



Hunger and Health

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The meaning of food





What is Food Insecurity?



The lack of access to enough food for a healthy, active life.

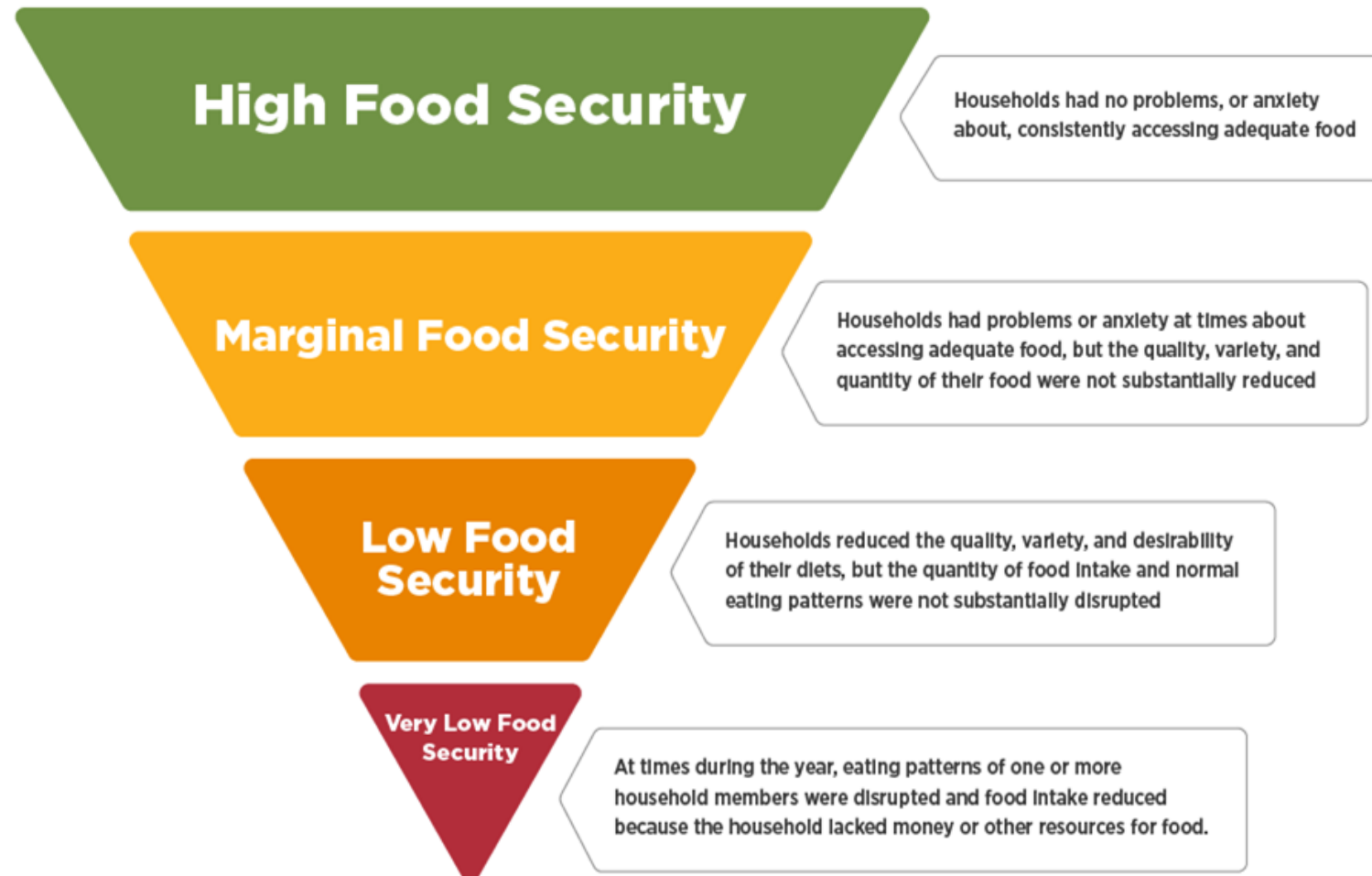
- Limited or uncertain availability of nutritionally adequate and safe foods, or limited or uncertain availability to acquire acceptable foods.
- Can be chronic or situational.

