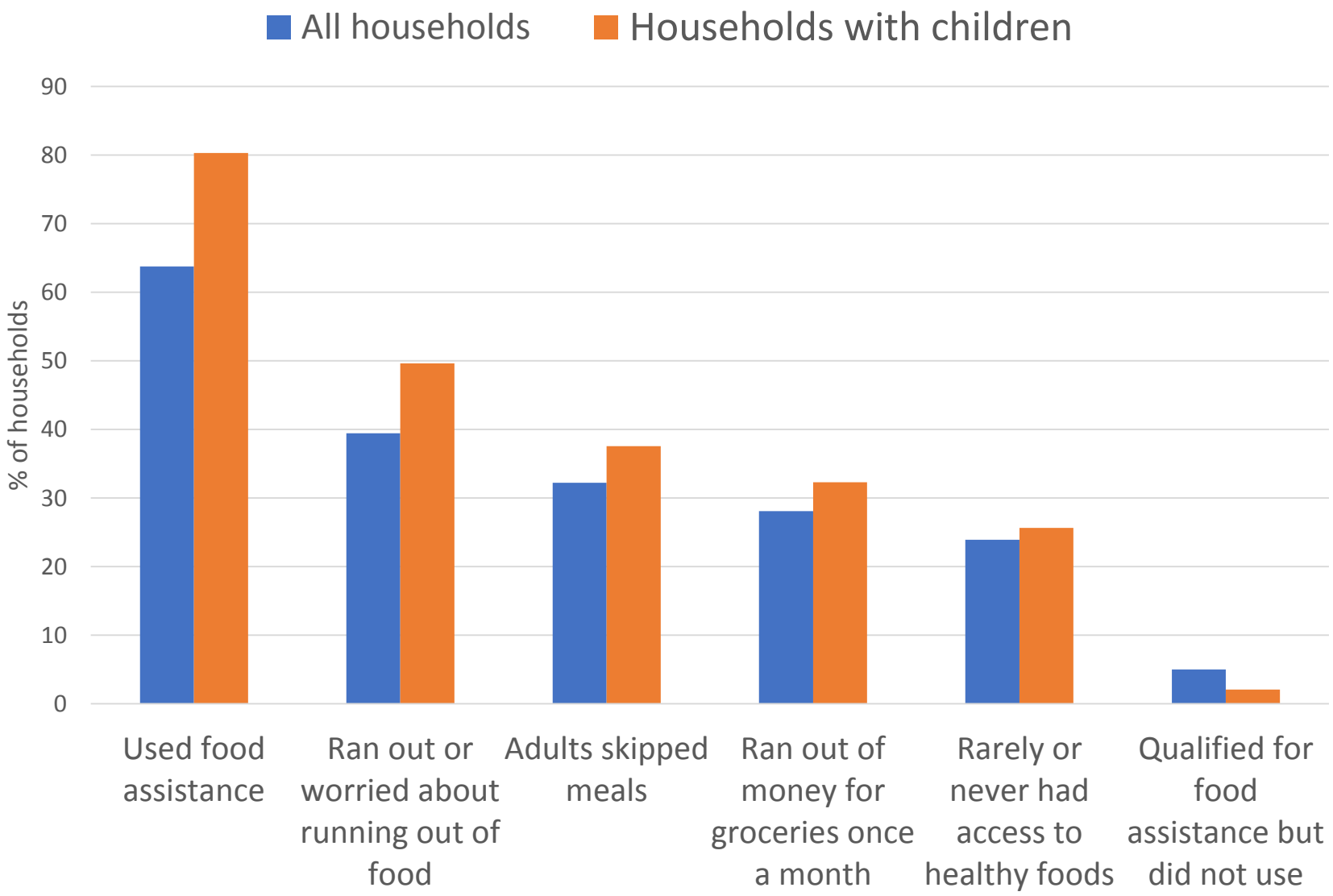


Food Security Rates



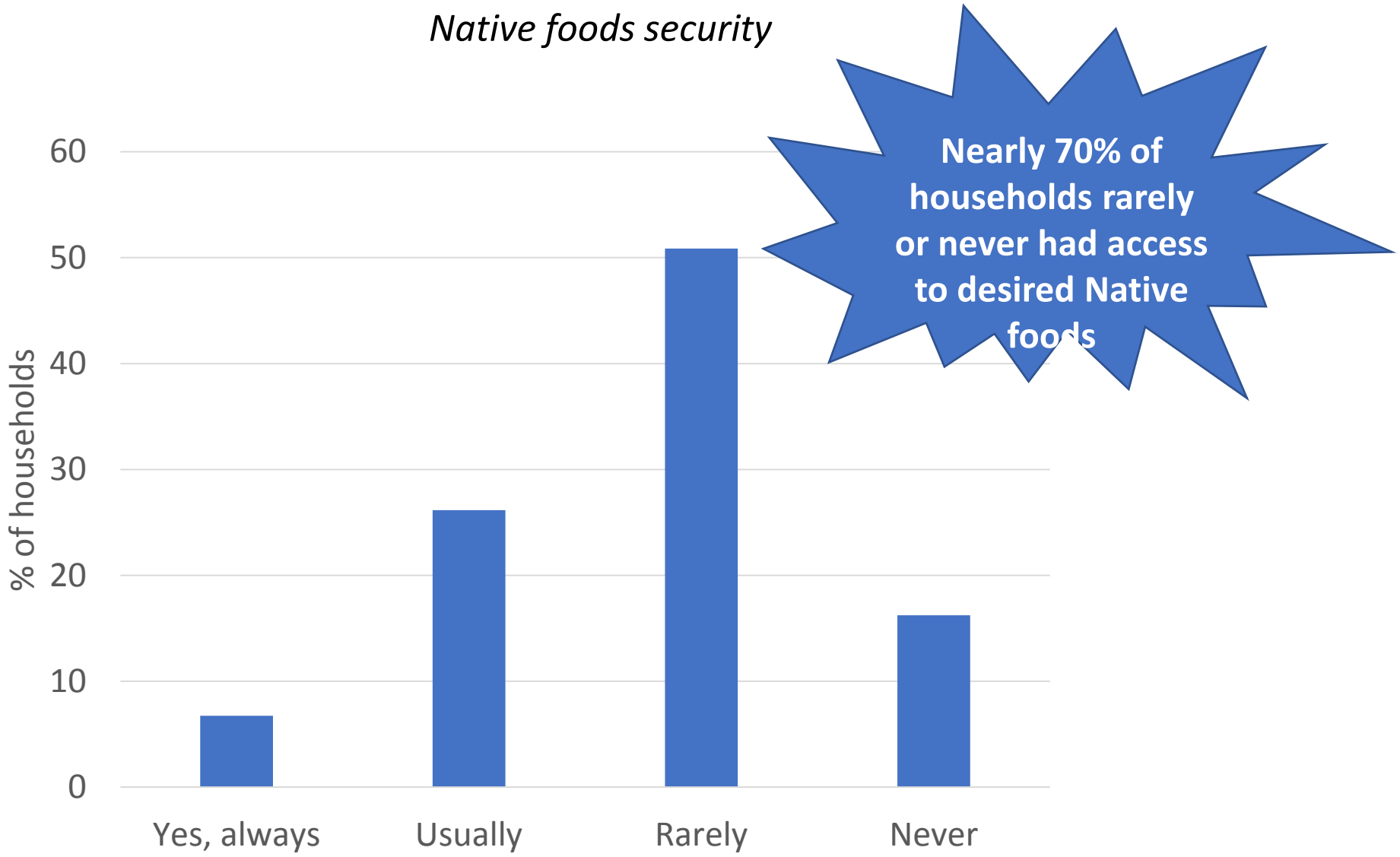
92% of households experienced some level of food insecurity

