

Low Access to Grocery Stores as Diabetes Risk Factor



PRESENTER:
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BACKGROUND:

Why do some counties have higher cases of diabetes than others? According to the Illinois Behavior Risk Factor Surveillance System (BRFSS), over the past 20 years, the number of people with diagnosed diabetes has more than doubled to 800,000 people in 2011. With an additional 500,000 people who are not aware that they have the disease, diabetes can be harmful and for many, it would be beneficial to find an underlying cause for the disease.

In a comparison of Macon County and Champaign County, I hypothesized that lack of transportation can lead to a lack of access to grocery stores. This lack of access can be considered a diabetes risk factor, along with age, race, and obesity.

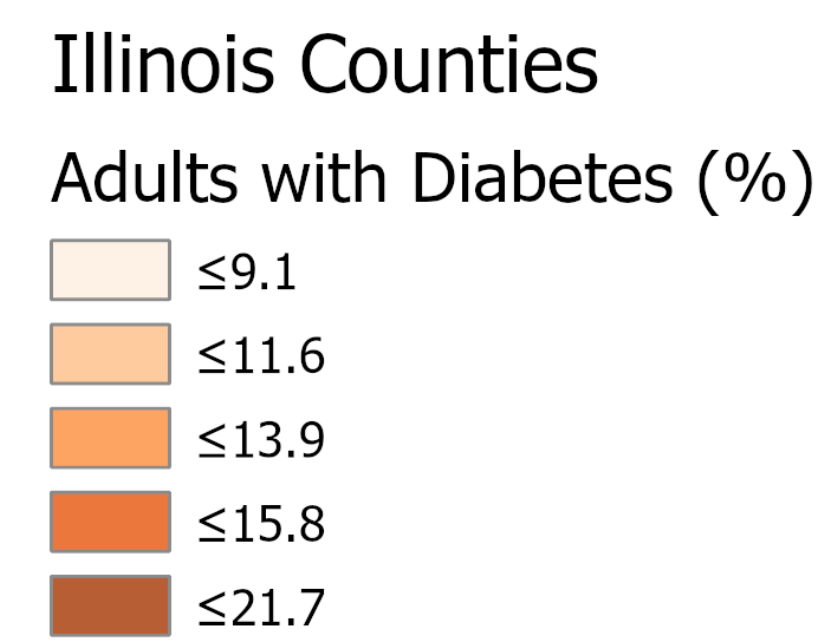
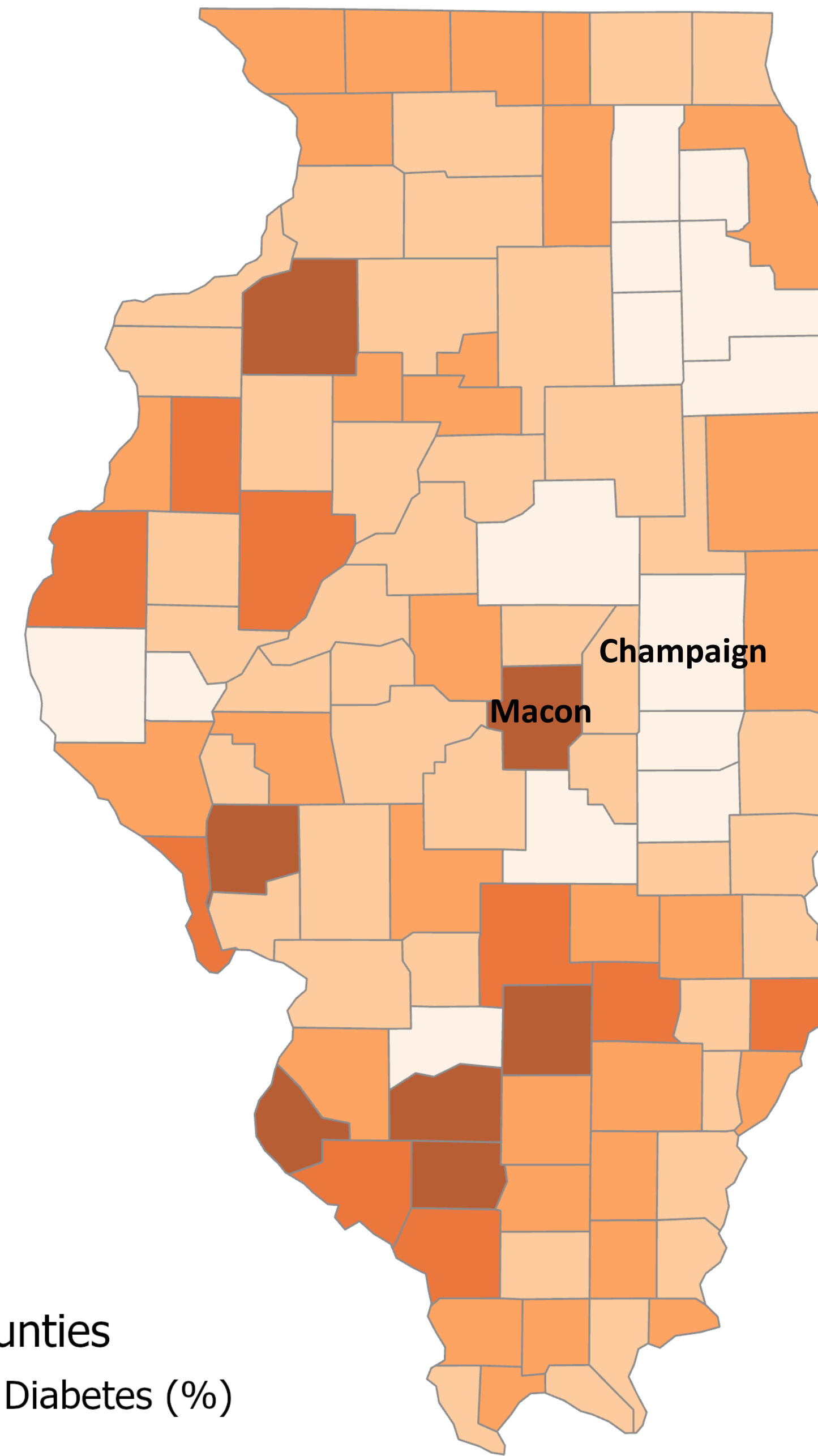
RESULTS

