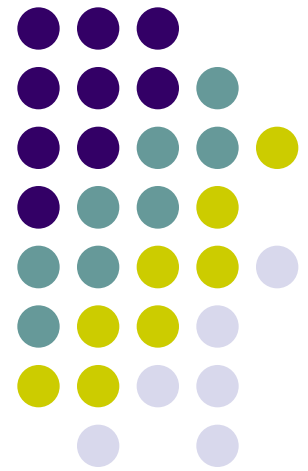
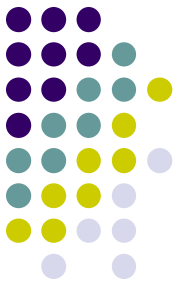




Horn of Plenty

Food Insecurity and Obesity: the Paradox

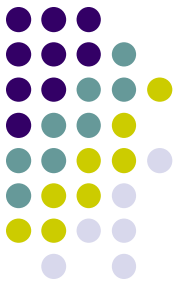




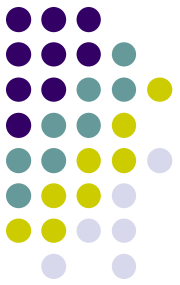
Objectives

- Define Food Insecurity (FIS)
- Describe the Overlap between FIS and Obesity
- Discuss how to address both FIS and obesity simultaneously

Food Security



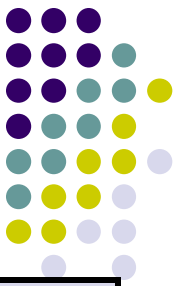
- Food security for a household means “access by all members at all times to enough food for an active, healthy life. Food security includes at a minimum:
 - The **ready availability** of **nutritionally adequate** and safe foods.
 - Assured ability **to acquire acceptable foods in socially acceptable ways** (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies)”.



Food Insecurity

- Food insecurity is **limited or uncertain availability of nutritionally adequate and safe foods** or limited or uncertain ability to acquire acceptable foods in **socially acceptable ways.**

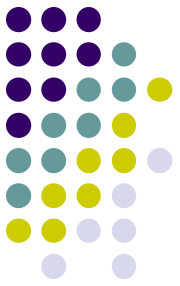
(Definitions are from the Life Sciences Research Office, S.A. Andersen, ed., “Core Indicators of Nutritional State for Difficult to Sample Populations,” *The Journal of Nutrition* 120:1557S-1600S, 1990.)



Levels and Components

Component	Levels	
	Individual	Household
Quantitative	Insufficient Intake	Food Depletion
Qualitative	Nutritional inadequacy	Unsuitable food
Psychological	Lack of choice/feelings of deprivation	Food anxiety
Social	Disrupted eating patterns	Food acquisition in unacceptable ways