Experiences of Food Insecurity

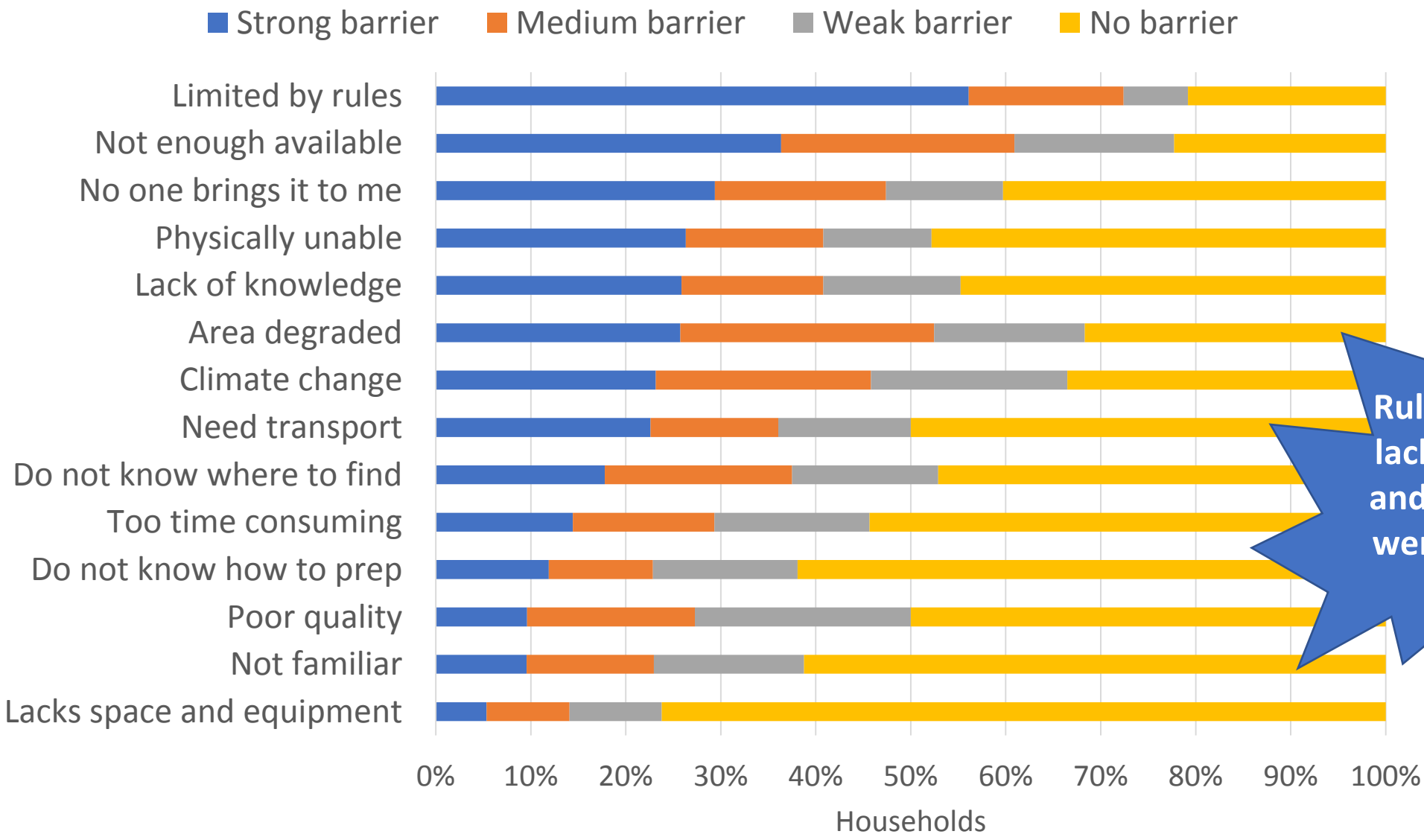


Access to Native Foods

Native foods security



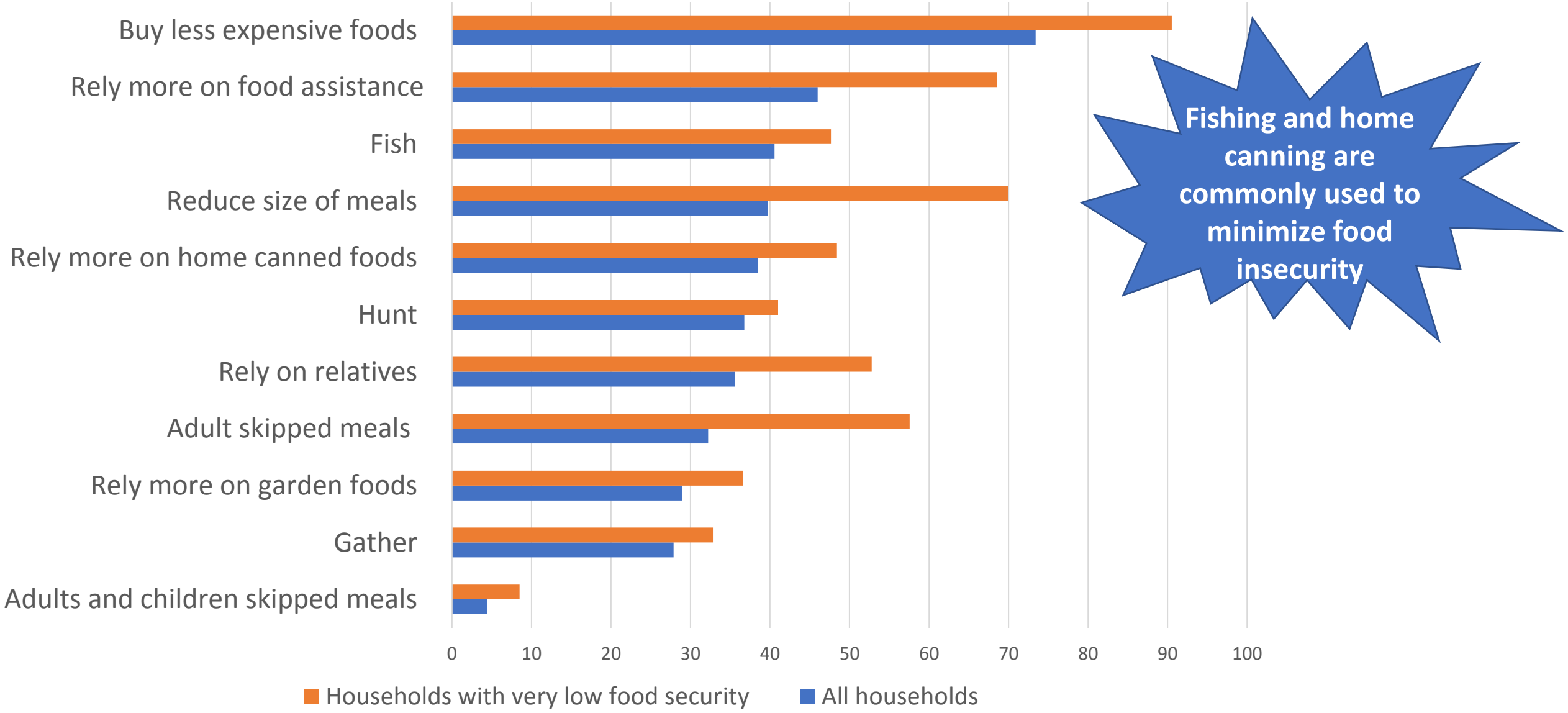
Barriers to Native Foods



Rules and permits, lack of availability, and no one sharing were the strongest barriers.

Coping Strategies

Strategies to deal with *not having enough money*



Predicting Food Security

Generalized Ordered Logistic Model with Odds Ratios

Note: Odds ratio greater than one predictive of greater food security, less than one predictive of lesser food security

	Very low and Low → Marginal and High
Independent variables	**Odds ratio**
Poverty	0.25***
Own a vehicle	9.98*
Shared knowledge with children	2.87*
Received Native foods through trade	0.53*
Age of respondent	1.03**

* p <0.05, ** p<0.01, *** p <0.001

Predicting Native Foods Security

Generalized Ordered Logistic Model with Odds Ratios

Note: Odds ratio greater than one predictive of greater Native foods security, less than one predictive of lesser Native foods security

	Never, Rarely → Usually, Always
Independent variables	**Odds Ratio**
Poverty	0.47*
Food distribution programs	0.41**
Learned from unrelated person	0.46**
Rural	1.95**
Hunt/gather/fish	7.00***
Share Native foods with others	2.57**
Share Native foods at Tribal events	2.57**

*p <0.05
** p<0.01
*** p <0.001

Community Generated Solutions

- More access to fresh fruits & vegetables
  - In FDPIR, tribal farm, farmers' market, vegetable box
- More classes on subsistence production, processing, storage skills
  - **51.48%** of respondents wanted to learn more about growing or raising their own food.
  - More than **55%** want to learn more about growing/raising their own food AND classes on Native food preparation.
  - **45%** wanted a smokehouse
- Greater legal access to Native foods
- Greater ability to manage for Native foods
- Strengthen traditional intergenerational knowledge transference