Households with higher risk are those with:

- Children, large families, immigrant families
- Headed by single women, with less education
- Income near or below FPL
- Hispanic and Black households

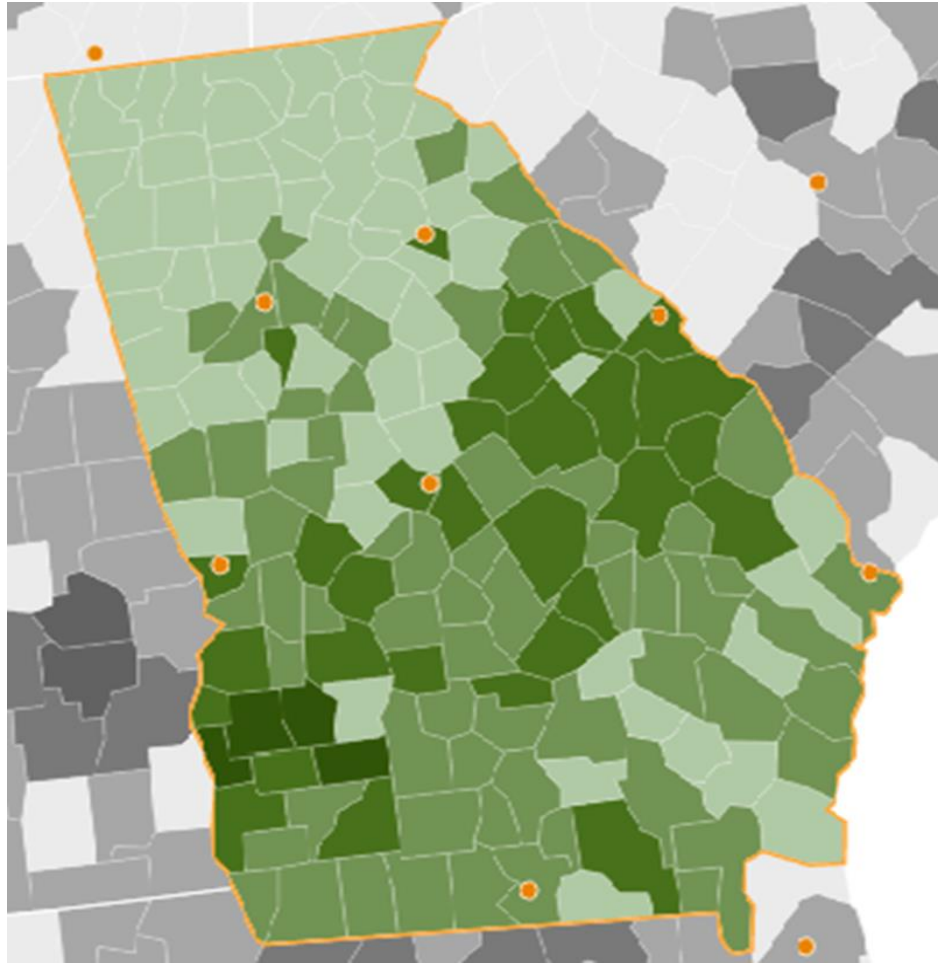


Levels of Food Insecurity





Hunger in Georgia



Key: Rate of
Food Insecurity

4-14%

15-19%

20-24%

25-29%

30%+



Georgia vs. US (2021)

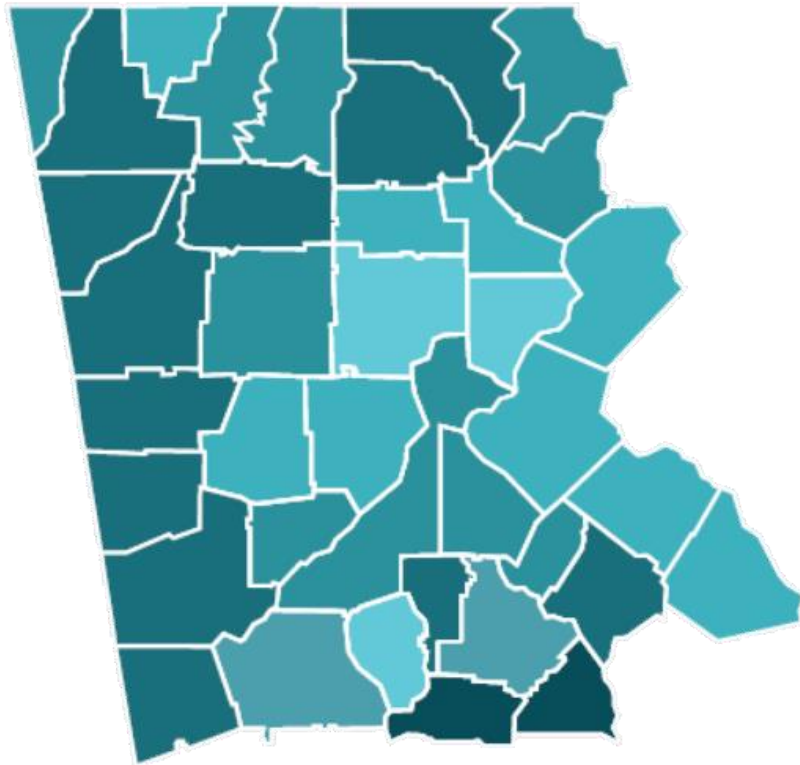
	Georgia	U.S.
People _{1,2}	1 in 8 (13%)	1 in 8 (13%)
Children _{1,2}	1 in 6 (16%)	1 in 6 (17%)
Seniors ₃	1 in 13 (8%)	1 in 14 (7%)
Participate in SNAP ₄₋₅	1 in 7 (15%)	1 in 8 (13%)
>185% FPL ₁	39%	38%