- Despite my original hypothesis, there is no relationship between low access to grocery stores and adult diabetes. ($r^2=0.02$)
- There is also no relationship between low access to grocery stores and obesity. ($r^2=0.01$)
- Rather, there is a high correlation between very low food security and diabetes ($r^2=.48$) along with very low food security and obesity, ($r^2 =.63$)

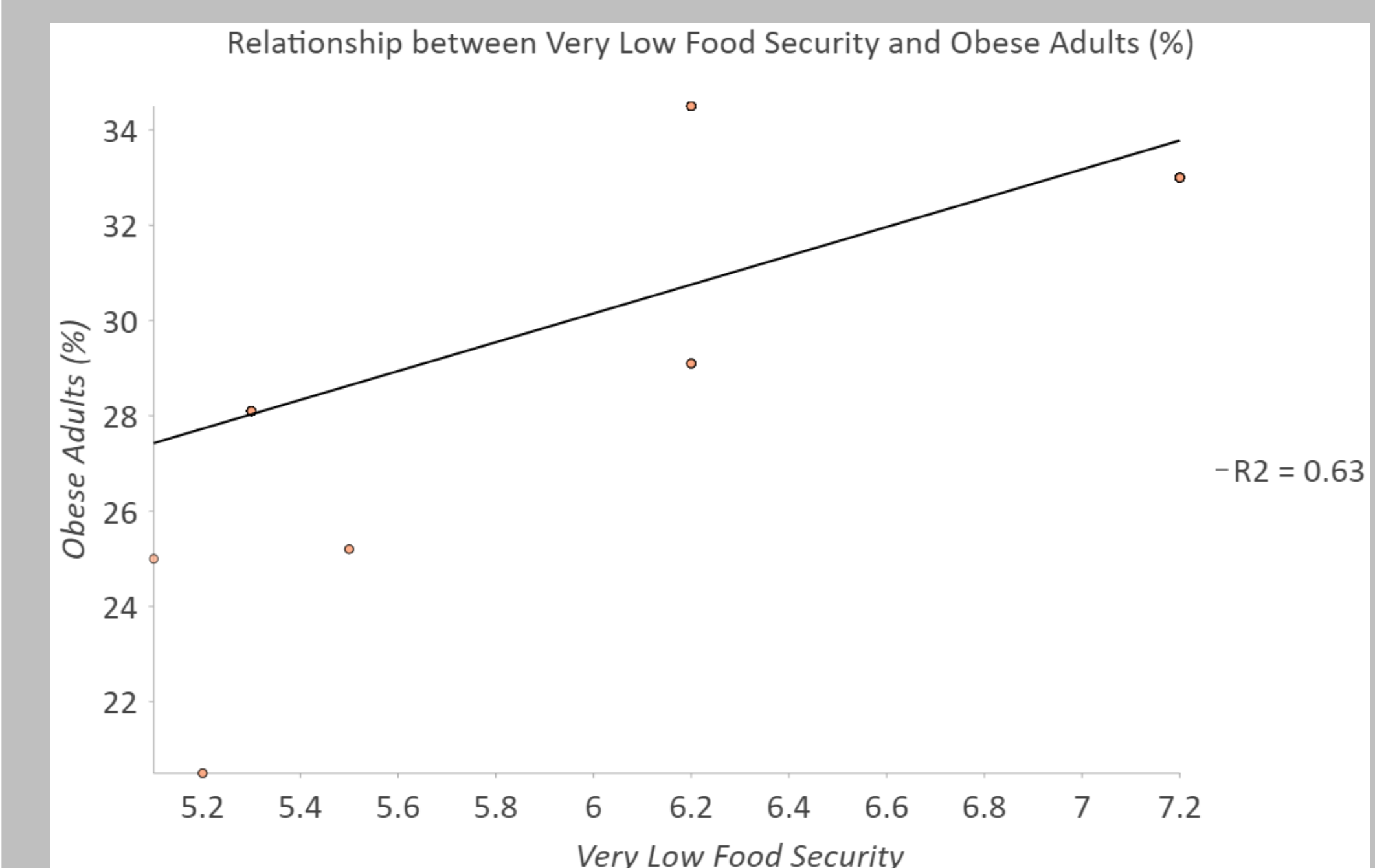
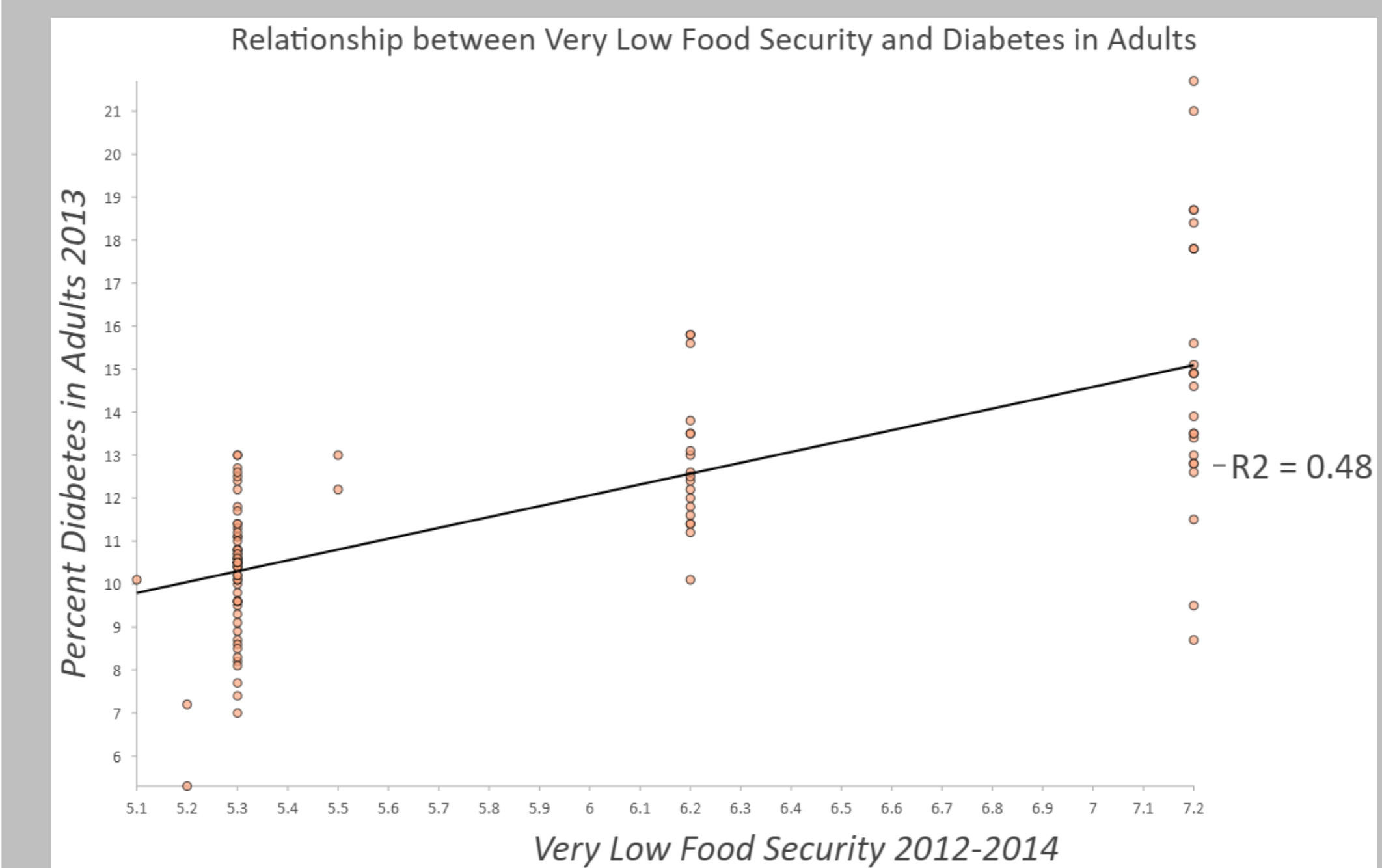
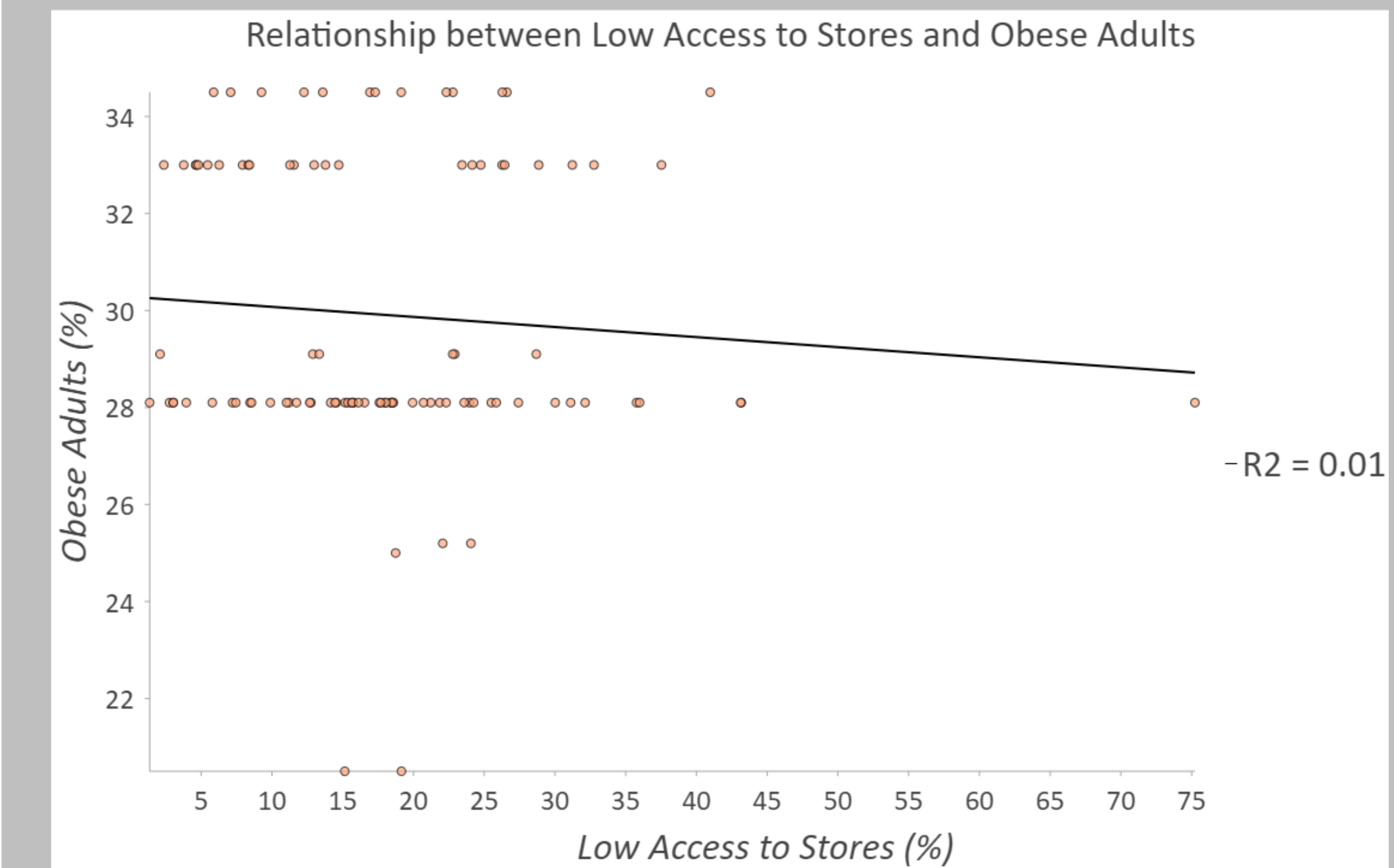
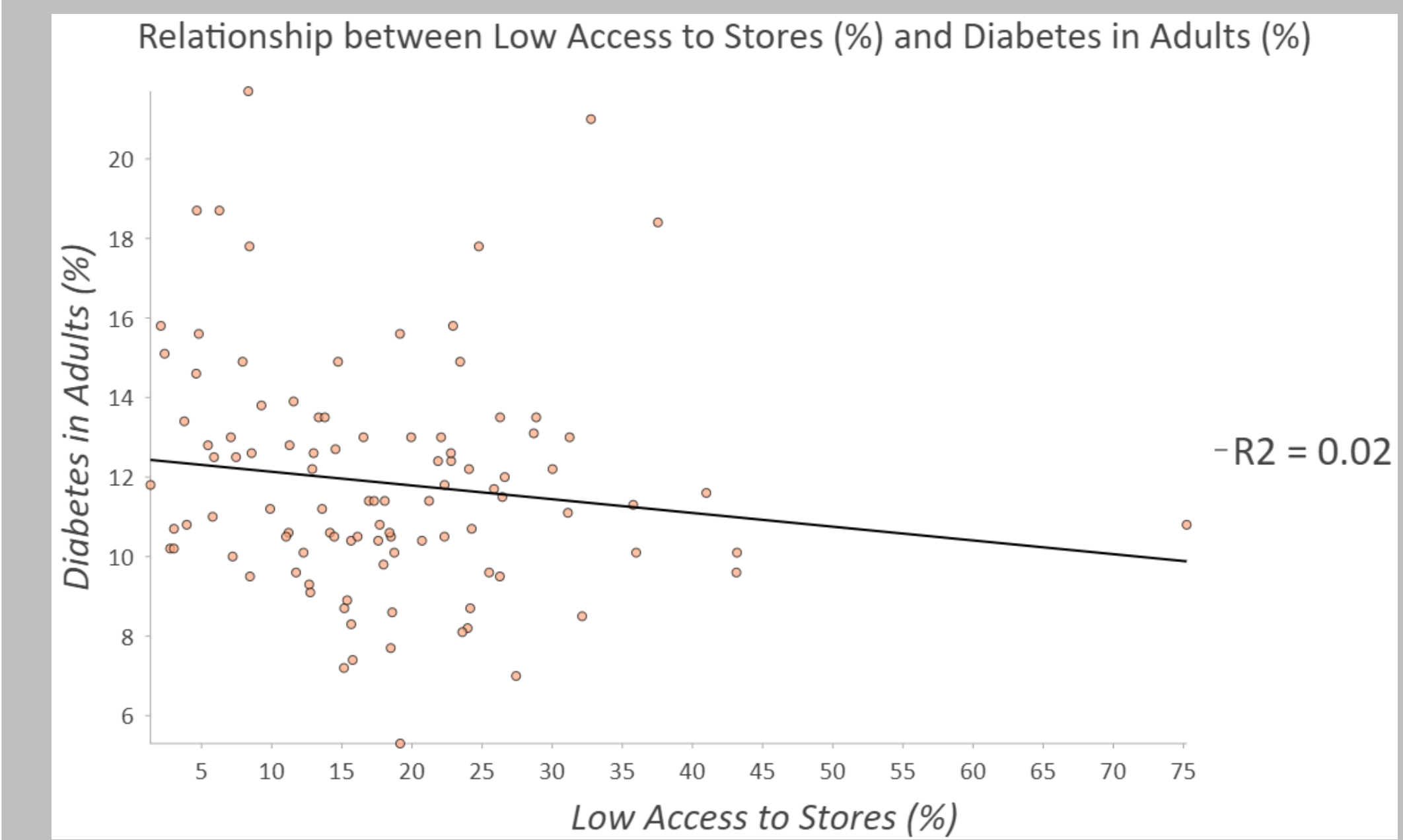
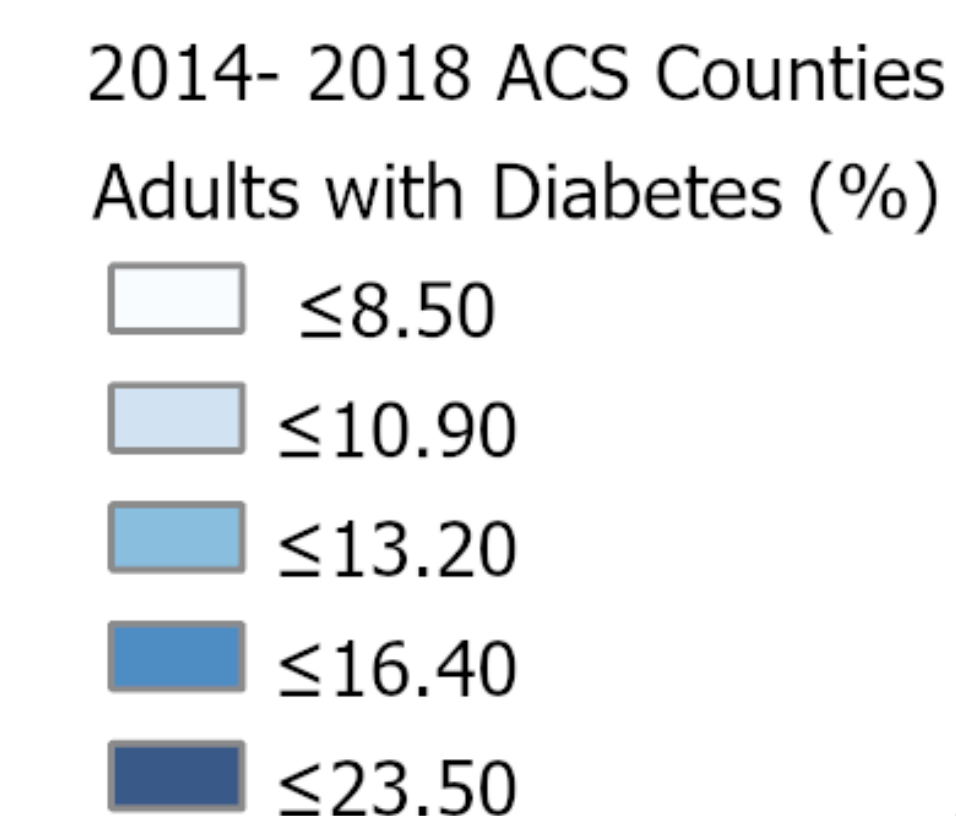
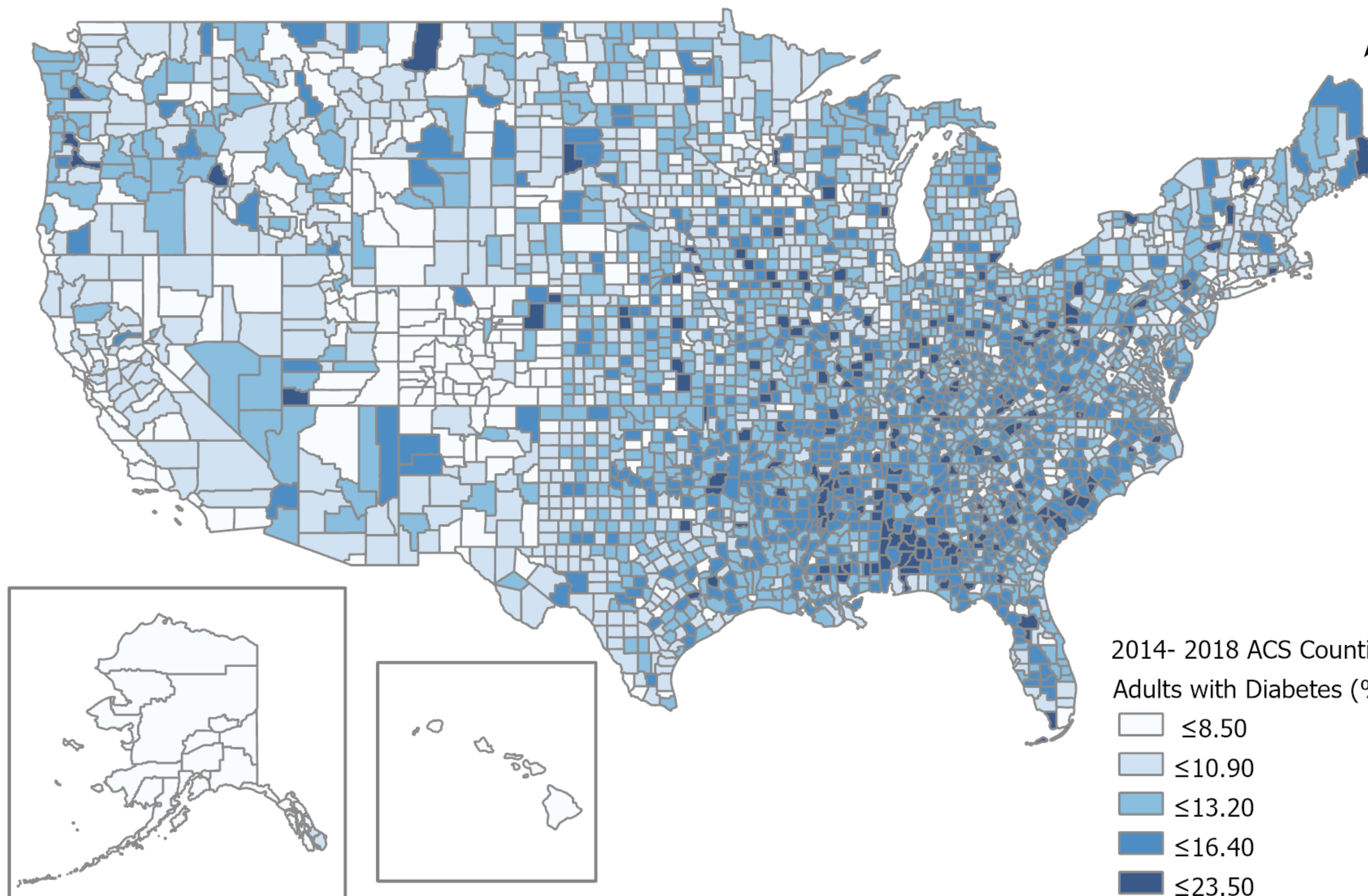