Activities to Promote Food Security

Community Foodshed Classes

Grafting

Bagels & Sourdough

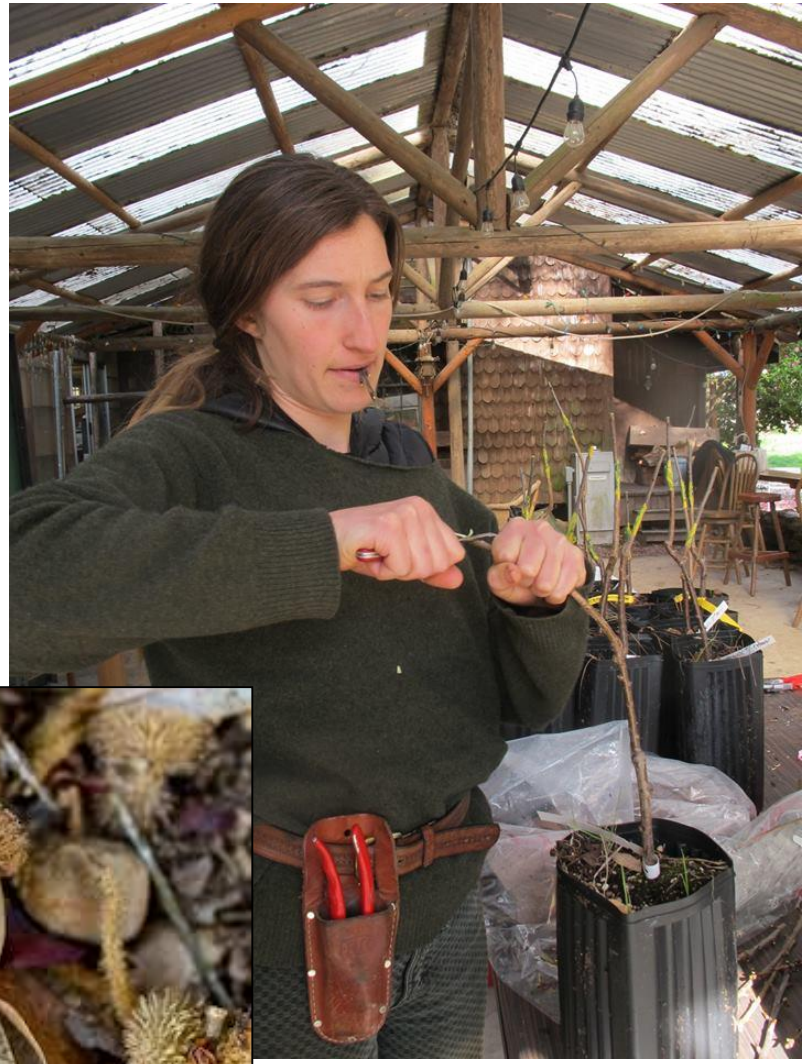
Canning

Apple press

Butchering Workshop &
Youth Garden installation

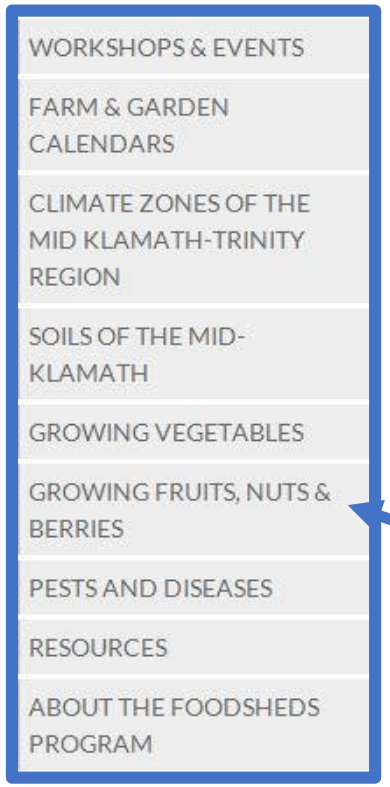
Community Garden & Greenhouse Production

Karuk Seasonal Food Crew



Heritage Orchard Assessment and Revitalization

Regionally Appropriate Agricultural Bulletins Online Seasonal Gardening Calendar



http://www.mkwc.org/programs/foodsheds/

Inter-Tribal Distribution

Buffalo/Salmon Exchange

Buffalo Jerky

Mule Deer exchange w/Klamath Tribes

Vegetable Exchange

Eels, Candlefish and Night Fish Trade

Karuk Seasonal Youth Camp

Impacts

- 76% of respondents said they had learned something new from Food Security activities.
- 68% had tried out new skills at home.
- 65% of respondents said they felt the community is more food secure.
- 81% said the programs have changed the community in other positive ways.

Conclusions

- Consider expanding the way food insecurity is defined and measured in Indian Country.
- More than access to $ to buy food – but access to and consumption of Native foods and continuity of cultural institutions that sustain them.
- Native foods are central to restoring physical, cultural and overall health and well-being among AI/AN communities, as well as sovereignty over their food systems.
- Value of participatory research & extension methodologies.

Thank you!

Alleviating Hunger and Promoting Nutrition at the Same Time

Pat Crawford

ANR Conference, Ontario, CA

April, 2018

University of California
Agriculture and Natural Resources

NUTRITION POLICY INSTITUTE
NPI

It all started with a problem

- We know that our food bank clients want healthy foods.
- We know how to get them what they want.
- But other food banks disagree and say we are taking away client choice and acting like food police.

Nutrition policy research can resolve this issue with a survey

Landslide Results

Foods voted most important to get at the food bank:

- Fruits
- Vegetables
- Meat
- Milk
- Fish

Landslide Results

Foods voted least important to get at the food bank:

- Soda
- Candies
- Chips

NPI also evaluated the food bank's newly implemented nutrition policy of no candy, no soda

Results showed…

The policy led to a reduction of 65,000 pounds of soda in a one year period

This represented 13.7 million calories
potentially preventing 4000 # of weight gain

Study Finds Food Pantry Clients at Greater Risk of Disease

>50% of households have a member with high blood pressure

1/3 of all households have a member with diabetes

Source: Westat and Urban Institute, Hunger in America, 2014; Photo credit: Alameda County Community Food Bank

What is nutrition Focused food banking?

Commitment to health as well as hunger relief

Distribution of healthful foods

Formal nutrition policy to guide procurement

Capacity & practice improvements to implement the nutrition policy

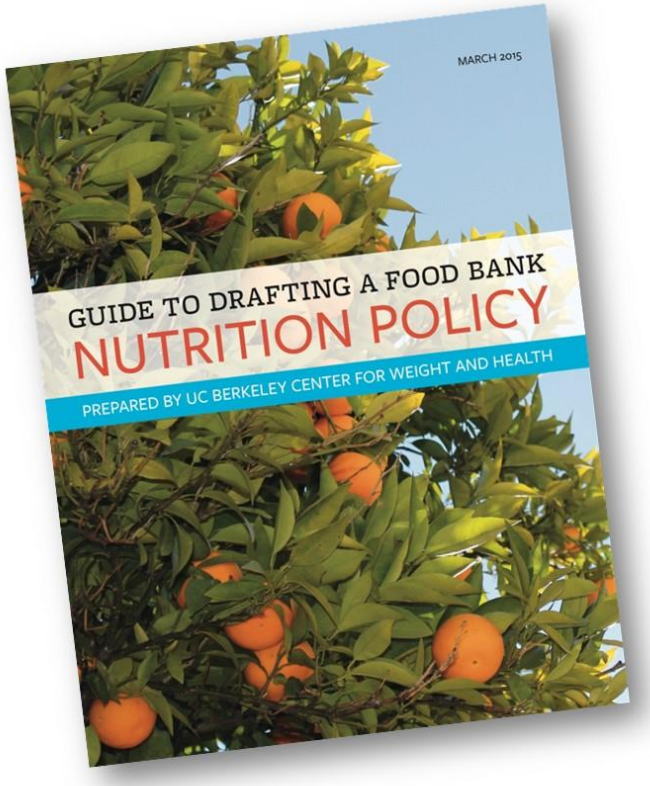
We conducted a national survey - Only 7% of US Food Banks had nutrition policies

NPI evaluated the impact of new nutrition policies in 6 participating California food banks

- NPI worked with Food Banks on nutrition policies
- California Assoc Food Banks brokered grower donations

Results showed Increase of 10 million pounds of vegetables and fruits In 6 food banks over three years

NPI developed a free mass open online course (MOOC) on nutrition policies



- ✓ ~2000 enrolled since 2015
- ✓ ~400 completed the 6 week course
- ✓ ~200 of those completing were food bankers and pantry workers
- ✓ >100 were food and nutrition professionals

Online course: Developing Food Bank Nutrition Policies
https://www.canvas.net/browse/cwh/courses/food-bank-nutrition-policy-1

California Association of Food Banks Rural and Remote Food Bank Needs Assessment

- To identify strengths and challenges of rural food banks
- To make recommendations to increase capacity to meet needs

Participating Rural and/or Remote Food Banks

15 food banks serving 22 counties are participating (from Humboldt to Imperial counties)

Large variation in budget and organizational structure

- Budget: $150,000 - $1.9 million
- Organizational structure
  - 9 are non-profit 501(c)(3) organizations
  - 5 are part of Community Action Agencies
  - 1 is affiliated with not-for-profit healthcare organization

Some key recommendations
from the rural and remote food bank assessment

- Fundraising
- Nutritional Quality of Food
- Transportation
- Pantries
- Leadership
- Networking and Sharing Positive Practices

Please join us for a webinar on Rural Food Banking on *Thursday, May 3rd at 1:00*

"Finding Solutions in
Transportation, Storage, and Distribution of Healthy Foods
in Rural and Remote Food Banks in California"

This webinar will include resources and brainstorming opportunities to promote healthy food banking.