1. Gundersen, C., Strayer, M., Dewey, A., Hake, M., & Engelhard, E. (2021). *Map the Meal Gap 2021: An Analysis of County and Congressional District Food Insecurity and County Food Cost in the United States in 2019*. Feeding America 2021.
2. Feeding America Research Team. *The Impact of Corona Virus on Local Food Insecurity*. Feeding America, 2021.
3. Gundersen, C., Ziliak J., Hilvers J., & Hake M. (August 2021). *The State of Senior Hunger in America 2019: An Annual Report*; and *Hunger Among Older Adults in America 2019: An Annual Report*
4. U.S. Department of Agriculture, Food and Nutrition Service, Office of Policy Support, Characteristics of Supplemental Nutrition Assistance Program Households: State Level Participation & benefits: Georgia June 2021, released September 2021. <https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>
5. U.S. Census Bureau (2021). ACS 2019 5-Year Estimates, Total Population, State Level, Table B01003.



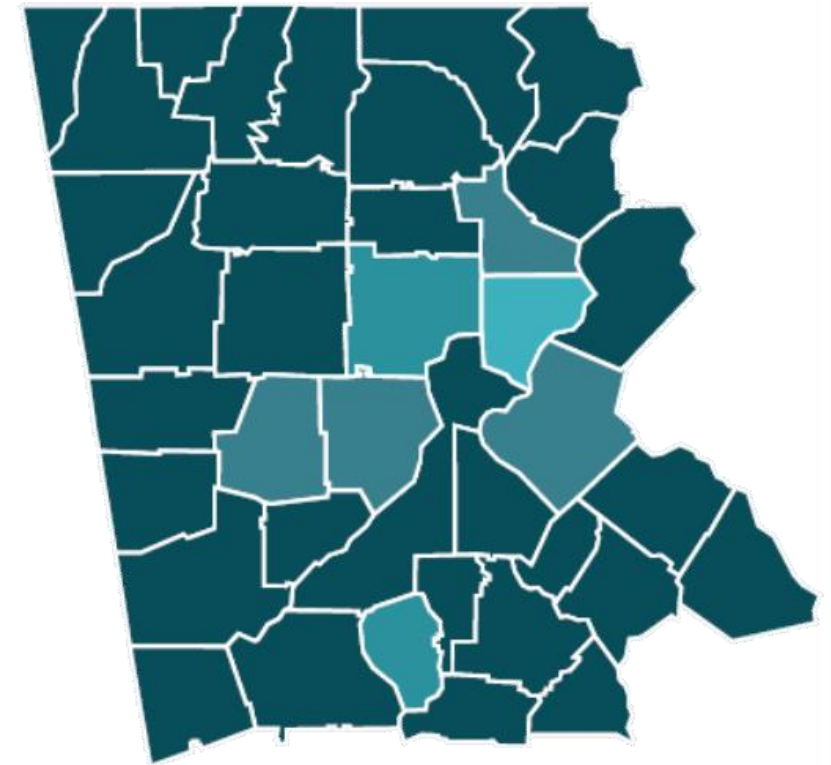
Effect of COVID

2018
FOOD INSECURITY RATES



See county detail on reverse side.

PROJECTED 2020
FOOD INSECURITY RATES²



United States Department of Agriculture, Economic Research Service. (2019). Household food security in the United States in 2018. Washington, D.C.: Coleman-Jensen, A., Rabbitt, M. P., Gregory, C. A., & Singh, A. Feeding America projections based on their latest Map the Meal Gap study (released May 2020), updated to account for the change in the annual poverty rate across all geographies and an assumption for the change in unemployment in Georgia due to the coronavirus pandemic. https://www.feedingamerica.org/sites/default/files/2020-04/Brief_Impact%20of%20Covid%20on%20Food%20Insecurity%204.22%20%28002%29.pdf



Pillars Of Food Security





Maslow's Hierarchy of Needs





**Food
Insecurity**



Dietary Intake

Stress

Self-Efficacy

Bandwidth

**Competing
Demands**

Binge-Fast Cycles

Employability

Stability

**Poor
Health**





Hunger Creates an Unhealthy Cycle

Of households that ACFB serves...

79%

Purchase inexpensive, unhealthy food

66%

Report a member with high blood pressure

40%

Report a member with diabetes

33%

Report no health insurance

Food Insecurity

Poor Health
(development/worsening chronic conditions)

↓ **Household Income, Spending Tradeoffs**

↑ **Healthcare expenditures**



Mills, G. et. al. 2014. Hunger in America Report for the Atlanta Community Food Bank, 2014

Johnson, KT, Palakshappa, D, Basu, S, Seligman, H, Berkowitz, SA. Examining the bidirectional relationship between food insecurity and healthcare spending. *Health Serv Res.* 2021; 00: 1– 10. <https://doi.org/10.1111/1475-6773.13641>



Making Ends Meet Means Making Tough Choices



For the people we serve, household income doesn't cover basic needs.