2006 Definitions

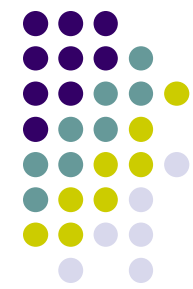


- **Food Secure**

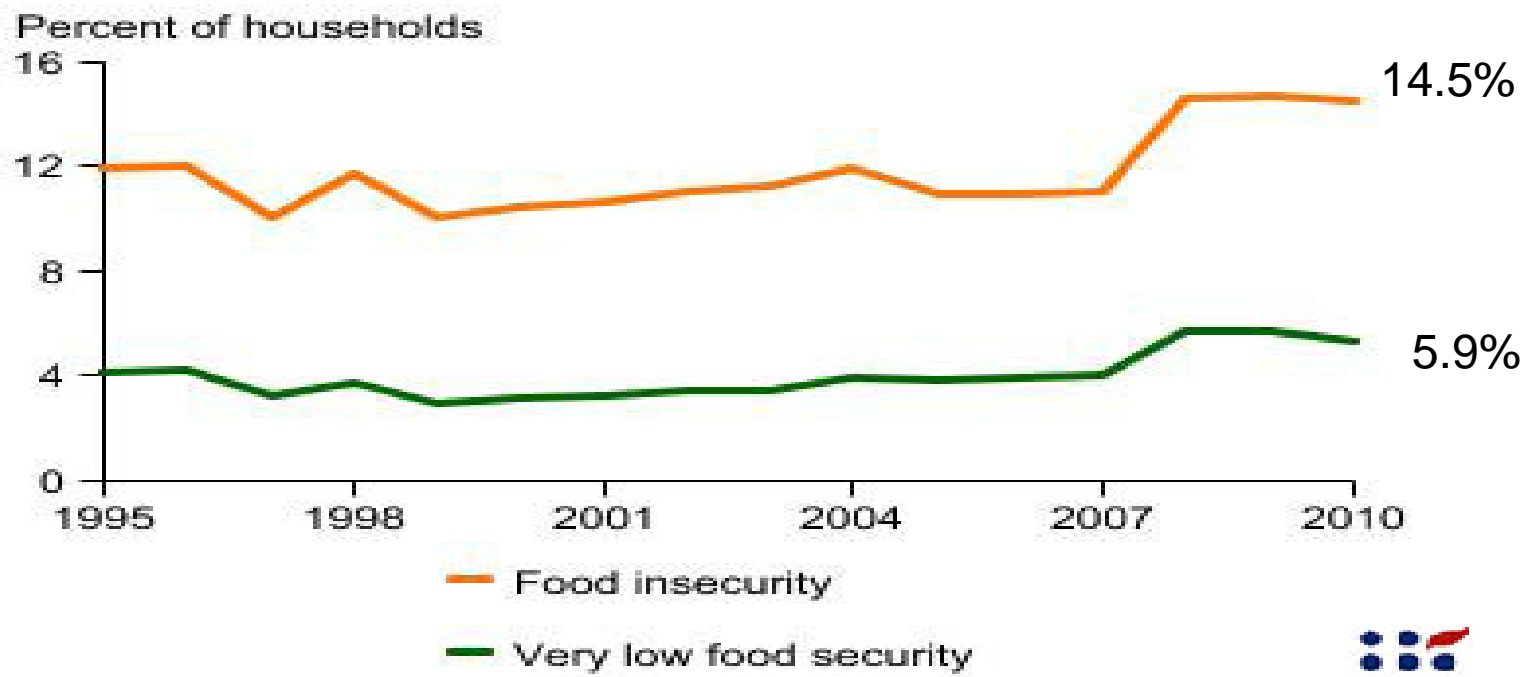
- **High food security**—Households had no problems, or anxiety about, consistently accessing adequate food.
- **Marginal food security**—Households had problems at times, or anxiety about, accessing adequate food, but the quality, variety, and quantity of their food intake were not substantially reduced.

- **Food Insecure**

- **Low food security**—Households reduced the quality, variety, and desirability of their diets, but the quantity of food intake and normal eating patterns were not substantially disrupted.
- **Very low food security**—At times during the year, eating patterns of one or more household members were disrupted and food intake reduced because the household lacked money and other resources for food.



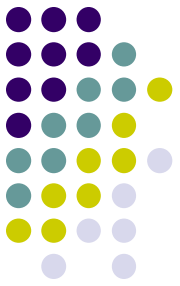
Trends in prevalence rates of food insecurity and very low food security in U.S. households, 1995-2010



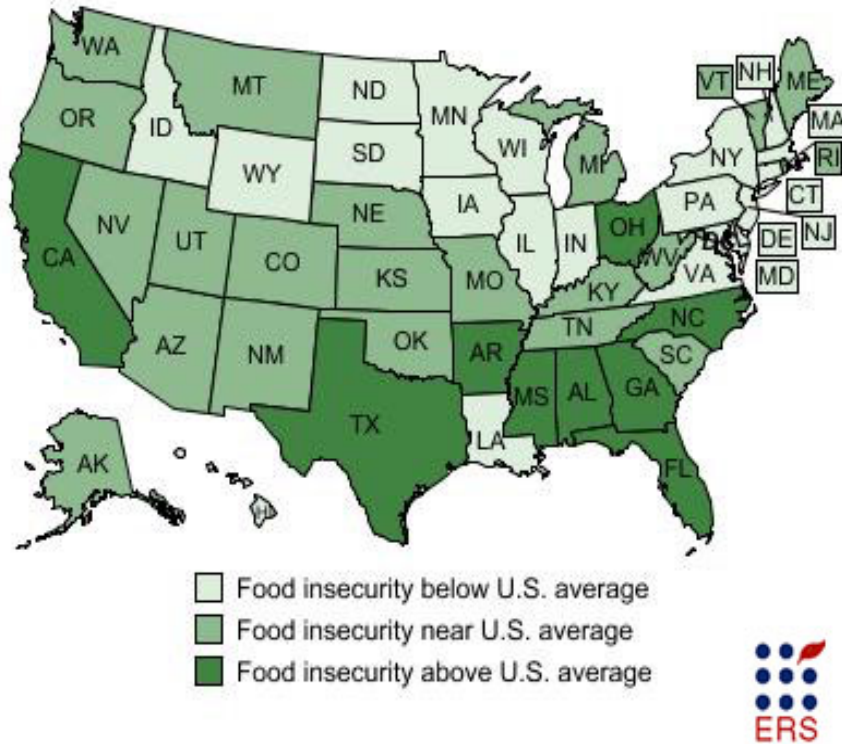
Prevalence rates for 1996 and 1997 were adjusted for the estimated effects of differences in data collection screening protocols used in those years.