Thank you to all the food bank and food pantry clients and staff who have helped us along the way,
our dedicated funders, and
our passionate staff Elizabeth Campbell, Laura Vollmer, and Karen Webb

UC Campuses: Food Insecurity in Students

Lorrene Ritchie, PhD, RD
Director & Nutrition Specialist

University of California
Agriculture and Natural Resources
Nutrition Policy Institute

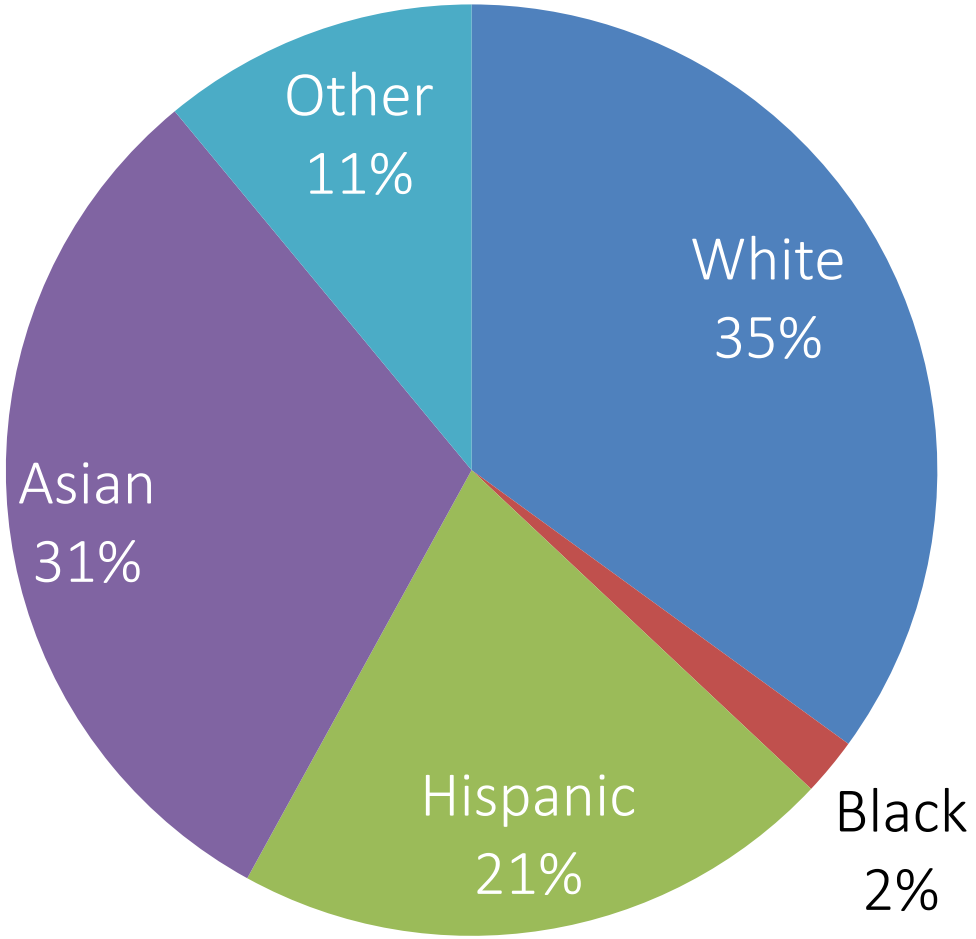
Research Aims

- 10 campus prevalence
- Risk factors
- Potential consequences

#UCFoodForAll

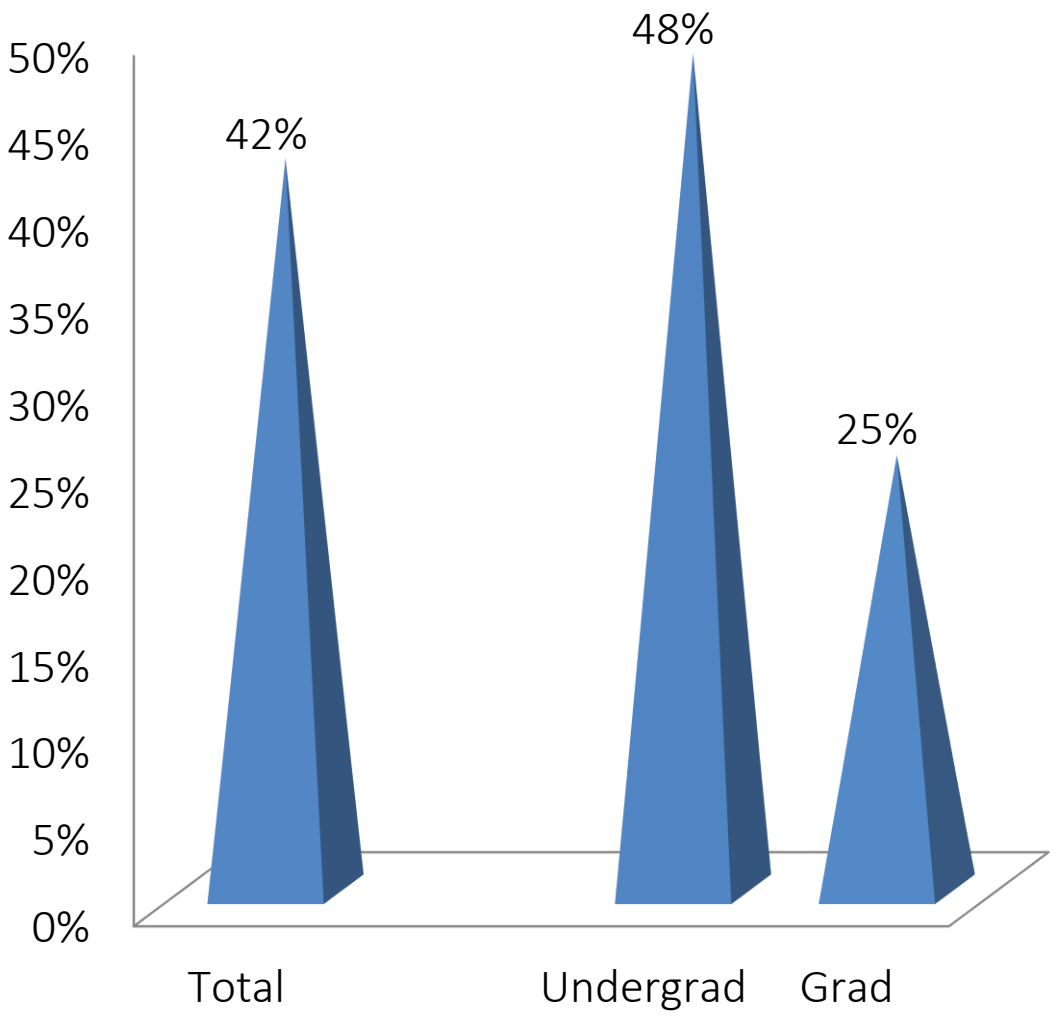
Global Food Initiative
UNIVERSITY OF CALIFORNIA

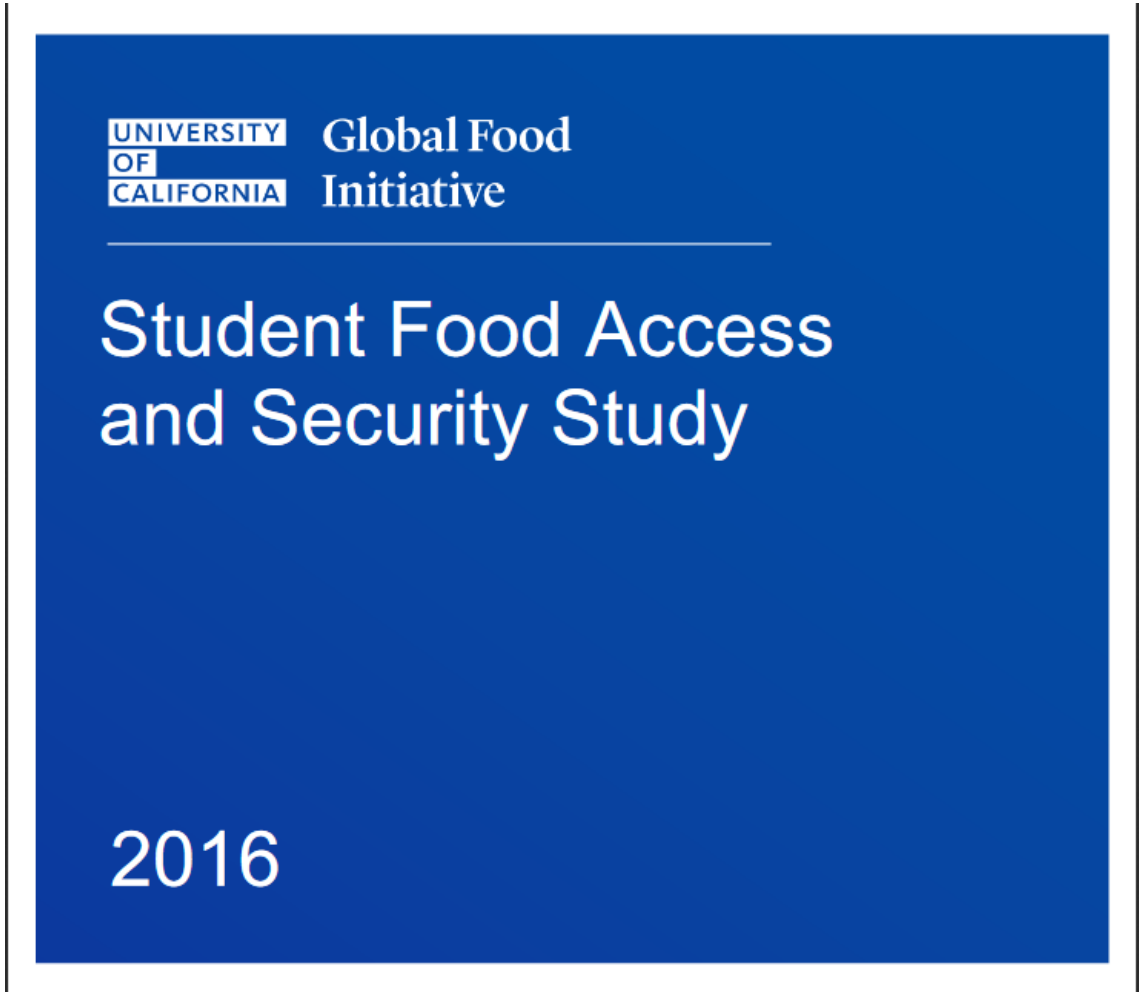
Student Characteristics
(N=8932; 14% response rate)