76%

Have had to choose between paying for utilities and food

81%

Have had to choose between paying for transportation and food

73%

Have had to choose between paying for medical care and food

62%

Have had to choose between paying for housing and food



People who receive charitable food



83%

Households that receive food from the Food Bank **LIVE IN POVERTY**

58%

Households that participate in **SNAP (FOOD STAMPS)**

60%

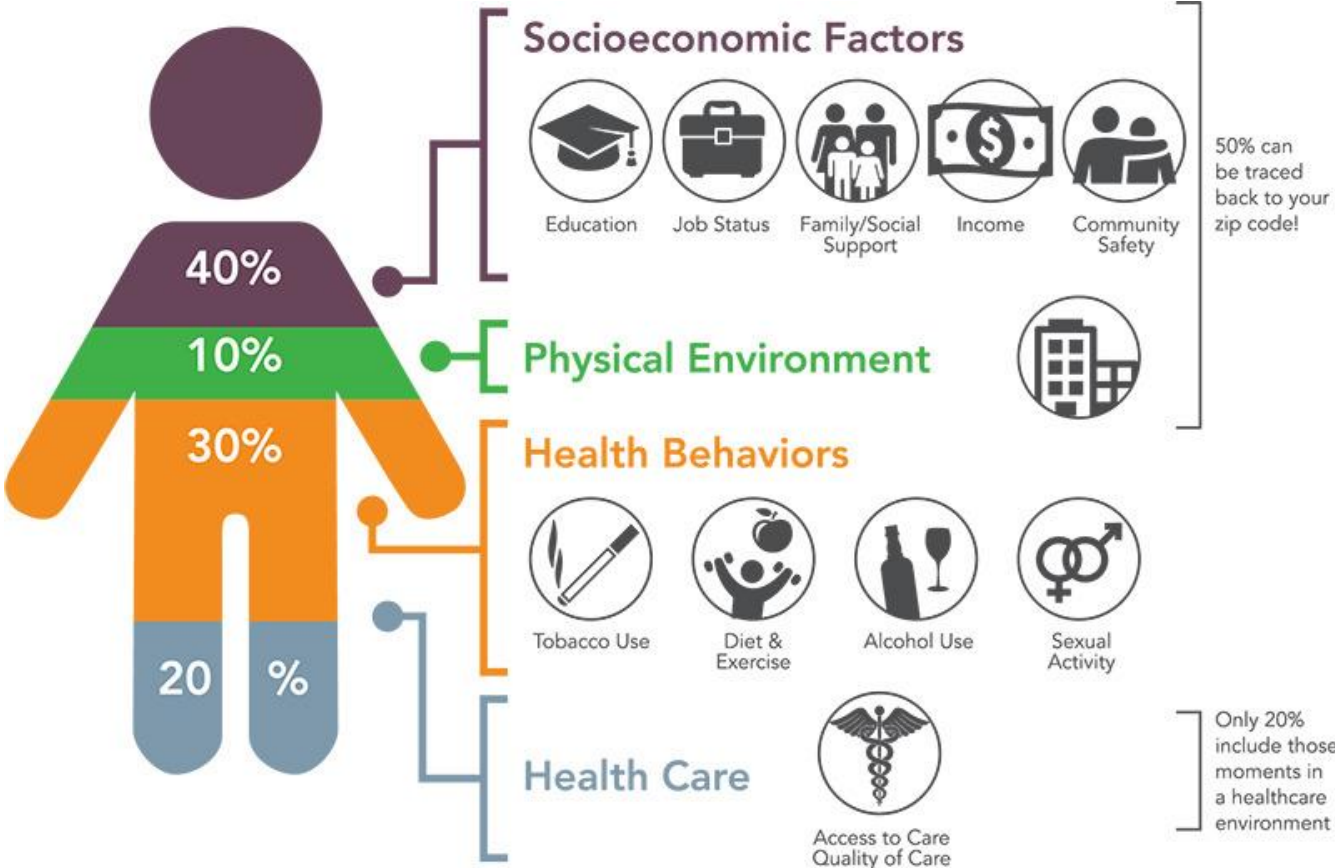
Households exhaust SNAP benefits in **TWO WEEKS**

59%

Households were employed in the **PAST YEAR**



Social Determinants of Health



Source: Institute for Clinical Systems Improvement, Going Beyond Clinical Walls: Solving Complex Problems (October 2014)



Health and Financial Impacts

**Impaired growth
in children**



**More chronic
disease for adults**



**Higher
healthcare costs**



**Missed work days
and lower income**



HEALTH IMPLICATIONS

FINANCIAL IMPLICATIONS



Healthcare Costs

- Food Insecurity costs Georgia **\$1.78 Billion** in additional health care costs per year
- Each food insecure patient incur **\$1,863** more per year in medical expenditures
- Why?
 - More chronic disease treatment
 - More diabetes hospitalizations
 - More hospital readmissions
 - High-cost user status associated with food insecurity