Source: Calculated by ERS based on Current Population Survey Food Security Supplement data.

What about Alabama?



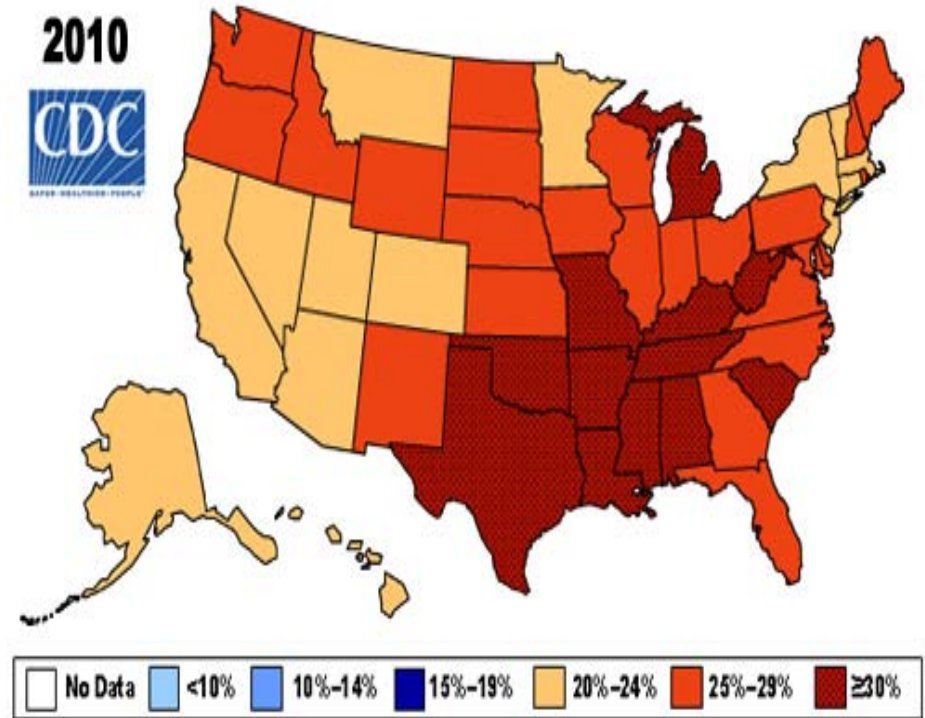
Prevalence of food insecurity, average 2008-10



Source: Calculated by ERS based on Current Population Survey Food Security Supplemental data.

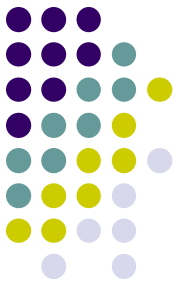
NUMBER 4—17.3% food insecure and 7.0% very low food security

Prevalence of Obesity, 2010



NUMBER 2—32.2% obese

At Risk Groups

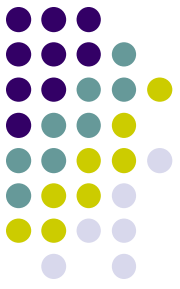


- Food Insecurity

- Minority groups
- Education
- Poverty
- Environments
 - Food environment
 - Sub-standard housing
 - Sleep
 - Energy costs
 - Rent
- Single women with children
- Elderly (polypharmacy)

- Obesity

- Minority groups
- Education
- Poverty
- Environments
 - Food environment
 - Sub-standard housing
 - sleep