- 66% female
- 73% undergraduate
- 58% living off campus
- 63% received financial aid
- GPA: 42% A, 44% B
- General health good: 84%
- Overweight or obese: 28%

High Prevalence of Food Insecurity



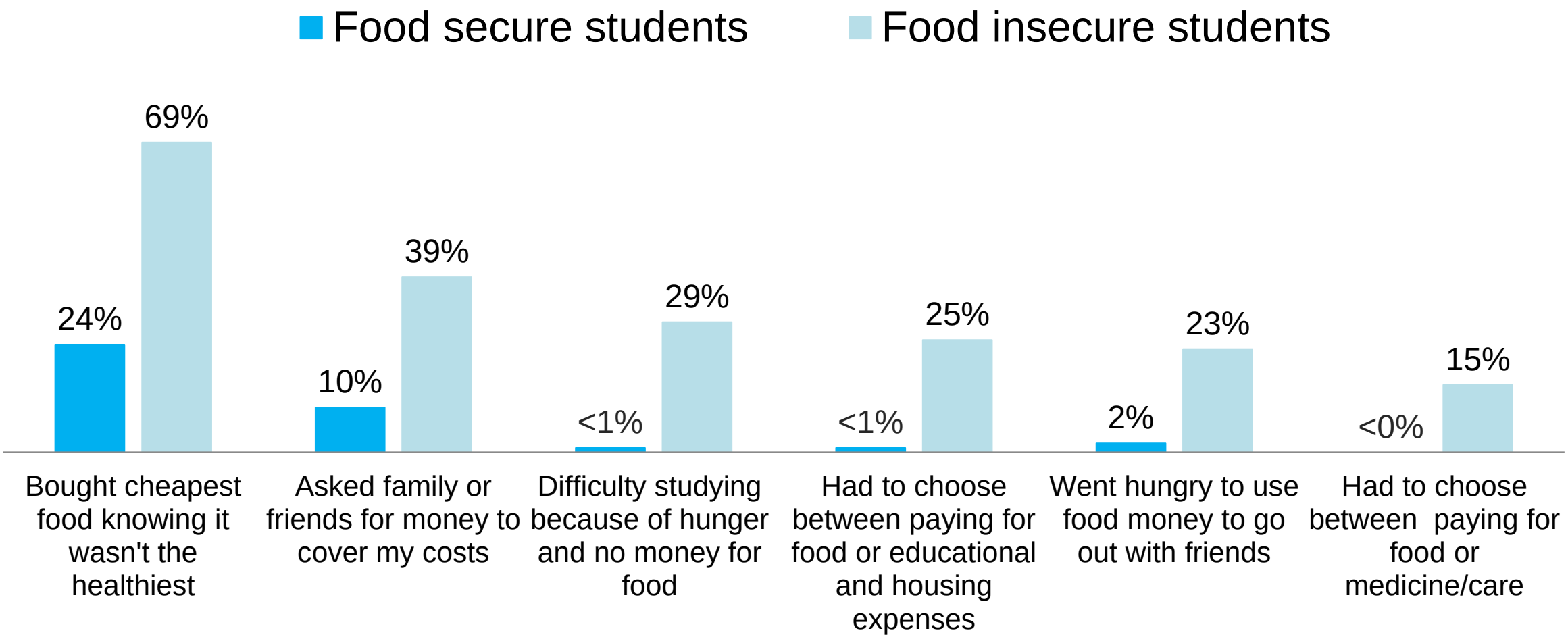


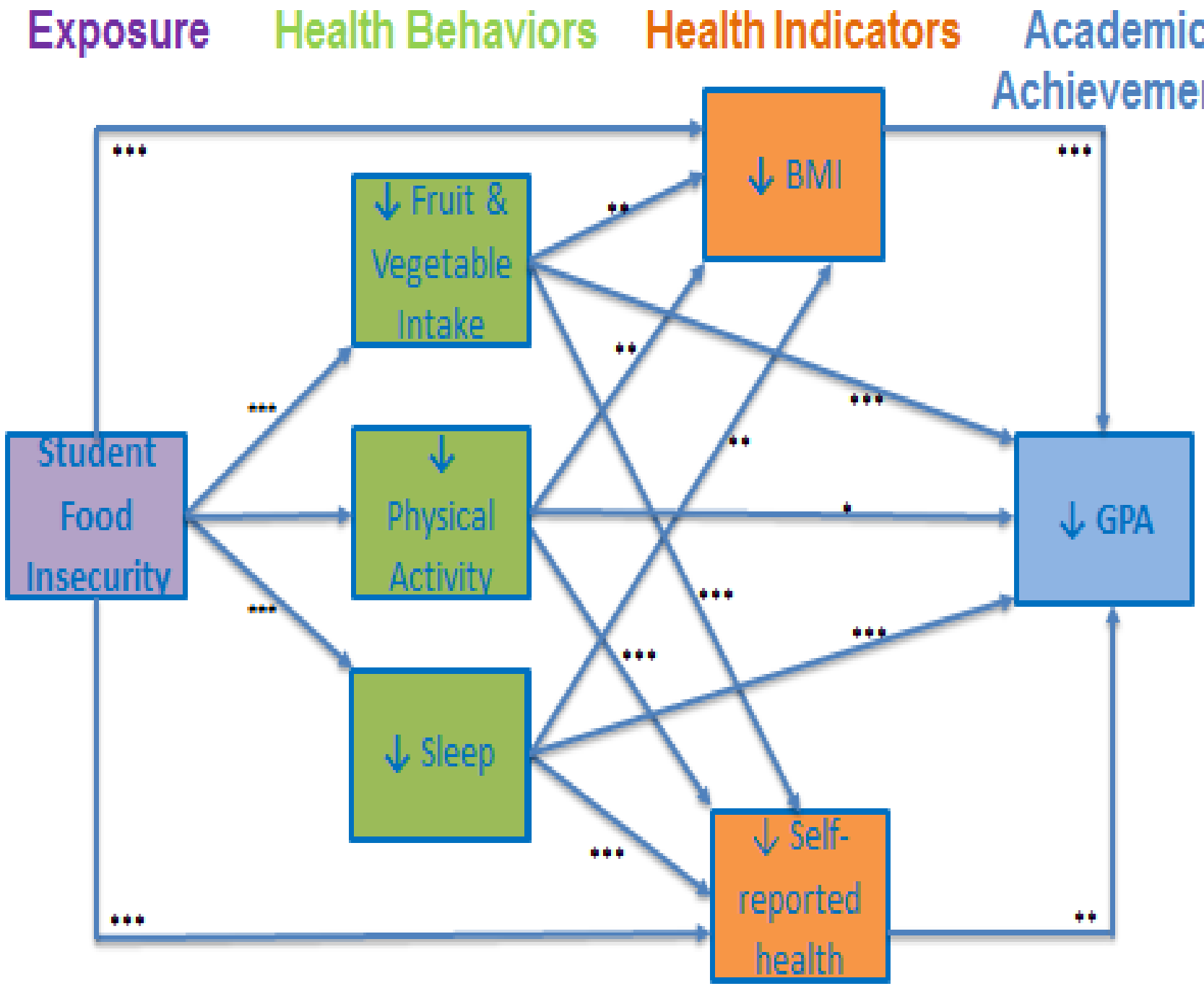
Source: http://regents.universityofcalifornia.edu/regmeet/july16/e1attach.pdf

Risk Factors for Food Insecurity

- Child food insecurity
- Undergrad
- Financial support
- Black or Hispanic
- Living off campus (vs. living at home)

Students Coping with Food Insecurity





Potential Consequences of Food Insecurity

Structural equation modelling:

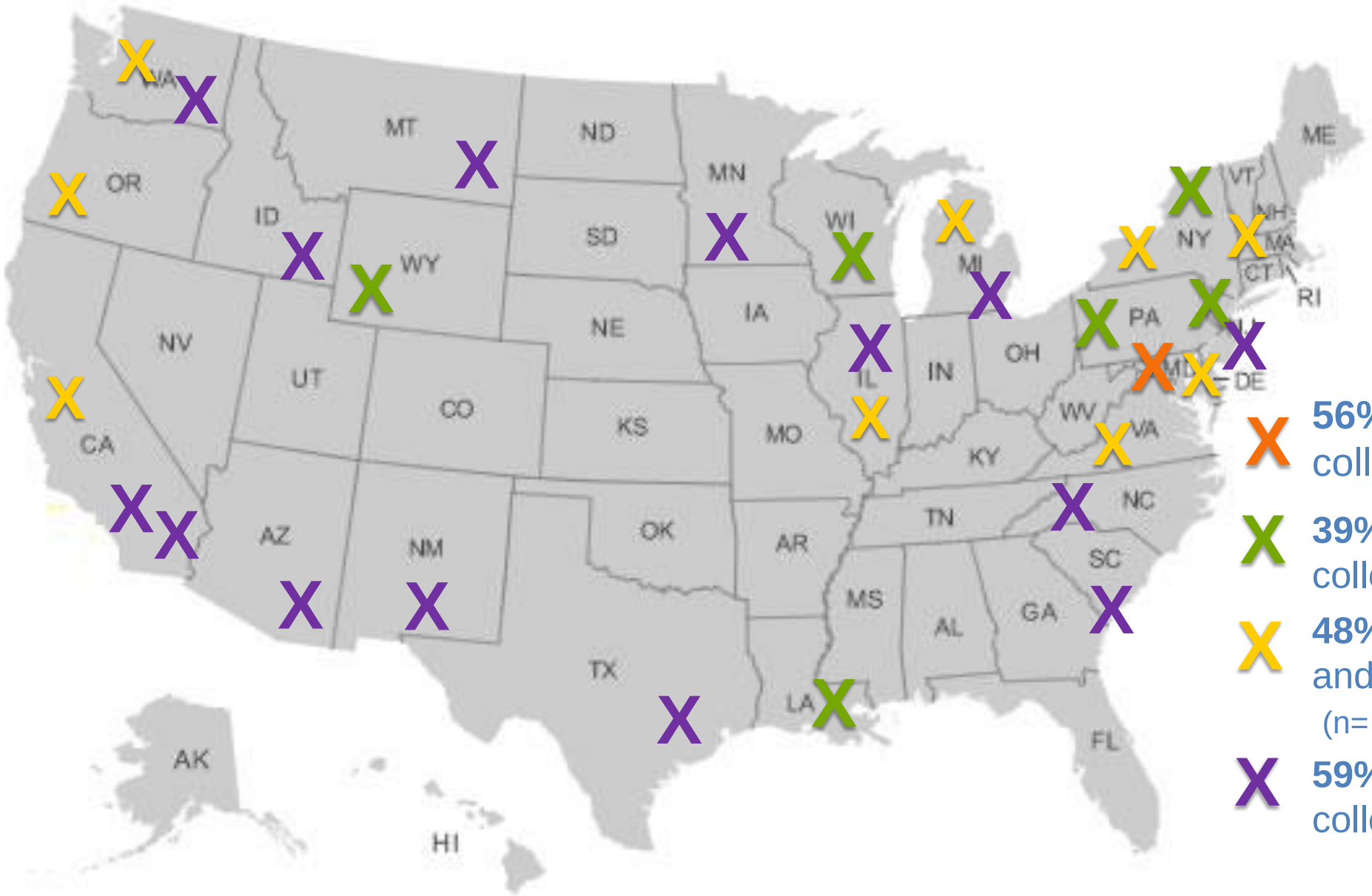
* $P < 0.05$

** $P < 0.01$

*** $P < 0.001$

Source: https://www.ucop.edu/global-food-initiative/_files/food-housing-security.pdf

Food Insecurity in U.S. Colleges



56%Maryland community colleges (n= 301)

39% 10 Community colleges (n= 4,312)

48% 8 Community colleges and 26 4-yr Universities (n= 3,752)

59% 70 Community colleges (n=33,934)

Campus Efforts to Address Food Insecurity

2015-2016 Outcomes

Total UC Student Service Contacts:

52,608

CA Sister Sectors

National Engagement:

ACHA American College Health Association
advocacy • education • research

California Association of Food Banks

Closing the Hunger Gap — Cultivating Food Justice Conference

Wisconsin HOPE Lab

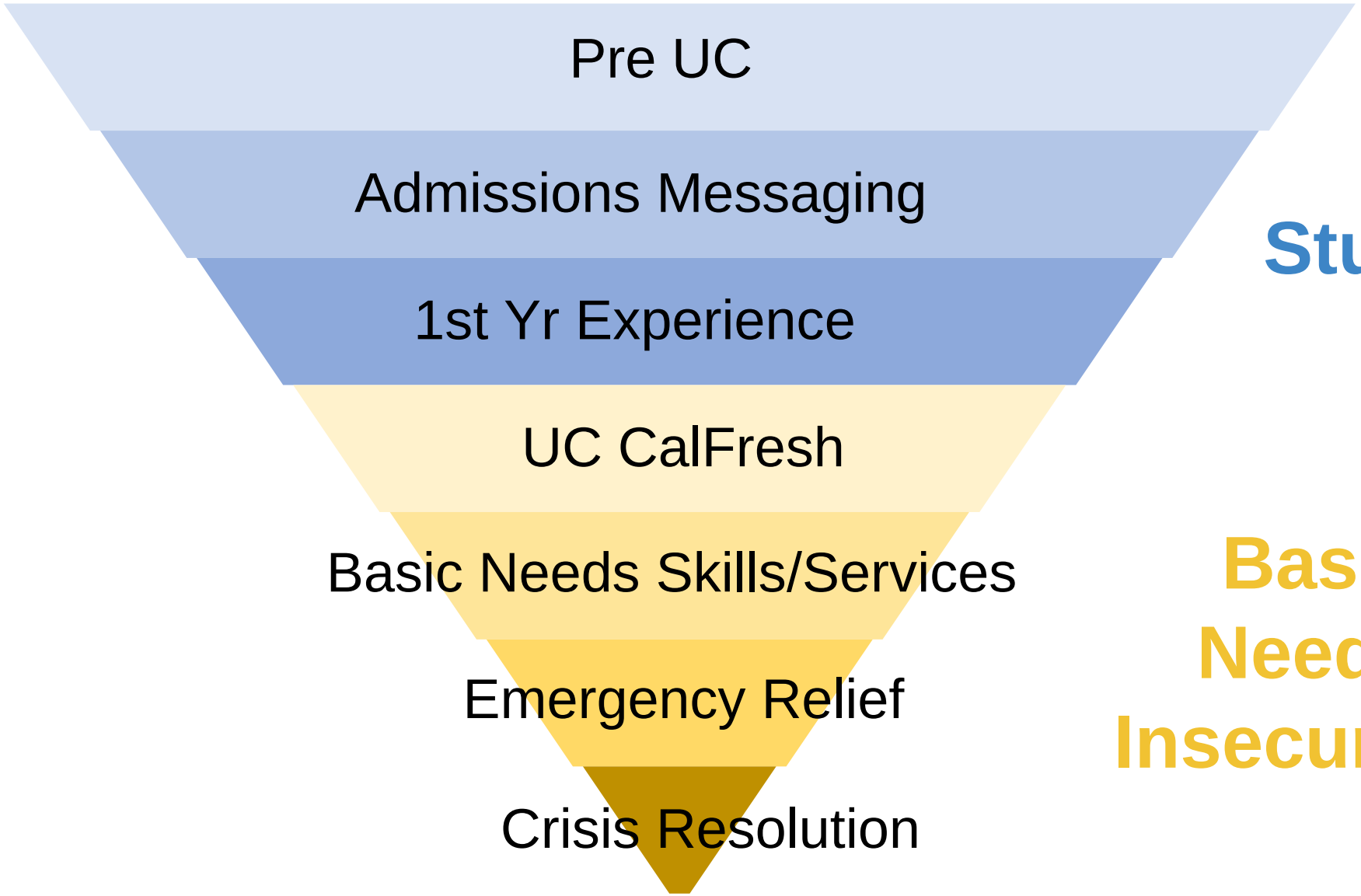
AERA 2016 AERA Annual Meeting April 8 – 12 Washington, DC #AERA16

NACADA National ACademic ADvising Association

California Higher Education Food Summit

Fuse — Presidents United to Solve Hunger

2017 and Beyond



All Students

Basic Needs Insecure

#UCFoodforAll!
#FRESH
#FRUITS
VEGETABLES

New State Laws

1. **AB1930** (2014) **& AB 214** (2017)
   Simplifies work rules for students to qualify for CalFresh

2. **AB1747** (2016)
   Allows campus food vendors to participate in CalFresh Restaurant Meals Program

3. **Hunger Free Campus Initiative** (2017)

   - CalFresh enrollment services
   - Meal sharing program
   - Food pantry

youtu.be/aCzMYPqWFdc

https://www.ucop.edu/global-food-initiative/_files/food-security-toolkit.pdf

The Impact of UCCE Nutrition Education Programs on Food Security and Food Resource Management