Food Insecurity Increases Disease Risk

- High blood pressure (25% more common)₁
- Type 2 Diabetes (25% higher)_{2,3}
- Kidney disease (50% higher)₄
- Osteoporosis (400% higher)₅
- Obesity (200% higher)₆
- Cancer₇

1. Irving SM, Njai RS, Siegel PZ. Food insecurity and self-reported hypertension among Hispanic, black, and white adults in 12 states, Behavioral Risk Factor Surveillance System, 2009. *Preventing chronic disease*. 2014;11:E161.
2. Ippolito, JPHN July 2016
3. Seligman, Diabetes Care 2013
4. Crews DC, Kuczmarski MF, Grubbs V, et al. Effect of food insecurity on chronic kidney disease in lower-income Americans. *American journal of nephrology*. 2014;39(1):27-35.
5. Lyles CR, Schafer AL, Seligman HK. Income, food insecurity, and osteoporosis among older adults in the 2007-2008 National Health and Nutrition Examination Survey (NHANES). *Journal of health care for the poor and underserved*. Nov 2014;25(4):1530-1541.
6. Adams EJ, Grummer-Strawn L, Chavez G. Food insecurity is associated with increased risk of obesity in California women. *J Nutr* 2003;133:1070–1074. <http://jn.nutrition.org/content/133/4/1070.short>
7. Gany F, Lee T, Ramirez J, et al. Do our patients have enough to eat?: Food insecurity among urban low-income cancer patients. *Journal of health care for the poor and underserved*. Aug 2014;25(3):1153-1168.



Food Insecurity Directly Impacts Disease Management

Without adequate access to healthy food, management of chronic disease is more challenging

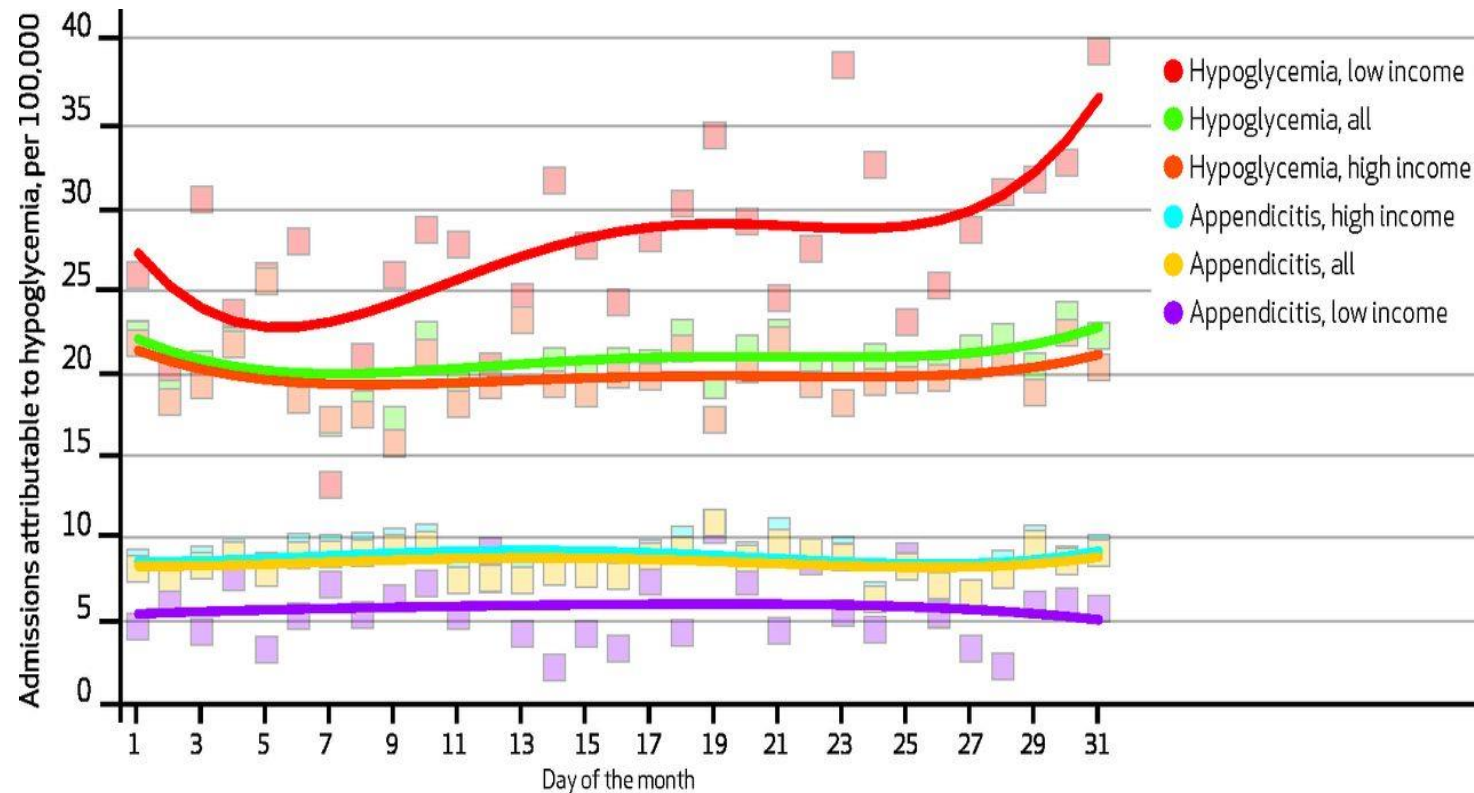
- Food Insecurity in a Person with diabetes leads to₁₋₃
 - Increased medication non-adherence
 - More tradeoffs between food and medicine/medical supplies
 - Poorer diabetes distress and diabetes self-efficacy
 - Worse blood sugar control
- Self-management challenges with food insecurity & other diseases
 - High Blood Pressure
 - HIV
 - Some Cancers