Health Consequences

- Food Insecurity

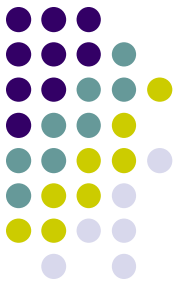
- Academic
- Depression and other Emotional Issues
- Coronary heart disease
- Type 2 diabetes
- Hypertension (high blood pressure)
- Dyslipidemia
- Poor birth outcomes

- Obesity

- Educational Attainment
- Depression and other Emotional Issues
- Coronary heart disease
- Type 2 diabetes
- Hypertension (high blood pressure)
- Dyslipidemia
- Poor birth outcomes

DISCRIMINATION

Nutrition Consequences/Risk Factors



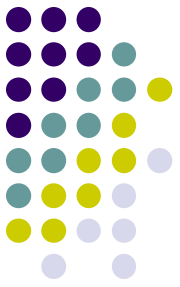
- Food Insecurity

- Fruit and vegetable intake
- Sugar Sweetened Beverage Intake
- Meal skipping
- Inability to have a family meal
- Child feeding dynamics
- Unsafe neighborhoods
- Low physical activity

- Obesity

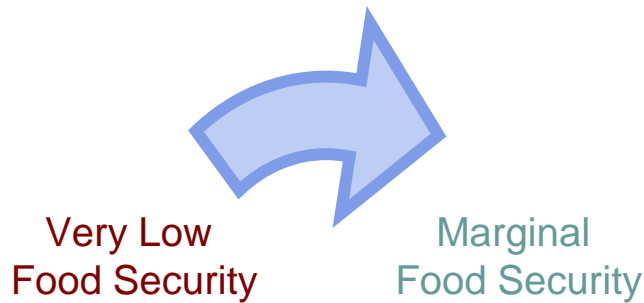
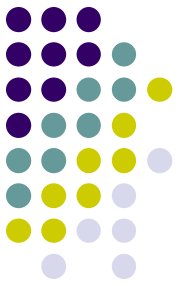
- Fruit and vegetable intake
- Sugar Sweetened Beverage Intake
- Meal skipping
- Family meals
- Restaurant eating
- Child feeding dynamics
- Unsafe neighborhoods
- Low physical activity

Food Insecurity and Obesity



- When does the relationship hold true?
- Child food insecurity associated with obesity under the following circumstances:
 - 12-17 years
 - Girls
 - White children
 - Children in families with < 100% of the poverty level (Casey et al 2008)
- Adult females

Food Security and Weight Cycling



Scenario 1

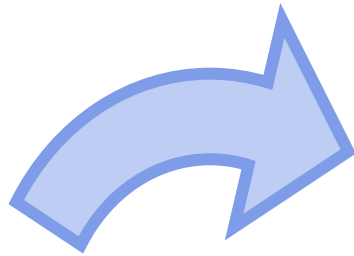
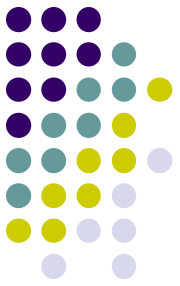
Underweight OR
Normal Weight



Scenario 2

Overweight,
Normal Weight

Food Security and Weight Cycling



Marginal
Food Security

Food Secure

Scenario 3
Overweight



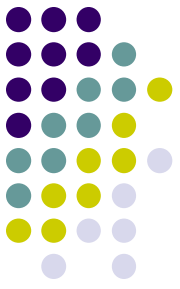
- Scenario 4
 - Always marginally food secure
 - Overweight/Obese
 - Kids---excessive weight gain
- Scenario 5
 - Always low food secure
 - Underweight

Food Insecurity and Obesity



How can lack of food be related to obesity?

- Food restriction can lead to a preoccupation with food
- Reward after deprivation
- FIS is related to parents using “pressure to eat”
 - Learning to overeat in the presence of food
- Calorically dense foods are less expensive
- Lack of availability of affordable nutrient dense foods
- Perception of weight status may be incorrect ???
- Fear of losing weight ???
- Misperception regarding weight loss strategies (cost and time)
- Skills (menu planning, time management, cooking)



Addressing Both Issues

- Food assistance programs serve as a safety net for food insecure households
 - Recent policy changes
- Weight control programs and messages
 - Tailor to those without time and money
 - Address skills and strengths
- Policy
 - Sales tax on food (regressive)
 - Local Food Policy Councils
- Access to affordable healthy foods and places to be physically active