Nutrition, Family and Consumer Sciences Statewide Program

UC ANR Statewide Conference

Katie Panarella MS, MPH
Statewide Director, NFCS

April 2018

University of California
Agriculture and Natural Resources
Nutrition Education

Youth, Families and Communities (YFC) Statewide Program

UC CE University of California Agriculture and Natural Resources Cooperative Extension

Nutrition, Family and Consumer Sciences (NFCS)

- Expanded Food and Nutrition Education Program (EFNEP)
- UC Master Food Preserver (MFP) -*effective July 1, 2018
- UC CalFresh Nutrition Education Program (UC Davis)

UNIVERSITY OF CALIFORNIA calfresh Nutrition Education

4-H Youth Development Program (4-H YDP)

- Project Learning Tree (PLT)

Project Learning Tree®

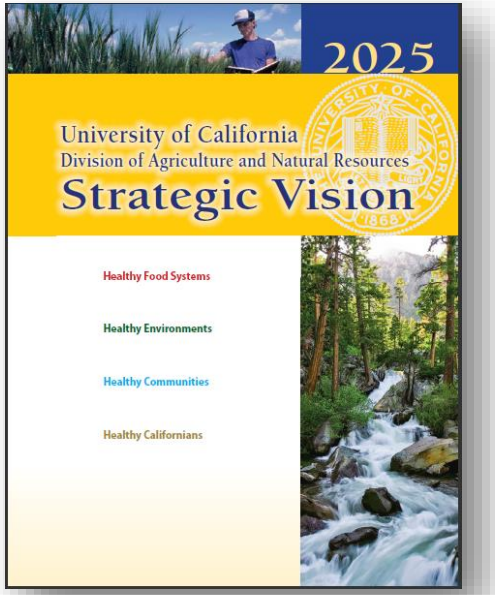
University of California Agriculture and Natural Resources Nutrition Education

18 U.S.C. 707

Nutrition, Family and Consumer Sciences Program

The **Nutrition, Family, and Consumer Sciences (NFCS)** program conducts **research-based extension and education** and **performs applied research** for individuals, community agencies, associations and non-profit groups to meet clientele needs that promote healthy families and communities in the general disciplinary area of nutrition and family and consumer sciences with an emphasis on:

- Strategies promoting food literacy, obesity prevention, nutrition and healthy lifestyles
- Increasing food security through food resource management practices
- Preventing food borne illness
- Financial literacy and consumer education



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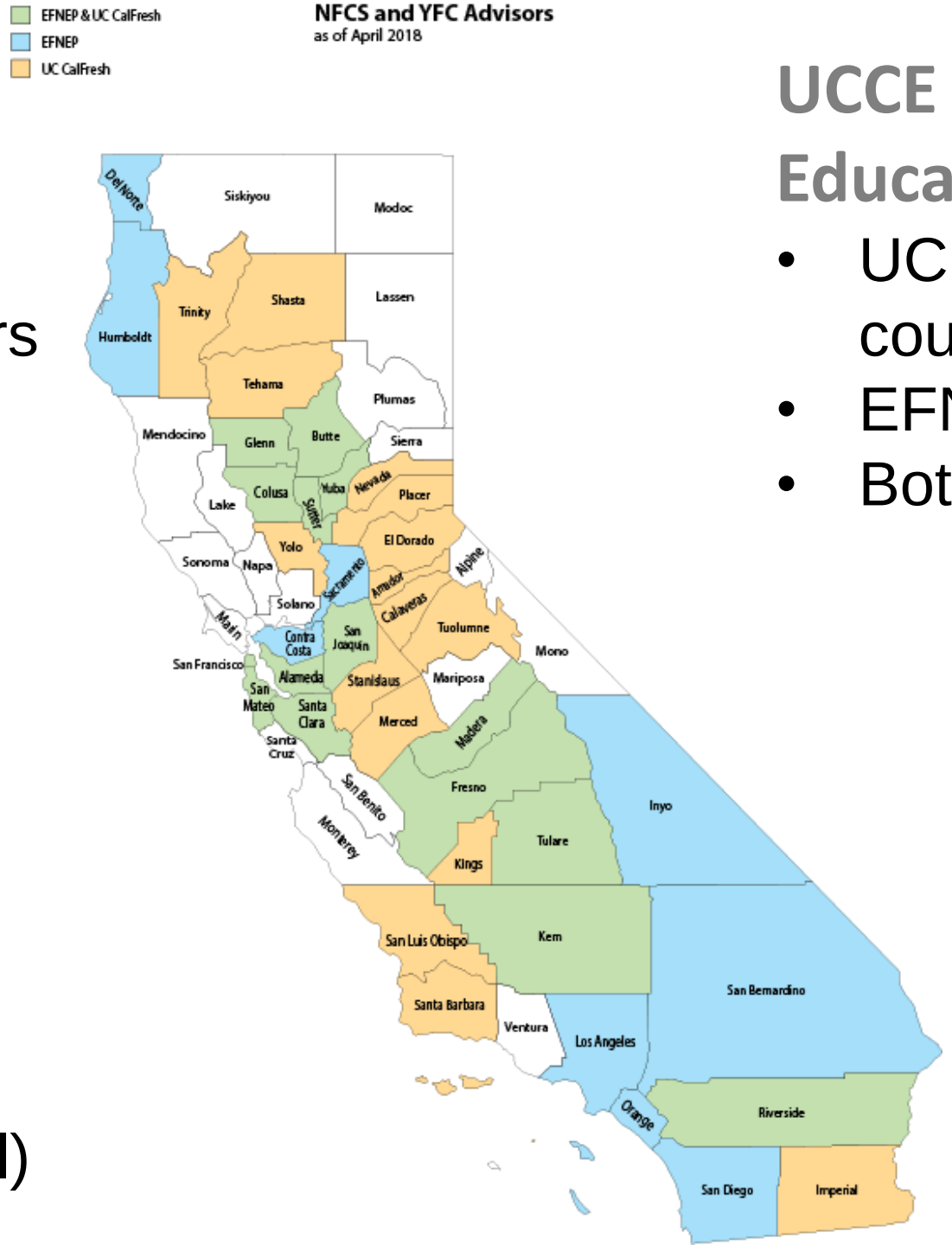
NFCS Academic Footprint:

- 40 counties
- 14 NFCS Advisors (includes 3 vacancies, Stanislaus-Merced, Trinity/ Shasta/ Tehama and Fresno-Madera)

- 5 YFC Advisors (includes 1 vacancy, Imperial)



UCCE Nutrition Education Programs:

- UC CalFresh - 31 counties
- EFNEP - 24 counties
- Both -15 counties

UCCE Nutrition Education Programs

The Expanded Food &Nutrition Education Program (EFNEP)

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UC CalFresh Nutrition Education Program

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- Located in 40 counties for low-income families, adults, and youth
- Partner with community agencies and schools
- Direct education and train agency staff and volunteers
- Goals: Improve nutritional-health and fitness, food safety, food security and food resource management

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What is California EFNEP?

USDA | NIFA

Funding & guidance

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Administration & oversight

UC CE

Delivery

Audience

EFNEP Counties

- ALAMEDA
- BUTTE
- COLUSA
- CONTRA COSTA
- DEL NORTE
- FRESNO
- GLENN
- HUMBOLDT
- INYO
- LOS ANGELES
- KERN
- MADERA
- ORANGE
- RIVERSIDE
- SACRAMENTO
- SAN BERNARDINO
- SAN DIEGO
- SAN FRANCISCO
- SAN JOAQUIN
- SAN MATEO
- SANTA CLARA
- SUTTER
- TULARE
- YUBA

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SNAP-Ed Funding for California