1. Ippolito, M., Lyles, C. Prendergast, K., Seligman, H. 2016. Food insecurity and diabetes self-management among food pantry clients; Journal of Public Health Nutrition. 20(1): 183-189.
2. Seligman, H., Jacobs, E., Lopez, A., Tschann, J., Fernandez, A. 2012. Food insecurity and glycemic control among low-income patients with Type 2 diabetes. Diabetes Care 35 (2): 233-8
3. Silverman, et al. 2015. The relationship between food insecurity and depression, diabetes distress and medication adherence among low-income patients with poorly-controlled diabetes. Journal of General Internal Medicine, 2015, Volume 30, No. 10, Page 1476.



Hospital Admissions

27% increase in low blood sugar admissions during 4th week of month (compared to 1st week of month) for low-income group only





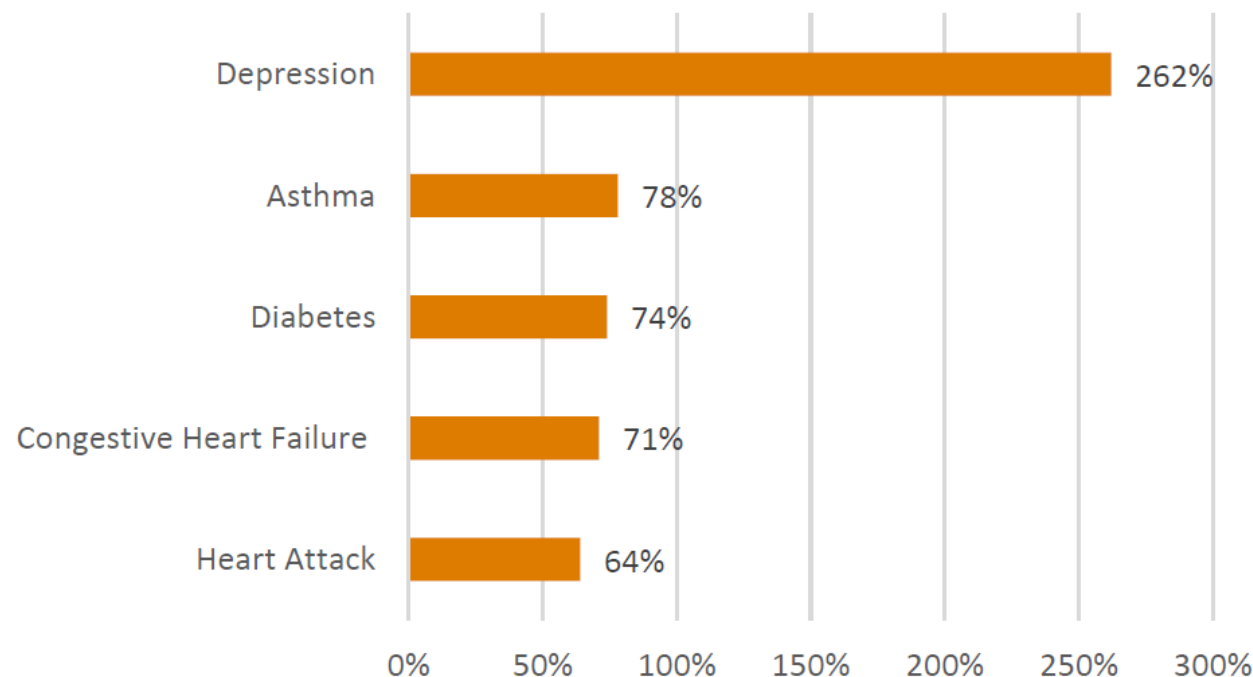
Senior Hunger

Seniors who are food insecure consumed lower quantities of key nutrients than food secure seniors.