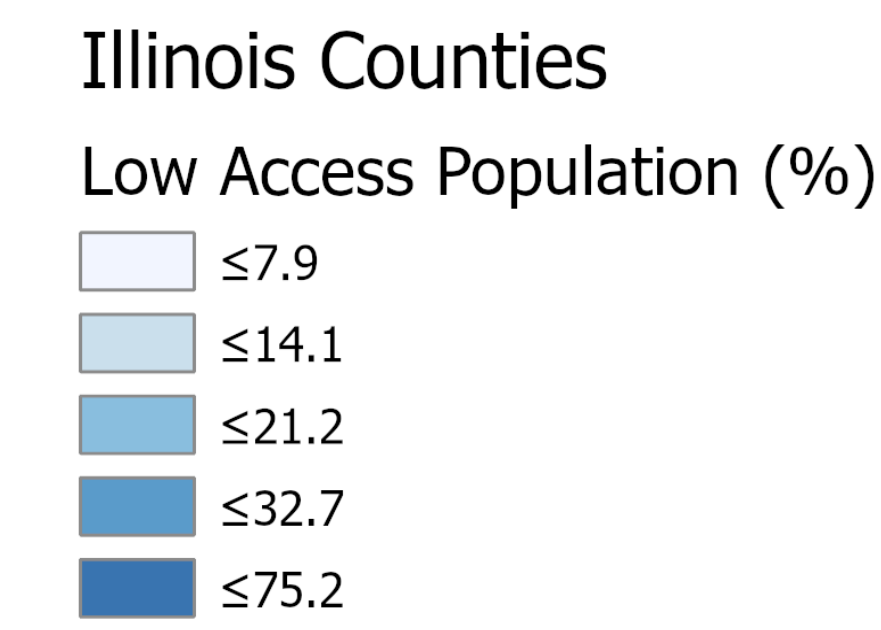
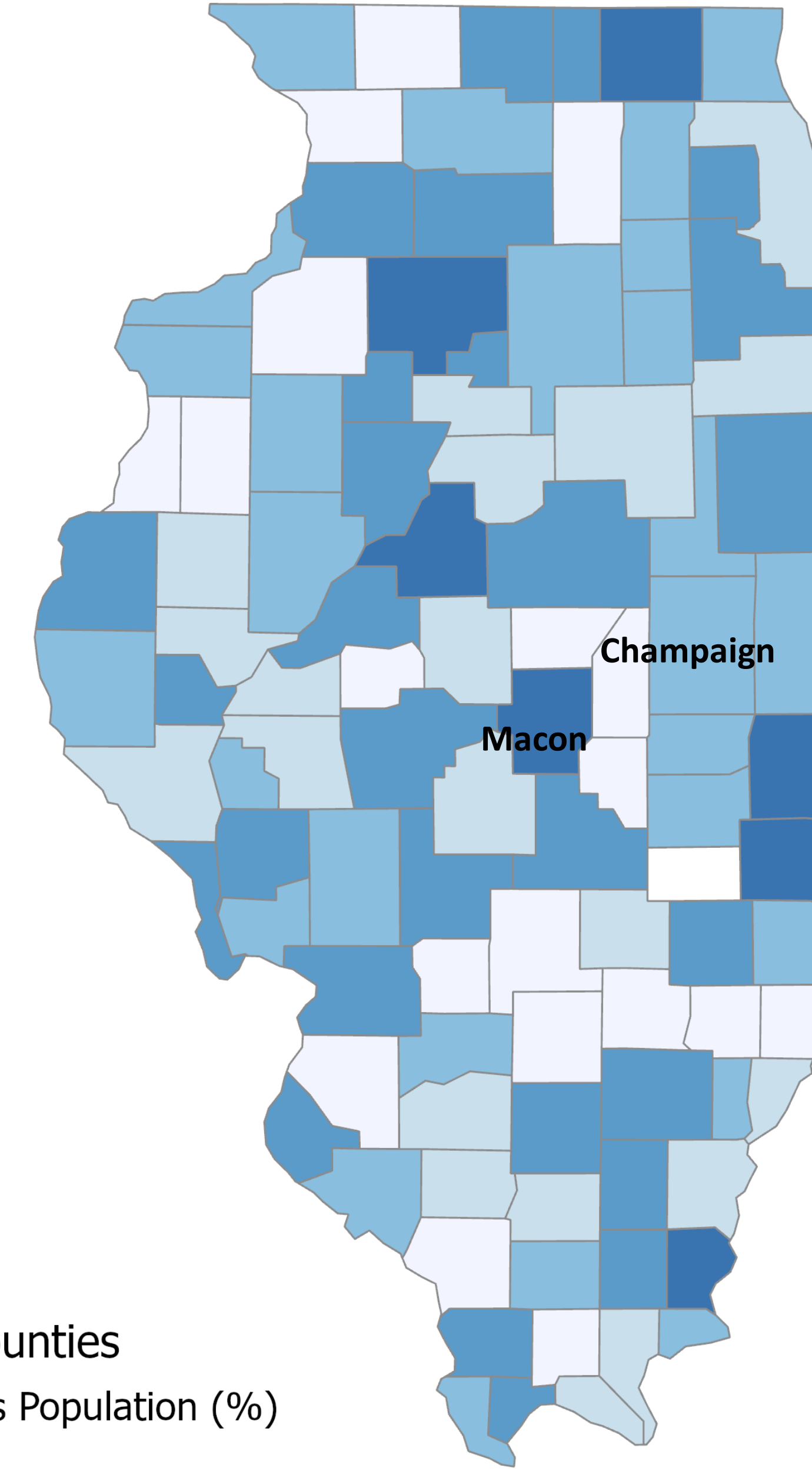
CONCLUSION

There is a gap in knowledge of the way risk factors impact each other, as there is a complexity in determining cause and effect. Additionally, data can be misleading due to the many undiagnosed cases of diabetes. Ultimately, there is a clear difference between food insecurity and low access to grocery stores, and it can be dangerous to conflate the two without thorough analysis. By learning more about food insecurity in our own communities, we can help to ensure the chance of a healthy life for those we care about.

Adults with Diabetes (%)
Illinois Counties



Low Access to Grocery Stores (%)
Illinois Counties



SOURCES

USDA Food Environment Atlas, State of Illinois Department of Health, National Center for Biotechnology Information, Minn 2014-2018 American Community Survey County Feature Class, Illinois Behavioral Risk Factor Surveillance System