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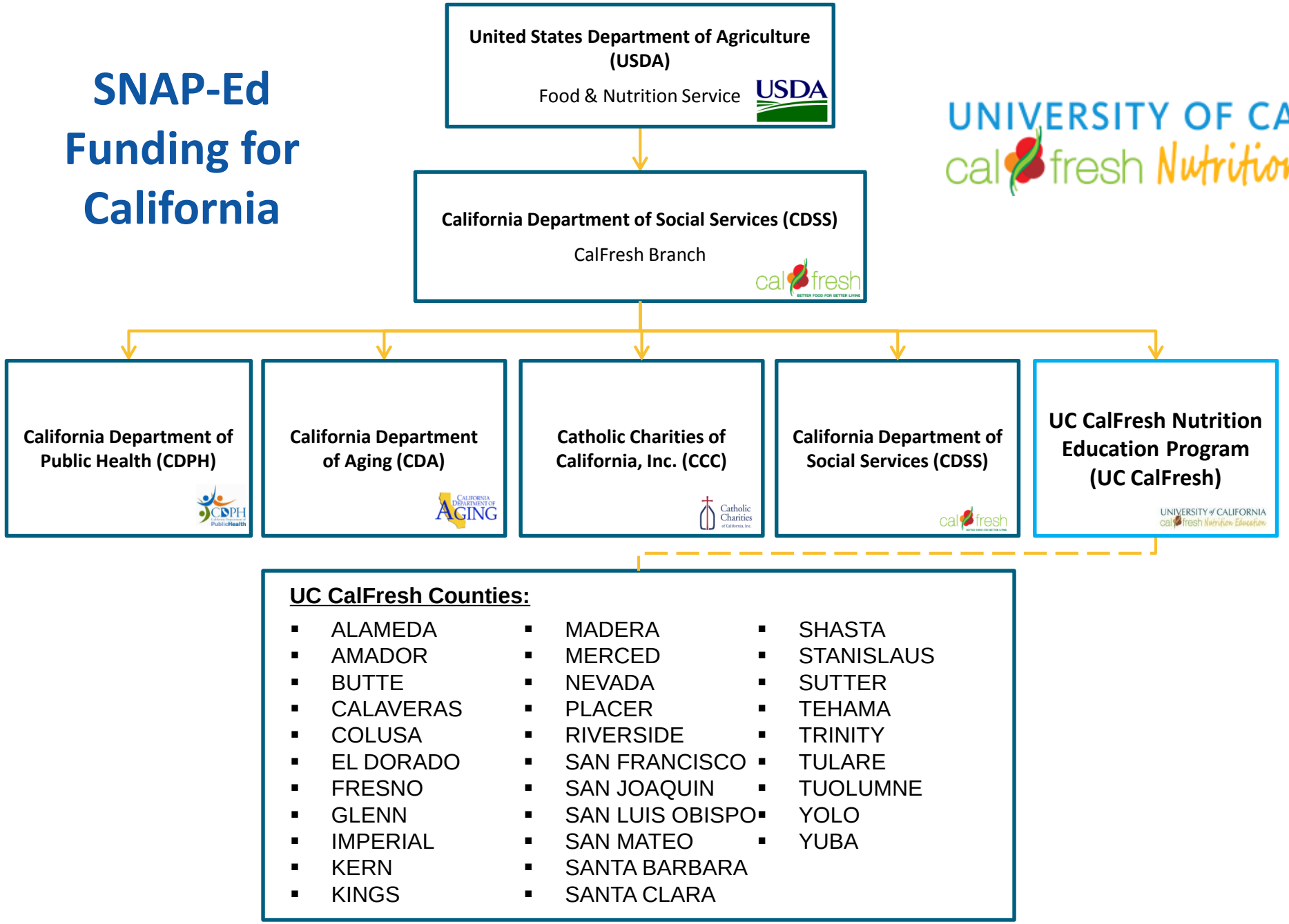

The University of California CalFresh Nutrition Education Program is funded through a joint agreement among the U.S. Department of Agriculture/Food and Nutrition Service (USDA/FNS), the California Department of Social Services (CDSS) CalFresh Branch, and the University of California Cooperative Extension (UCCE).

What EFNEP Teaches

Diet quality & physical activity

Food resource management

Food safety

Food security

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Education Strategies

Food Resource Management

Stretching food dollars and fostering learning strategies to improve household food security to maximize nutrition and health on limited resources.

- Plan Shop $ave Cook is a curriculum designed to help adult participants stretch food dollars by learning shopping strategies and meal planning.
- Eating Smart, Being Active is a curriculum designed to assist low-income families with children to learn healthy lifestyles.

EFNEP Adult Program Evaluation

Food Security

14. In the past month, how often did you eat less than you wanted so there was more food for your family?

15. In the past month, how often did you not have money or another way to get enough food for your family (such as SNAP, WIC, or a food pantry)?

Images: UC Davis Townsend Lab. http://townsendlab.ucdavis.edu/evaluation-research-tools/efnep-evaluation-tools-guides/

EFNEP Youth Program Evaluation

Food Security

14. In the last month, if your family did not have enough food, how often did you help by going to a food pantry or finding other free or low-cost food resources?

(Top) Image: CA Department of Public Health. https://archive.cdph.ca.gov/programs/cpns/RL/Pages/Images.aspx
(Bottom) Image: Wikimedia Commons/Santeri Viinamäki. https://commons.wikimedia.org/wiki/File:Shopping_list_20170612.jpg

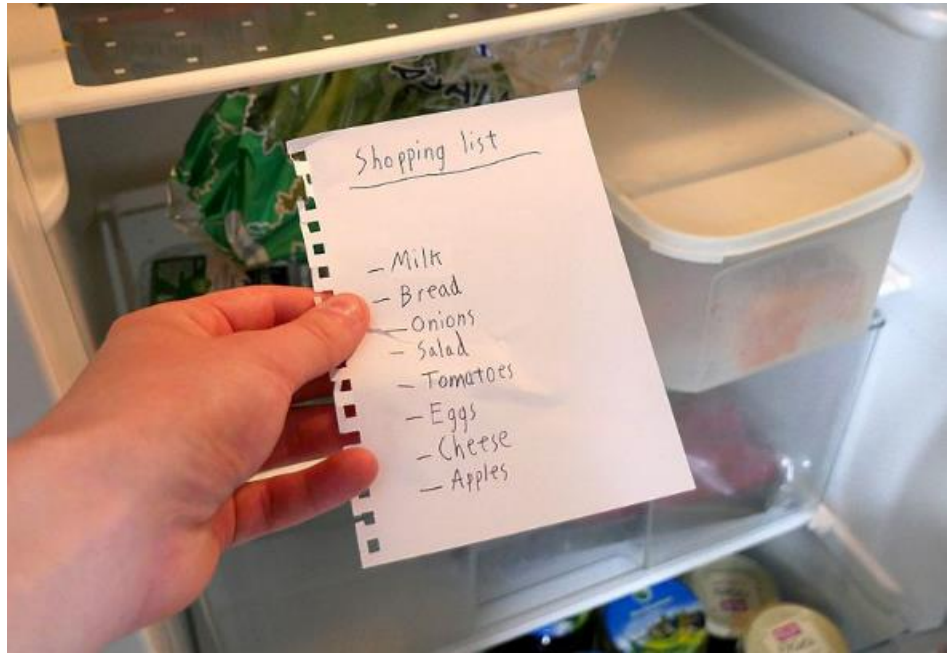
EFNEP Adult Program Evaluation

Food Resource Management

Food and Physical Activity Questionnaire

5 questions w/6-7 response options for behaviors of:

- cook dinner at home,
- compare food prices,
- plan meals before shopping,
- look in refrigerator or cupboard before shopping,
- make a list before shopping



Images: UC Davis Townsend Lab. http://townsendlab.ucdavis.edu/evaluation-research-tools/efnep-evaluation-tools-guides/

Food Cost Savings

"I took the shopping list and ... then proceeded to go through the store comparing prices until I was able to create an ideal shopping list. I have saved a bundle of money and plan on sharing the list with friends and family."
- Alameda County EFNEP Graduate

In FY 2017, EFNEP graduates reported an average $38 monthly food cost savings, which collectively saved California EFNEP families:

$2,916,340.80

UCCE Nutrition Education Program Goals

- **EFNEP 5 Year Plan: Increase percentage of improvement in one or more food resource management (FRM) practices by 3%**
  - FY2017: 87% of participants experience improvement in one or more FRM practices
  - Food security is included as part of FRM practices
- **USDA SNAP Ed California State Plan Goal 3: Improve Food Resource Management**
  - Objective 3a: Annually at least 80% of surveyed SNAP-Ed adult participants report improving at least one resource management behavior1.
  - Objective 3b: Annually at least 30% of surveyed SNAP-Ed adult resource management participants report increased food security2.

Research and Evaluation

- Dollahite, Jamie, Christine Olson, and Michelle Scott-Pierce. "The impact of nutrition education on food insecurity among low-income participants in EFNEP." *Family and Consumer Sciences Research Journal* 32.2 (2003): 127-139.
- Food Resource Management Education with SNAP Participation Improves Food Security (Kaiser, et al, JNEB 2105)
  - Participants who received SNAP food assistance and made greater pre–post improvement in RMS reported the greatest decrease in running out of food (P = .001).
- SNAP Ed Evaluation Framework indicators—Food Resource Management https://snaped.fns.usda.gov/evaluation/evaluation-framework-and-interpretive-guide
- Cason, Katherine L., et al. "Family and Consumer Sciences Focus on the Human Dimension: The Expanded Food and Nutrition Education Program Example." *Journal of Family & Consumer Sciences* 109.3 (2017): 10-17.
- Townsend, Marilyn S., et al. "Less-energy-dense diets of low-income women in California are associated with higher energy-adjusted diet costs–." *The American journal of clinical nutrition* 89.4 (2009): 1220-1226.

UC Master Food Preserver
A Vision for the Future

- Decrease food costs
- Increase food security
- More nutritious choices
- Efficiently use abundant garden produce
- Decrease food waste
- **Increase economic development through support of small food entrepreneurs**

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Questions?

Katie Panarella,

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- EFNEP http://efnep.ucanr.edu/
- UC Master Food Preserver http://mfp.ucanr.edu/
- UC CalFresh http://uc-calfresh.org/

Q&A Discussion

What more can & should ANR do to solve food insecurity?

How can we increase synergy in our work?

Reminder:
April 11 10:30-noon: Session 4A – **Poverty in CA**