- **Iron (13.3%)**
- **Calcium (9.7%)**
- **Protein (9.2%)**
- **Energy (8.5%)**

Georgia ranks 11th in the nation for senior hunger.

Food insecure seniors were more likely to have chronic health conditions.





Childhood Hunger

Children facing hunger may struggle in school and beyond. They are more likely to:



Repeat a grade in elementary school



Experience developmental impairments in areas like language and motor skills



Have more social and behavioral problems



Childhood Hunger and Health

- Nutrient deficiencies₁
- Chronic diseases in childhood₂
 - Asthma
 - Overweight and obesity
- Increased future risk of₃
 - CVD
 - COPD
 - Cancers
 - Autoimmune disorders



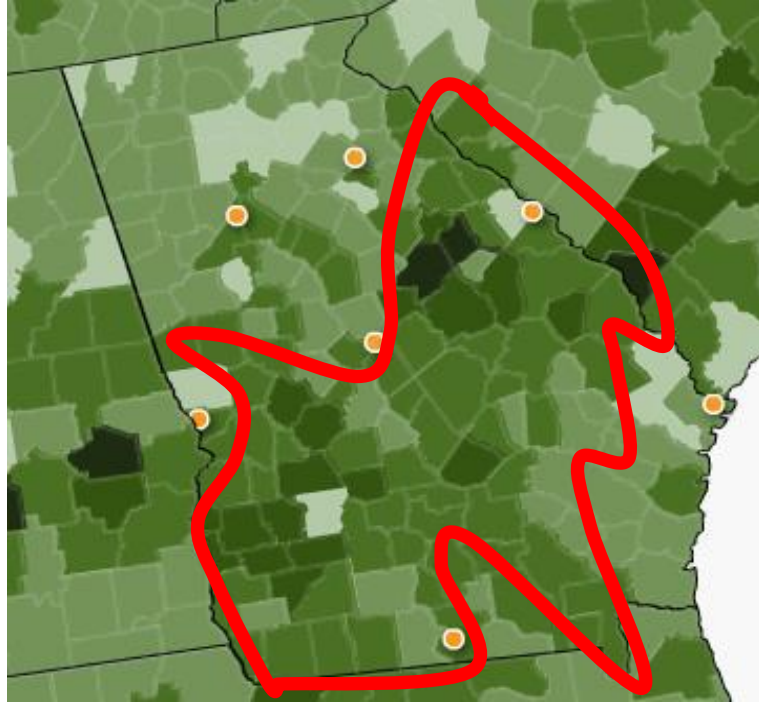
1. Eicher-Miller, H.A., Mason, A., Weaver, C. M., et. al.. Food insecurity is associated with iron-deficiency anemia in US adolescents. *American Journal of Clinical Nutrition*. 2009; 90 (5): 1358-1371

2. Feeding America. Facts about child hunger in America. <https://www.feedingamerica.org/hunger-in-america/child-hunger-facts>

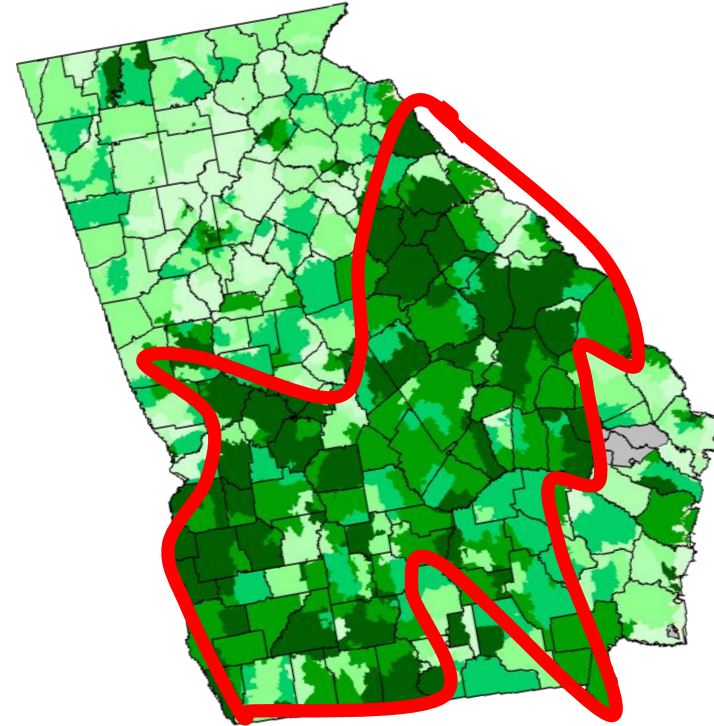
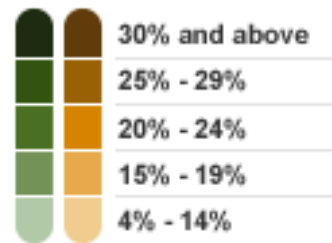
3. Christian A. Gregory, Alisha Coleman-Jensen. Food Insecurity, Chronic Disease, and Health Among Working-Age Adults, ERR-235, U.S. Department of Agriculture, Economic Research Service, July 2017.



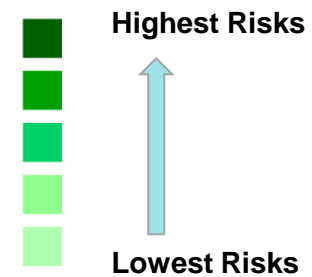
Food Insecurity and Obesity



Food Insecurity Rates



Estimated Prevalence of Overweight and Obesity





Food Insecurity and Emotional, Behavioral Health

Infants

- Increased risk of weakened attachment to parents

Children

- Delays in socioemotional development
- Repeat a grade in elementary school
- Higher levels of hyperactivity/inattention and poor memory

Teens

- Depression and suicidal ideation
- Mood, behavior, and substance abuse disorders
- Dysregulated behaviors
- Emotional distress

Parents

- Increase stress/anxiety among parents (increasing children's risk)

Gyasi RM, Obeng B, Yeboah JY (2020) Impact of food insecurity with hunger on mental distress among community-dwelling older adults. PLoS ONE 15(3): e0229840.
<https://doi.org/10.1371/journal.pone.0229840>

Jones, A. (2017). Food Insecurity and Mental Health Status: A Global Analysis of 149 Countries. American Journal of Preventive Medicine, 264-273



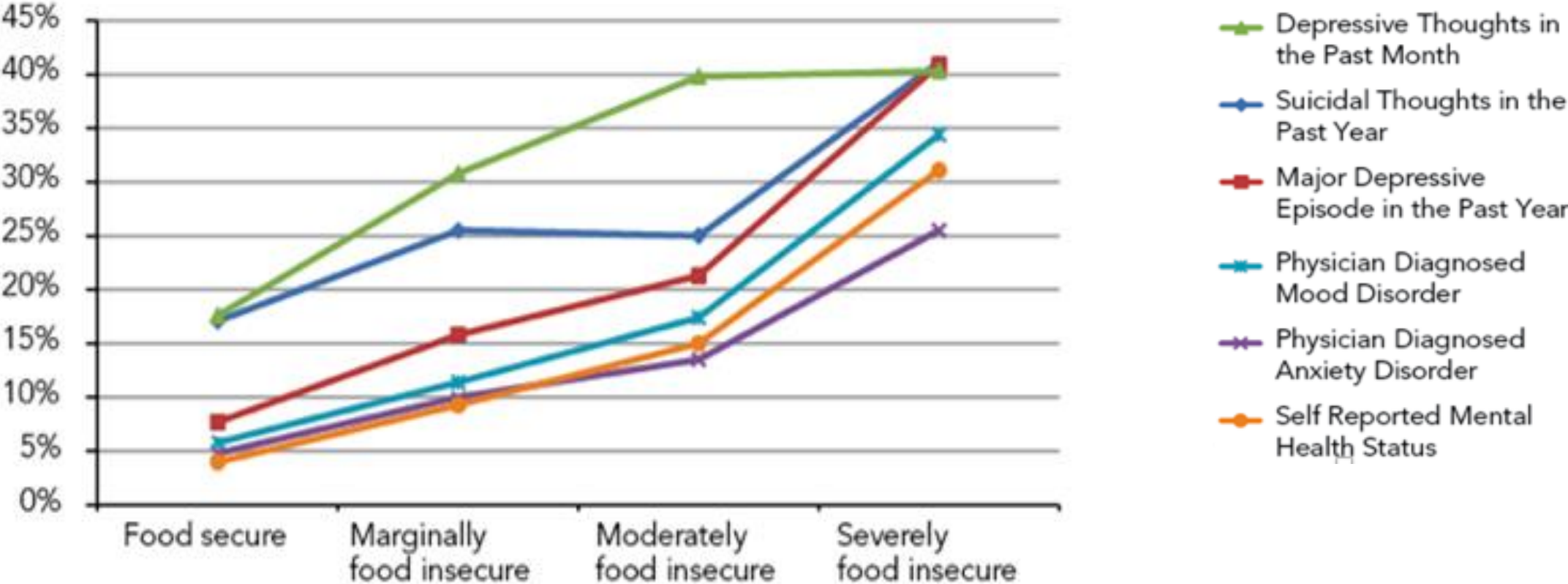
Food Insecurity and Children's Cognitive and Motor Development

- Delayed motor development
- Inability to follow directions
- Poor performance on language comprehension tests
- Reduced academic performance in math and reading
- More likely to repeat a grade





Food Insecurity and Parent Mental Health



Statistics Canada., Canadian Community health Survey (CCHS), 2005-2012



Hunger and Food Insecurity...

- are widespread in Georgia
- are preventable
- cause significant stress to families
- impact physical and mental health outcomes in all age groups
- impact developmental and health outcomes in children
- burden the economy and society as a whole

